

**MOUNTAIN VIEW AFFORDABLE HOUSING
COMMUNITY PROJECT
LAKE FOREST, CALIFORNIA
FINAL INITIAL STUDY/MITIGATED
NEGATIVE DECLARATION**

Prepared for:



CITY OF LAKE FOREST
100 Civic Center Drive
Lake Forest, California 92630

Prepared by:

CHAMBERS GROUP, INC.
5 Hutton Centre Drive, Suite 750
Santa Ana, California 92707

August 2020

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SECTION 1.0 – INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA), the State CEQA Guidelines, the City of Lake Forest's (City) Local CEQA Guidelines, and the City's CEQA Significance Thresholds Guide, this Initial Study has been prepared for the proposed 71-unit affordable housing apartment complex (Project) at 24451 Raymond Way and 23591 El Toro Road, located near the northeast corner of El Toro Road and Raymond Way in the City of Lake Forest.

Pursuant to Section 15063(a) of the State CEQA Guidelines, the City is required to undertake the preparation of an Initial Study to determine whether the proposed action will have a significant effect on the environment. The purposes of this Initial Study are to: (1) identify potential environmental impacts, (2) provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration, (3) enable the Lead Agency to modify the Project (through mitigation of potential adverse impacts, if any), (4) facilitate assessment of potential environmental impacts early in the design of the Project, and (5) provide documentation for the potential finding that the Project will not have a significant effect on the environment or can be mitigated to a level of insignificance (CEQA Guidelines, Section 15063[c]). This Initial Study is also an informational document providing an environmental basis for subsequent discretionary actions that could be required from other Responsible Agencies.

This Initial Study evaluates the potential environmental impacts that may result from development of the Project. Consistent with State CEQA Guidelines Sections 15050, 15051, and 15368, the City is the Lead Agency under CEQA, and it is responsible for adoption or certification of the environmental document and approval of the Project.

1.1 CONTACT PERSON

Any questions or comments regarding the preparation of this Initial Study, its assumptions, or its conclusions should be referred to:

Jennifer Mansur, AICP, Associate Planner
City of Lake Forest
Community Development Department
100 Civic Center Drive
Lake Forest, California 92630
(949) 461-3472 (tel)
(949) 461-3511 (fax)
jmansur@lakeforestca.gov

SECTION 2.0 – PROJECT DESCRIPTION

2.1 PROJECT PURPOSE

National Community Renaissance of California (NCRC), the Applicant, in coordination with the City of Lake Forest (City), proposes a 71-unit affordable housing apartment complex project located near the northeast corner of El Toro Road and Raymond Way in the City. The proposed Project requires approval of a General Plan Amendment, Zone Change, Tentative Parcel Map, Site Development Permit, Affordable Housing Agreement, and Planned Sign Program. The purpose of the Project is to provide affordable units to households earning less than 60 percent of the Area Median Income; of which 12 of the units will be set aside for Permanent Supporting Housing.

The City has prepared this Initial Study (IS) to provide the public and responsible agencies with information about the potential environmental impacts associated with implementation of the proposed Project. This IS includes a project-level analysis of the potential effects associated with the Project.

2.2 PROJECT LOCATION AND SETTING

Located near the northeast corner of El Toro Road and Raymond Way, the proposed Project site is situated in the southwestern quadrant of the City, in Orange County, California, just a few blocks north of Interstate 5.

The Project site is generally L-shaped and comprises a single parcel (APN 617-441-02) totaling 3.76 acres. The parcel is fully developed with two 2-story office buildings, surface parking lots, and landscaped areas. One office building (approximately 28,820 square feet) is situated on the eastern end of the site fronting El Toro Road (23591 El Toro Road).

The second office building (approximately 31,573 square feet) is located on the western edge of the site, fronting Raymond Way (24551 Raymond Way). Access to the site is provided at three points, from El Toro Road, Raymond Way, and Packer Place.

The Project site is currently zoned Professional Administrative (PA) and has a Professional Office land use designation in the City's General Plan. The current land use designation and zoning do not allow for the development of residential uses on site.

Tentative Parcel Map

The proposed Project will require a Tentative Parcel Map to divide the parcel into two. Parcel 1 will be approximately 1.965 acres (85,596 square feet (net)) on the western and northern portion of the site fronting Raymond Way and Packer Place. Parcel 2 will be a rectangular parcel on the southeastern half of the site, approximately 1.798 acres (78,306 square feet), fronting El Toro Road. Though subdivided, no barriers between the parcels are proposed, and access through both sites will be reciprocal.

Site Development Permit

The proposed Project will require approval of a Site Development Permit (SDP) application. The purpose of the SDP would ensure that the proposed Project would conform to the development and design standards of the City.

Parcel 1: Residential

To develop Parcel 1, the existing 31,573-square-foot office building located at 24551 Raymond Way will be demolished. The then vacant 1.965-acre site would be developed with one 4-story residential building to provide a total of 71 apartment homes with a community center and recreational amenities located at the northern end of the site. Developed at an overall density of 36.13 units per acre, the new building will include 18 one-bedroom units (522 net square feet), 35 two-bedroom units (750 net square feet), and 18 three-bedroom units (1,020 net square feet). In total, the plan for Parcel 1 proposes 54,771 square feet of residential development, 8,610 square feet of outdoor balconies/patio, and 17,801 square feet of community facilities/common areas. The total gross building area is 81,182 square feet.

The residential building will be located on the southwest side of the parcel, adjacent to Raymond Way. The building is three and four stories with varying roof styles and heights, with a maximum height of 53 feet. The building design provides articulation with the incorporation of wall plane changes, balconies, material changes, and tower elements. The building architecture features a variety of building materials, including stone, horizontal siding, vertical siding, roof shingles, and metal roofs. The proposed color palette for the building will consist of earth tone colors. In the center of the site, centrally located from the residential buildings, the development will provide several recreational amenities, including an approximately 2,050-square-foot community center, a small playground for young children (“tot lot”), outdoor fireplace with seating areas, and large activity lawn. A trash enclosure will be provided at a central location and will match the architectural style of the main building.

The residential development proposed on Parcel 1 will provide 70 units affordable to households earning less than 60 percent of the Area Median Income (AMI), of which 12 of the units will be set-aside for Permanent Supportive Housing (PSH). A two-bedroom manager’s unit will be included on site that will not be income-restricted. National CORE will employ staff and provide a range of supportive services on site for the PSH and traditional affordable housing units based on the specific needs of the households selected to live in the community. Typical supportive services include counseling, financial literacy, youth programs, healthy living education, and job training.

One vehicular entry point to the site is provided off of Packer Place. The entry point to the site is a 24-foot driveway providing direct access to surface parking. Two pedestrian walkways will also be provided: one located at the western edge of the property providing egress to and from Raymond Way and another pedestrian access point next to the driveway allowing pedestrians to enter off Packer Place. The site plan for Parcel 1 proposes 108 uncovered parking spaces on site to accommodate resident parking needs, including five spaces (one van and four standard spaces) that are Americans with Disabilities Act (ADA) accessible. Of the 108 spaces, two will be reserved for electric vehicle charging (one for cars and one that is ADA van accessible). Parcel 1 will also include seven long-term bicycle parking spaces. A monument sign for the residential building is proposed on the property, at the corner of Raymond Way and Packer Place.

Parcel 2: Office Building

Parcel 2 would maintain the two-level, garden-style, multi-tenant 28,827-square-foot office building in its current location. To accommodate employees and visitors on Parcel 2, the parking lot on Parcel 2 will be re-stripped to increase the total number of parking stalls from 113 stalls to 115 stalls (including three ADA accessible stalls). This meets the City’s code requirement of 115 spaces based on the required ratio of 1 space per 250 square feet.

General Plan Amendment

Based on the City's General Plan, the proposed Project would require a General Plan Amendment from Professional Office to High Density Residential (25-43 DUs/acre) to allow residential uses on Parcel 1.

Zone Change

Based on the City's current Zoning Map, the Project will also necessitate a Zone Change from the Professional and Administrative (PA) district to the Multi-Family Dwelling District (R2) for Parcel 1 to allow residential use of the property. Per Chapter 9.152.010, *Affordable Housing Incentives and Density Bonus Provisions*, of the City of Lake Forest Municipal Code (LFMC), the development qualifies for an increase in density and development incentives to increase the provision of affordable housing. The development is requesting four development incentives: (1) an increase in the maximum allowed height (LFMC Section 9.56.070(B)) from 35 feet to 53 feet, (2) a reduction in the required front setback (LFMC Section 9.56.070 (E)) from a minimum of 20 feet to 13 feet 9 inches and (3) a reduction in the required rear setback (LFMC Section 9.56.070 (E)) from 25 feet to 12 feet 1 inch, and (4) a reduction in the number of parking stalls within 200 feet of their corresponding residential unit (LFMC Section 9.168.040(E)(1)).

Construction

Construction activities occurring on site will include the demolition of the building located on Parcel 1, construction of the 71-unit building, minor site grading, excavation, and recompaction of existing surficial soils to provide a uniform surface. In addition to contractor vehicles, heavy equipment will be used on site which includes excavators, backhoe, bulldozer, graders, compactors, and dump trucks. All equipment will be staged within the existing parking lot. The proposed Project is anticipated to begin construction by summer of 2021 and will be completed by summer of 2023.

Operation

It is anticipated that the residential apartments will start leasing around spring of 2023. The existing office building, located on Parcel 2, will continue to operate during the construction of the new residential building. Onsite maintenance and security will be provided by private third-party companies.

2.3 REQUIRED PERMITS AND APPROVALS

The City is the Lead Agency for the Project as it has principal responsibility for issuing discretionary approvals for the Project. There are no responsible agencies with discretionary approval authority over the Project. The City will issue discretionary approvals in connection with the following:

Discretionary Permits

Affordable Housing Agreement

General Plan Amendment

Zone Change

Tentative Parcel Map

Site Development Permit

Planned Sign Program

Responsible Agencies

California Department of Fish and Wildlife

Reviewing Agencies

California Air Resources Board

County of Orange Housing and Community Development

El Toro Water District

Orange County Fire Authority

State Water Resources Control Board

South Coast Air Quality Management District

Native American Heritage Commission

Figure 1: Project Vicinity and Location Map

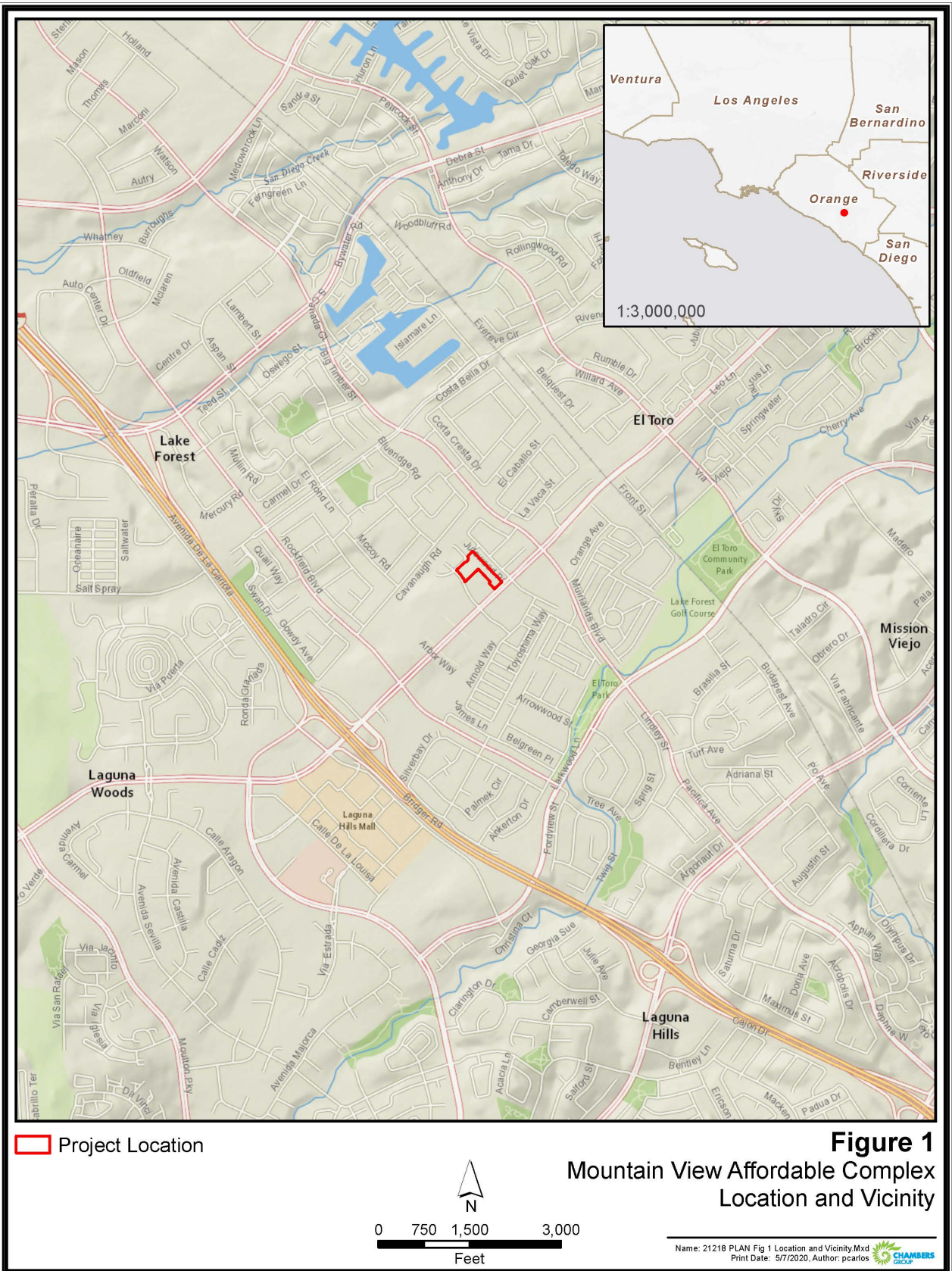


Figure 2: Project Aerial



Figure 3: Site Plan

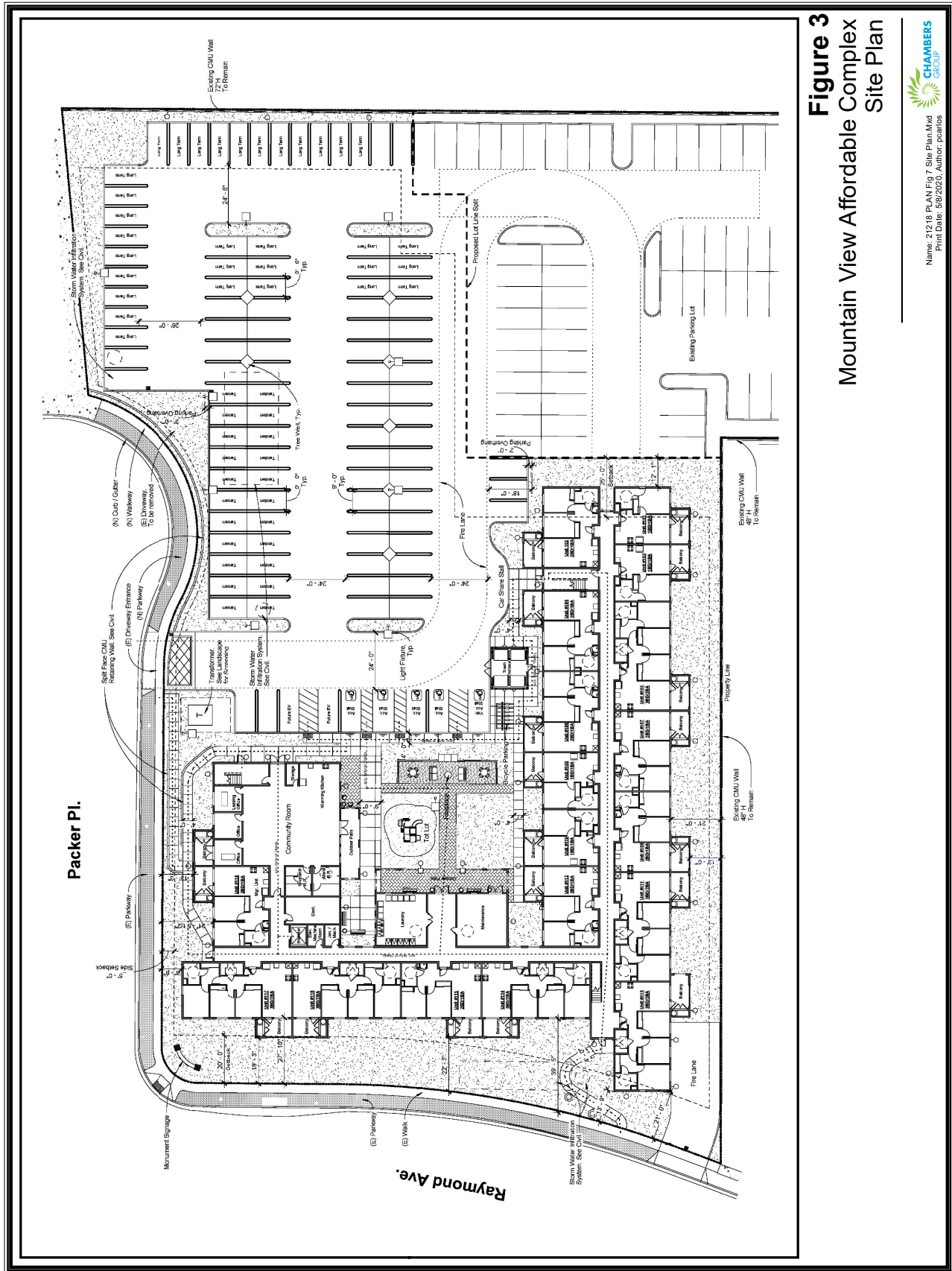


Figure 3
 Mountain View Affordable Complex
 Site Plan



Name: 21218 PLAN Fig 7 Site Plan.Mxd
 Print Date: 5/9/2020, Author: pcarrlos

Figure 4: General Plan Amendment

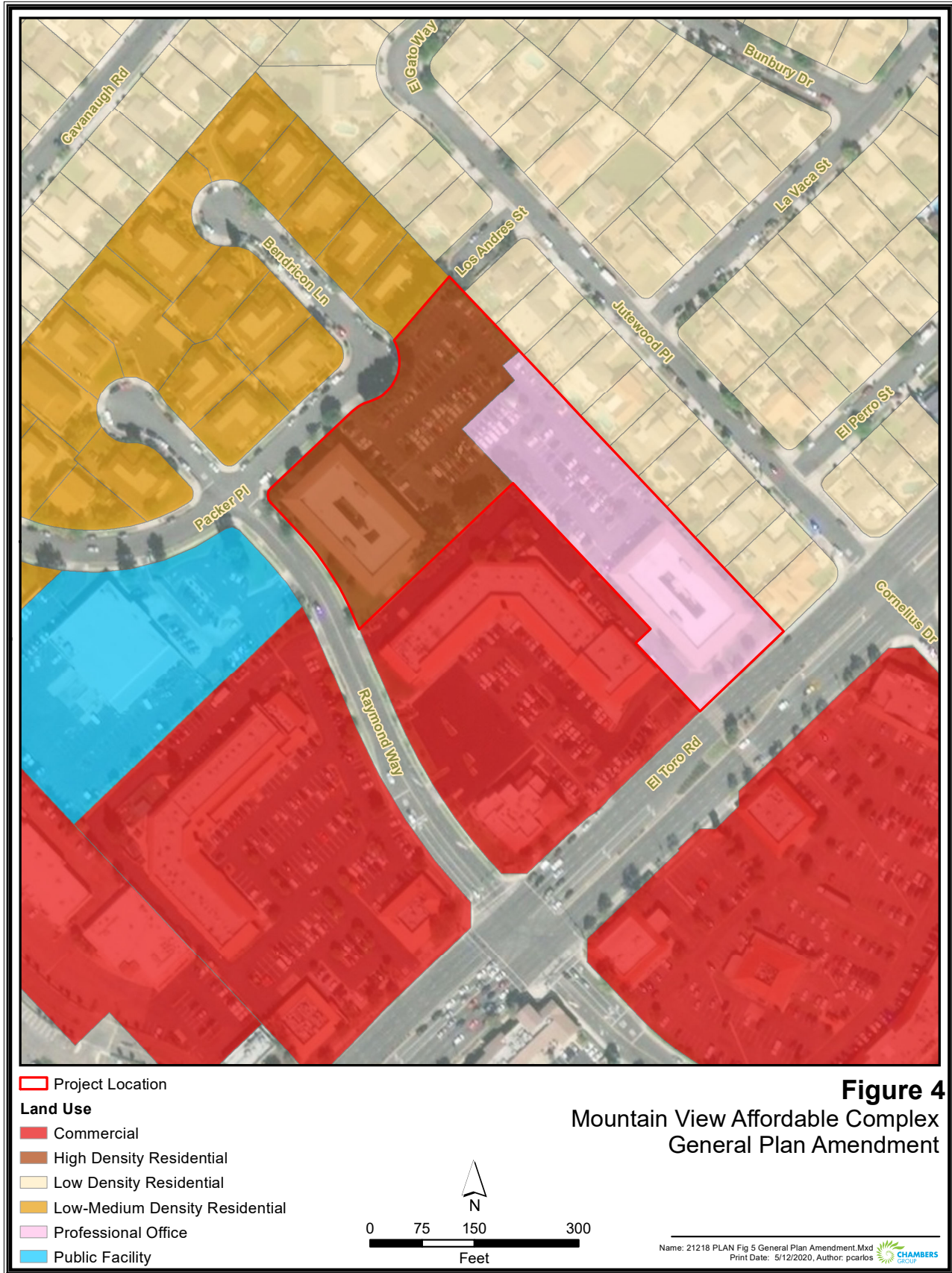
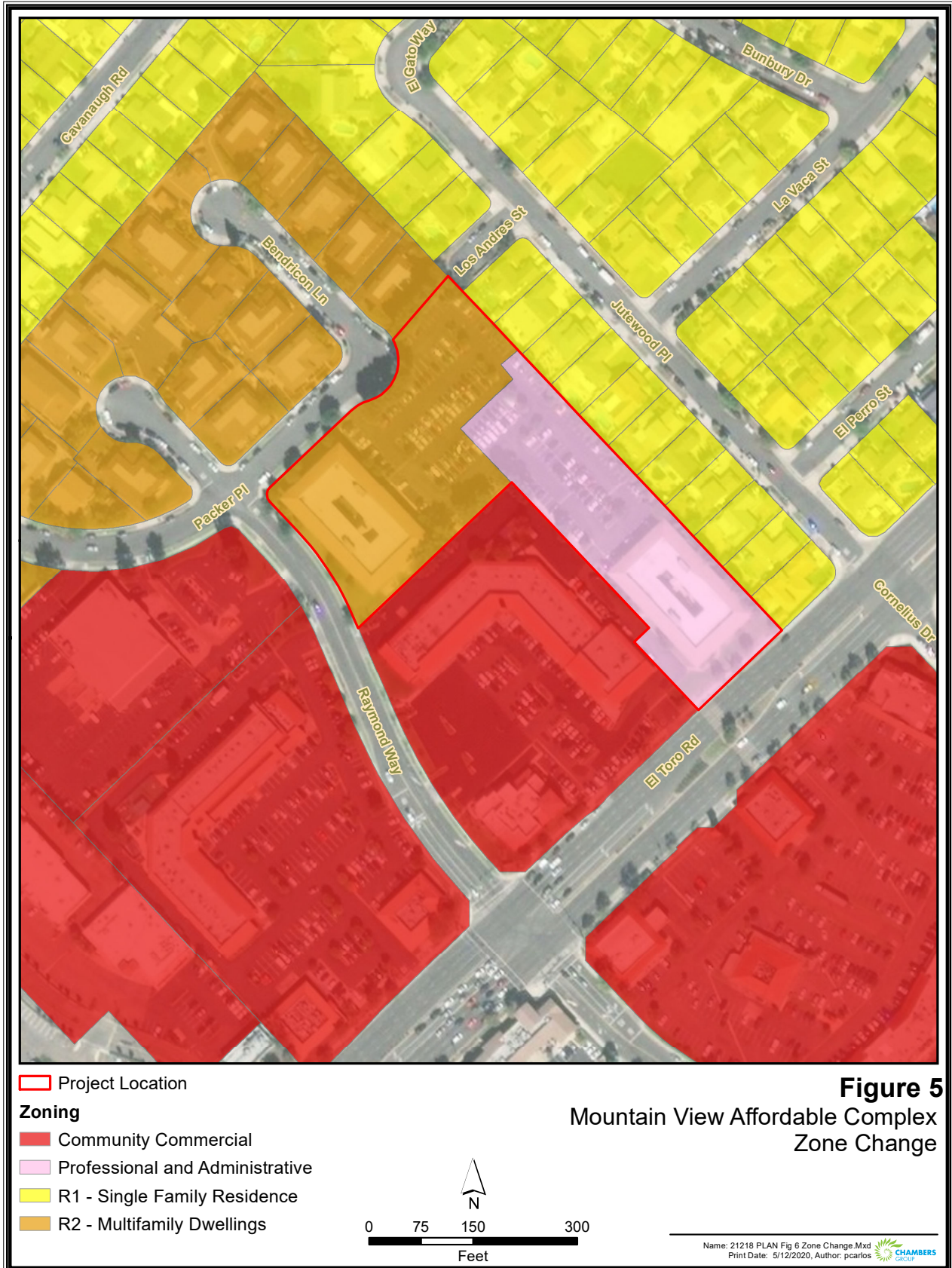


Figure 5: Zone Change



SECTION 3.0 – FINDINGS

An Initial Study has been prepared to assess the Proposed Project's potential impacts on the environment and the significance of those impacts and was incorporated in the Draft MND. Based on this Initial Study, it has been determined that the Proposed Project would not have any significant impacts on the environment once all proposed mitigation measures have been implemented. This conclusion is supported by the following findings:

- No potential was found for adverse impacts on agriculture and forest resources and mineral resources associated with the Proposed Project.
- Potential adverse impacts resulting from the Proposed Project were found to be less than significant in the following areas: aesthetics, air quality, energy, greenhouse gas emissions, hydrology and water quality, land use and planning, noise, population and housing, public services, recreation, transportation, utilities and service systems, and wildfire.
- Full implementation of the proposed mitigation measures included in this MND would reduce potential project-related adverse impact on biological resources, cultural resources, geology and soils, hazards and hazardous materials, and tribal cultural resources to a less than significant level.

SECTION 4.0 – MITIGATION MEASURES

The following mitigation measures and project conditions have been incorporated into the scope of work for the Proposed Project and will be fully implemented by the City of Lake Forest to avoid or minimize adverse environmental impacts identified in this MND. These mitigation measures will be included in the Mitigation Monitoring and Reporting Program (MMRP) prepared for this project.

- Mitigation Measure BIO-1:** A nesting bird pre-construction survey will be conducted by a qualified biologist and submitted to the City three days prior to demolition and/or vegetation removal activities during nesting bird season (September to January). Should nesting birds be found, an exclusionary buffer will be established by a qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Nesting bird habitat within the Project site will be resurveyed during bird breeding season if there is a lapse in construction activities longer than seven days.
- Mitigation Measure CUL-1:** A qualified archaeological monitor shall be present during ground-disturbing activities, such as trenching and excavation, that could expose native soils. If archaeological resources are discovered during ground-disturbing activities, the monitor shall temporarily halt all construction activities in the general area of discovery until the resources area examined by a qualified monitor, to be retained by the Applicant. The monitor shall recommend next steps (i.e., additional excavation, curation, preservation, etc.) in a written document submitted to the City for review and approval. Prior to issuance of the building permit, the archaeological monitor shall prepare and submit a final report documenting the construction activities of the day, identifying survey sites, discuss the existing condition of the monitored areas, and discuss any resources that were discovered.
- Mitigation Measure GEO-1:** Prior to the issuance of a grading permit, the Applicant shall submit grading plans and construction drawings that comply with the recommendation provided in Section 6.0 of the Geotechnical Report, subject to approval of the City's Engineer and Building Official. These recommendations address design considerations for earthwork, seismic design parameters, foundation design, retaining and screening walls, exterior flatwork, concrete mix design, corrosion, preliminary pavement design, and post grading considerations.
- Mitigation Measure HAZ-1:** Prior to issuance of demolition permit for the demolition of structures that were constructed before 1980, the Applicant shall conduct a thorough investigation to determine if asbestos, lead, or polychlorinated biphenyls (PCBs) exist on the site. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards, Title 8, Division 1, Chapter 4, Subchapter 4, Article 4, Section 1529 and 1523.2. Compliance with Cal/OSHA standard would result in use of licensed contractors, licensed waste transporters and licensed waste disposal facilities and therefore potential impacts would be

mitigated to a level of less than significant if the demolition is conducted according to Cal/OSHA standards.

Mitigation Measure TCR-1:

Prior to the commencement of any ground disturbing activity at the project site, the project applicant shall retain a Native American Monitor(s) with traditional ties to the project area. A copy of the executed contract shall be submitted to the City of Lake Forest Planning and Building Department prior to the issuance of any permit necessary to commence a ground-disturbing activity. The Tribal monitor(s) will only be present on-site during the construction phases that involve ground-disturbing activities. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor(s) will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project Site are completed, or when the Tribal Representatives and Tribal Monitor(s) have indicated that all upcoming ground-disturbing activities at the Project Site have little to no potential for impacting Tribal Cultural Resources. Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the qualified archaeologist and Tribal monitor(s) approved by the Consulting Tribes. Due to federal funding for this project, any resources recovered from ground disturbing activities must be prepared and submitted to a federally compliant curation facility as specified in 36 CFR § 79.3.

If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue on other parts of the Project Site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If a non-Native American resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource," time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological

data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Due to federal funding for this project, any resources recovered from ground disturbing activities must be prepared and submitted to a federally compliant curation facility as specified in 36 CFR § 79.3. The exception to this requirement would be the recovery of human remains, associated grave goods, and sacred items, which are subject to NAGPRA regulations (43 CFR Subtitle A,.Part 10).

SECTION 5.0 – CIRCULATION

On June 12, 2020, the City of Lake Forest circulated a Notice of Intent to Adopt a Mitigated Negative Declaration and Initial Study to responsible agencies, trustee agencies, interest groups, and the general public. In accordance with the California Environmental Quality Act (CEQA) Section 21091 and State CEQA Guidelines Section 15073, a 30-day public review period for the Final IS/MND was provided from June 12, 2020 to July 13, 2020. Copies of the Initial Study, Mitigated Negative Declaration and supporting materials were made available for review at the City of Lake Forest City Hall, Community Development Planning Counter, located at 100 Civic Center Drive, Lake Forest 92630 and online at <https://lakeforestca.gov/212/Current-Projects-and-Recent-Decisions>.

During the 30-day comment period, the following comments were received from the following agencies.

Comment Letter No.	Commenting Agency	Date of Comment
1	Saddleback Valley Unified School District	June 18, 2020
2	Irvine Ranch Water District	June 29, 2020
3	Orange County Fire Authority	July 9, 2020
4	California Department of Transportation	July 13, 2020
5	California Department of Fish and Wildlife	July 13, 2020

During the 30-day comment period, the following comments were received from various organizations and interest groups.

Comment Letter No.	Commenter	Date of Comment
6	St. Joseph Mission Hospital	June 15, 2020
7	California Cultural Resource Preservation Alliance, Inc.	July 8, 2020

During the 30-day comment period, the following comments were received from various individuals.

Comment Letter No.	Commenter	Date of Comment
8	Ron Robbins	June 15, 2020
9	Ron Robbins	June 15, 2020
10	Michelle T	June 16, 2020

11	Ron Robbins	June 20, 2020
12	Gloria Sievers	June 24, 2020
13	Stan Miller	July 4, 2020
14	Christine Morinello	July 9, 2020
15	Janice Cochran	July 10, 2020
16	Marilyn Schroeder	July 10, 2020

SECTION 6.0 – RESPONSE TO COMMENTS

CEQA Guidelines Section 15204 (b) outlines parameters for submitting comments and reminds persons and public agencies that the focus of review and comment of negative declarations should be, “on the proposed finding that the project will not have a significant effect on the environment. If persons and public agencies believe that the project may have a significant effect, they should: (1) Identify the specific effect; (2) Explain why they believe the effect would occur, and; (3) Explain why they believe the effect would be significant.”

CEQA Guidelines Section 15204 (c) further advises, “Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to Section 15064, an effect shall not be considered significant in the absence of substantial evidence.” Section 15204 (d) also states, “Each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency’s statutory responsibility.” Section 15204 (e) states, “This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section.”

In accordance with Public Resources Code 21092.5 (b) of the CEQA Guidelines, the lead agency shall notify any public agency which comments on a negative declaration of the public hearing or hearings, if any, on the project for which the negative declaration was prepared. If notice to the commenting public agency is provided pursuant to Section 21092, the notice shall satisfy the requirement of this subdivision.

COMMENT LETTER #1 – SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT

Agency

From: [Ackerman, Gayle](#)
To: [Wetzel, Niki](#); [Mansur, Jennifer](#)
Subject: FW: Affordable Housing Project support
Date: Thursday, June 18, 2020 4:21:15 PM
Attachments: 2020-06 Lake Forest AH LOS .pdf

From: Rose, Debra <DRose@lakeforestca.gov>
Sent: Thursday, June 18, 2020 9:57 AM
To: Berglund, Lisa <LBerglund@lakeforestca.gov>
Cc: Neves, Keith <kneves@lakeforestca.gov>; Ackerman, Gayle <GAckerman@lakeforestca.gov>
Subject: FW: Affordable Housing Project support

Here's the letter.

D.

Comment Letter 1-1

Debra Rose
City Manager
City of Lake Forest
100 Civic Center Drive
Lake Forest, CA 92630
949/461-3414
www.lakeforestca.gov

From: Cornwall, Christine <Christy.Cornwall@stjoe.org>
Sent: Thursday, June 18, 2020 9:45 AM
To: Rose, Debra <DRose@lakeforestca.gov>
Subject: Affordable Housing Project support

Please see my attached letter in support of the Mountain View apartment community.
I would ask this letter be included as written comments in the upcoming Lake Forest City Council meeting.

Thank you,

Christy



25631 Peter A. Hartman Way · Mission Viejo, California 92691
(949) 586-1234 · www.svUSD.org

Board of Education

Dr. Edward Wong, President · Amanda Morrell, Vice President ·
Suzie R. Swartz, Clerk · Greg Kunath, Member · Barbara Schulman, Member

Crystal Turner, Ed.D.
Superintendent

Niki Wetzel
Assistant Director of Community Development
City of Mission Viejo
100 Civic Center Drive
Mission Viejo, CA 92691

Via Email: nwetzel@lakeforestca.gov

Subject: Response to Notice of Intent to Adopt a Mitigated Negative Declaration for Mountain View Affordable Housing Community Project

Dear Ms. Wetzel:

Thank you for the opportunity to comment on the Mountain View Affordable Housing Community Project Mitigated Negative Declaration (MND).

The site is at 24551 Raymond Way and 23591 El Toro Road, Lake Forest, CA 92630. The project would demolish the existing office building and construct a 71-unit affordable housing apartment complex on a 1.965-acre site. The project requires approvals of a General Plan Amendment, Zone Change, Tentative Parcel Map, Site Development Permit, Affordable Housing Agreement and Planned Sign Program.

The MND acknowledges the project is located within the Saddleback Valley Unified School District and would generate about 28 students that would attend district schools. As stated on page 72 of the Initial Study, the residential project would be served by Olivewood Elementary, Serrano Intermediate and El Toro High Schools.

- Elementary School: - Olivewood Elementary School (grades K - 6)
- 23391 Dune Mear Road, Lake Forest, CA 92630
- 0.3 mile from the development site
- 15 students
- Middle School: - Serrano Intermediate School (grades 7 - 8)
- 24551 Raymond Way, Lake Forest, CA 92630
- 2.1 miles from the development site
- 4.5 students
- High School: - El Toro High School (grades 9 - 12)
- 25255 Toledo Way, Lake Forest, CA 92630
- 1.7 miles from the development site
- 8 students

The MND acknowledges that that District has a shortage of 19 seats at elementary schools, a surplus 351 seats at intermediate schools and a surplus of 587 seats at the high schools. At the schools nearest the proposed project, the Olivewood Elementary has a shortage of 11 seats, and both Serrano Intermediate

Comment Letter 1-2

Comment Letter
1-2 cont

↑ and El Toro Intermediate have a surplus of seats to accommodate the additional students. The MND states on page 72 that the new residential units will be required to pay the school facility developer fee in place at the time building permits are issued and that the payment of fees would result in a less than significant impact.

While the school impact of this project is limited, the cumulative impact of projected housing growth in the City should be more fully investigated. The MND reports that the City has projected an additional 2,678 students from future housing development, which exceeds by 1,836 seats the District's current capacity. However, the MND ignores the potential cumulative impact of this shortage. The MND must evaluate the District's concerns that it will not have sufficient funds to expand existing schools or build the new schools needed to accommodate cumulative growth. The District is concerned with indirect transportation, air quality, noise, and other impacts if sufficient capacity is not available or the capacity is not located in growth areas where it is needed.

The Saddleback Valley USD has no other comments on the Mitigated Negative Declaration, but requests that the City continue to notify the District of all actions on this project and give the District an opportunity to review future environmental documentation.

Comment Letter 1-3

Our mission is to provide all students with a high-quality education in a safe and nurturing environment so they can reach their full potential and to become contributing and compassionate citizens in the world community. It is critical that the District remain involved in the planning process.

We look forward to working cooperatively with the City to create the best environment for our students and staff and the larger community. Please contact the undersigned if you have any questions or require additional information.

Sincerely,



Stella Escario-Doiron
Chief of Facilities, Maintenance, Operations, Construction & Transportation

C: Robert Craven, Assistance Superintendent, Facilities, Operations & Technology

RESPONSE TO COMMENT LETTER 1 – SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT (SVUSD)

Response to Comment 1-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

Response to Comment 1-2:

Your comment has been noted.

Response to Comment 1-3:

SVUSD agrees that the Proposed Project’s impact on schools is limited. SVUSD further contends that the MND ignores the potential cumulative impact of projected housing growth in the City on schools’ ability to accommodate future students, and that the “MND must evaluate [SVUSD]’s concerns that it will not have sufficient funds to expand existing schools or build the new schools needed to accommodate cumulative growth.” The MND, however, addresses the Proposed Project’s potential cumulative impact relating to school facilities by providing that the project proponent would be required to pay school facility impact fees. As described in Section 5.15, Public Services, page 72 of the Draft Initial Study, the project proponent would pay school impact fees at current fee rates, and as such, the proposed Project would have less than significant impacts to school services and facilities. Pursuant to Government Code section 65995, the Legislature has deemed the payment of these fees to constitute “full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property ... on the provision of adequate school facilities.” (Gov. Code, § 65995, subd. (h).) Moreover, Government Code section 65996 provides that the payment of such fees “shall be the exclusive methods of considering and mitigating impacts on school facilities that occur or might occur as a result of any legislative or adjudicative act, or both, by any state or local agency involving, but not limited to, the planning, use, or development of real property” (Gov. Code, § 65996, subd. (a).) Because the payment of such fees constitutes complete mitigation, a “local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property. . . on the basis that school facilities are inadequate.” (Gov. Code, § 65996, subd. (b).)

Further, SVUSD, rather than the City of Lake Forest, is responsible for using the school impact fees to best provide the community with the educational facilities necessary to accommodate future population growth. The City cannot speculate how SVUSD will exercise its discretion in spending these funds. Because the City cannot speculate how SVUSD will expend the school impact fees, it likewise cannot speculate what impacts would stem from SVUSD’s decisions on how to expend those fees—e.g., the City cannot speculate what impacts would result based on future determinations of where to site future schools given that it is SVUSD, not the City, that must make these future determinations.

Ultimately, depending on how SVUSD decides to satisfy the need for additional future classrooms, additional environmental review under CEQA may or may not be required. SVUSD must make that determination and complete any additional analysis, if warranted. The City cannot complete additional environmental review for future, as-yet-unplanned SVUSD school facility projects.

The City appreciates SVUSD and its mission to provide all students with a high-quality education in a safe and nurturing environment, and the City looks forward to working cooperatively with SVUSD in the

future to do what it can to create the best environment for students, staff, and the larger community. The City will notify SVUSD of all actions it takes on the Proposed Project.

COMMENT LETTER #2 – IRVINE RANCH WATER DISTRICT

Organization



June 29, 2020

Ms. Niki Wetzel, Assistant Director of Community Development
City of Lake Forest
Community Development Department
100 Civic Center Drive
Lake Forest, CA 92630

Re: NOI/Draft MND-Mountain View Affordable Housing Community Project

Dear Ms. Wetzel:

Irvine Ranch Water District (IRWD) has received the City of Lake Forest's Notice of Intent (NOI) for the Mountain View Affordable Housing Community Project's Draft Mitigated Negative Declaration (MND). IRWD has reviewed the NOI/Draft MND and offers the following comments.

Comment Letter 2-1

IRWD noted that the proposed project site would be located at 24551 Raymond Way and 23591 El Toro Road in Lake Forest, CA. IRWD can confirm that the proposed project's location is not within IRWD's service area; rather, it appears that the project would be within El Toro Water District's (ETWD) service area. Accordingly, water and sewer for this project for this project would be served from ETWD. Since this project is outside of IRWD, IRWD has no further comments on the NOI/MND.

IRWD appreciates the opportunity to review and comment on the NOI/MND. If you have any questions or if you require additional information, please contact me at (949) 453-5325 or Ms. Jo Ann Corey, Environmental Compliance Specialist at (949) 453-5326.

Sincerely,

A handwritten signature in black ink, appearing to read "Fiona M. Sanchez".

Fiona M. Sanchez
Director of Water Resources

cc: Eric Akiyoshi, IRWD
Jo Ann Corey, IRWD

RESPONSE TO COMMENT LETTER 2 – IRVINE RANCH WATER DISTRICT

Response to Comment 2-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

COMMENT LETTER #3 – ORANGE COUNTY FIRE AUTHORITY

Agency

From: [Blumberg, William](#)
To: [Wetzel, Niki](#)
Cc: [Rivers, Tamy](#)
Subject: Mountain View Affordable Housing Comments
Date: Thursday, July 9, 2020 4:05:50 PM
Attachments: [image001.png](#)
[Mountain View Affordable Housing LKF comment letter.pdf](#)

Niki,

Attached are the OCFA comments for the Mountain View Affordable Housing project. Please let me know if you have any questions.

Regards,

William

Comment Letter 3-1



William Blumberg
Management Assistant
Orange County Fire Authority
Office: 714.573.6177
In service of others!



ORANGE COUNTY FIRE AUTHORITY

P. O. Box 57115, Irvine, CA 92619-7115 • 1 Fire Authority Road, Irvine, CA 92602-0125

Brian Fennessy, Fire Chief

(714) 573-6000

www.ocfa.org

July 9, 2020

City of Lake Forest
Attn: Niki Wetzel, Assistant Director of Community Development
100 Civic Center Drive
Lake Forest, CA 92630

Ref: Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration (MND) for the
Mountain View Affordable Housing Community Project

Dear Niki Wetzel:

Thank you for the opportunity to review the subject document. The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services response to the project area. Services include: structural fire protection, emergency medical and rescue services, education and hazardous material response. OCFA also participates in disaster planning as it relates to emergency operations, which includes high occupant areas and school sites and may participate in community disaster drills planned by others. Resources are deployed based upon a regional service delivery system, assigning personnel and equipment to emergency incidents without regard to jurisdictional boundaries. The equipment used by the department has the versatility to respond to both urban and wildland emergency conditions. The following are our comments:

On Page 70 (Section 5.15.1 Impact Analysis, paragraph 3)

Please update your document to show the current OCFA's Standard of Cover for fire services in urban areas, such as the City of Lake Forest, as listed below. Response times are from receipt of the service call to a unit on scene:

- First-in engines should arrive on-scene to medical aids and/or fires within 7 minutes and 20 seconds 80 percent of the time.
- First-in truck companies should arrive on-scene to fires within 12 minutes 80 percent of the time.
- First-in paramedic companies should arrive on-scene at all medical aids within 10 minutes 80 percent of the time.

Comment Letter 3-2

Serving the Cities of: Aliso Viejo • Buena Park • Cypress • Dana Point • Garden Grove • Irvine • Laguna Hills • Laguna Niguel • Laguna Woods
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Seal Beach • Stanton • Tustin • Villa Park • Westminster • Yorba Linda • and Unincorporated Areas of Orange County

RESIDENTIAL SPRINKLERS AND SMOKE ALARMS SAVE LIVES

Niki Wetzel
July 9, 2020
Page 2

On Page 70 (Section 5.15.1 Impact Analysis, paragraph 5)

We concurred that this project will have Less Than Significant Impact with the following Measures:

- All projects are cumulative and OCFA uses a fair share approach to mitigate fire service response impacts and facility/equipment needs.
 - *Mitigation: Prior to approval of any subdivision or comprehensive plan approval for the project, the designated site developer shall enter into a Secured Fire Protection Agreement with the Orange County Fire Authority.*
 - This Agreement shall specify the developer's pro-rata fair share funding of capital improvements necessary to establish adequate fire protection facilities and equipment, and/or personnel. Said agreement shall be reached as early as possible in the planning process, preferably for each phase or land use sector of the project, rather than on a parcel by parcel basis.
 - This agreement is typically entered into with developers on a project specific basis to contribute a pro rata share towards funding capital improvements necessary to establish adequate fire protection facilities and equipment. The Secured Fire Protection Agreement is not related to the provision of an "adequate tax base directed to the Structural Fire Fund to offset short and long range costs", but rather to mitigating the impact of a project on OCFA as it impacts capital and infrastructure needs.
- The project is subject to review by the City and the OCFA for various construction document plan checks for the applicable fire life safety codes and regulations. The project will be subject to the current editions of the CBC, CFC and related codes.
- Structures of this size and occupancy are required to have automatic fire sprinkler systems designed per NFPA 13 as required in the current CBC, CFC.
- A water supply system to supply fire hydrants and automatic fire sprinkler systems is required. Fire flow and hydrant spacing shall meet the minimums identified in the codes. Please refer to the California Fire Code Appendix section. These tables are also located in OCFA Guideline B09, Attachment 23.
- Attic spaces shall be fully sprinklered.
- It is unlawful to occupy any portions of this apartment building until City building department and OCFA have conducted final inspection and sign off.
- Ensure that proposed project meet California Fire Code, OCFA Fire Master Plans for Commercial & Residential Development (B-09) Guideline (such as adherence to OCFA Fire Lane detail guidelines and OCFA access around the building), and OCFA Architectural Review (E-04) Guideline.

Comment Letter 3-3

Comment Letter 3-4

Comment Letter 3-5

Comment Letter 3-6

Comment Letter 3-7

Comment Letter 3-8

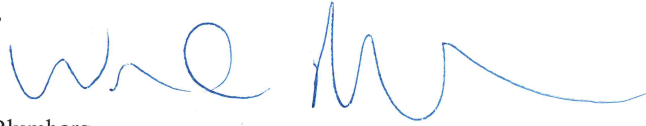
Comment Letter 3-9

Niki Wetzel
July 9, 2020
Page 3

Comment Letter
3-10

In addition, we would like to point out that all standard conditions with regard to development, including water supply, built in fire protection systems, road grades and width, access, building materials, and the like will be applied to this project at the time of plan submittal. Thank you for providing us with this information. Please contact me at 714-573-6177 if you have any questions.

Sincerely,



William Blumberg
Management Assistant
Planning and Development
williamblumberg@ocfa.org

RESPONSE TO COMMENT LETTER 3 – ORANGE COUNTY FIRE AUTHORITY (OCFA)

Response to Comment 3-1:

Thank you for your comment regarding this Proposed Project.

Response to Comment 3-2:

The OCFA's Standard for Cover for fire services will be revised and incorporated into Section 5.15.1 of the mitigated negative declaration (MND), as noted in Section 7 below. The revisions do not require recirculation of the mitigated negative declaration (MND) for the Proposed Project as the revisions are not substantial under State CEQA Guidelines section 15073.5. Rather, the revision merely "clarifies, amplifies, or makes insignificant modifications to the negative declaration." (State CEQA Guidelines, § 15073.5, subd. (c)(4).)

Response to Comment 3-3:

OCFA suggests a measure requiring the designated site developer to enter into a Secured Fire Protection Agreement with OCFA.

The City agrees to include as a condition of approval a measure requiring the applicant to enter into a Secured Fire Protection Agreement with OCFA. To be clear, this condition of approval does not constitute a mitigation measure under CEQA for a few reasons.

First, the relevant issue as discussed in the Draft Initial Study is whether the Proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, responses times, or other performance objectives for fire protection services. (See Draft Initial Study, p. 70; State CEQA Guidelines, Appendix G, § XV, Public Services.) If an agency believes that the Proposed Project may have a significant effect, it should "(1) Identify the specific effect; (2) Explain why [the agency] believe[s] the effect would occur, and (3) Explain why [the agency] believe[s] the effect would be significant." (State CEQA Guidelines, § 15204, subd. (b).)

Here, OCFA does not contend that the Proposed Project would have any specific effect, does not give any reason for why such an effect would occur, and does not contend any such effect would be significant. For example, OFCA does not assert that the Proposed Project's demand on OCFA resources would be any greater than the existing buildings' demand on OCFA resources; nor does OCFA assert that additional resources are necessary to maintain existing service ratios or levels of service. As indicated on Page 71 of the Initial Study, there is no substantial evidence suggesting that the Proposed Project would result in a substantial adverse physical impact under State CEQA Guidelines, Appendix G, Section XV. Further, as with the exiting on-site buildings, the Proposed Project response times will continue to meet OCFA standards.

Moreover, courts have explained that the "need for additional fire protection services is not an environmental impact that CEQA requires a project proponent to mitigate." (*City of Hayward v. Board of Trustees of the California State University* (2015) 242 Cal.App.4th 833, 843.) Rather, the issue is

whether the construction of a new or expanded fire station needed to maintain service ratios would result in a significant impact. Here, as noted above, there is no substantial evidence suggesting that a new or expanded fire station would be necessary.

Though not required by CEQA, the City agrees, in the spirit of cooperation, to impose the following condition of approval on the Proposed Project:

Prior to issuance of grading permits, the following shall be completed:

The applicant shall submit evidence of approval by Orange County Fire Authority of an approved Fire Protection Agreement to the Planning Division.

The Proposed Project will be subject to review for various construction document plan checks and standard conditions for development.

Response to Comment 3-4:

Comment noted. The Proposed Project will be subject to review for various construction document plan checks and standard conditions for development.

Response to Comment 3-5:

Comment noted. The Proposed Project will have the required systems per NFPA 13 as required in the current CBC, CFC.

Response to Comment 3-6:

Comment noted. The Proposed Project will have the required water supply systems to supply fire hydrants and fire sprinkler systems and meet the minimums identified in the California Fire code and OCFA Guidelines B09.

Response to Comment 3-7:

Comment noted. The Proposed Project's attic systems will be fully sprinklered.

Response to Comment 3-8:

Comment noted. The Proposed Project will not be occupied until it has been inspected and signed off by the City's building department and OCFA.

Response to Comment 3-9:

Comment noted. The Proposed Project will comply with the California Fire Code and OCFA plans and requirements as outlined in the comment letter.

Response to Comment 3-10:

Comment noted. The Proposed Project will be subject to review for various construction document plan checks and standard conditions for development.

COMMENT LETTER #4 – CALIFORNIA DEPARTMENT OF TRANSPORTATION

Agency

From: Jamoralin, Joseph@DOT <Joseph.Jamoralin@dot.ca.gov>
Sent: Monday, July 13, 2020 4:49 PM
To: Kelene Strain <kstrain@chambersgroupinc.com>
Cc: OPR State Clearinghouse <state.clearinghouse@OPR.ca.gov>; Shelley, Scott@DOT <scott.shelley@dot.ca.gov>
Subject: Mountain View Affordable Housing Project Comment Letter for City of Lake Forest (SCH# 2020060274)

Good Afternoon Ms. Strain,

Please review the attached comments from Caltrans for the Mitigated Negative Declaration for the Mountain View Affordable Housing Community Project in the City of Lake Forest. Feel free to contact me if you have any questions regarding these comments.

Comment 4-1

Please confirm receipt of this email by responding.

Thank you,

Joseph Jamoralin

Transportation Planner

Caltrans District 12 | Regional-IGR-Transit Planning

1750 East 4th Street Suite 100

Santa Ana, CA 92705

Office: (657) 328-6276

DEPARTMENT OF TRANSPORTATION

DISTRICT 12
1750 EAST FOURTH STREET, SUITE 100
SANTA ANA, CA 92705
PHONE (657) 328-6267
FAX (657) 328-6510
TTY 711
www.dot.ca.gov



*Making Conservation
a California Way of Life.*

July 13, 2020

Kelene Strain
Chambers Group INC
5 Hutton Center Drive Suite 750
Santa Ana, CA 92707

File: IGR/CEQA
SCH#: 2020060274
12-ORA-2020-01403
I-5, PM 18.803

Dear Ms. Strain,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Mitigated Negative Declaration for the Mountain View Affordable Housing Community Project in the City of Lake Forest. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

Comment Letter 4.2

The project proposes the demolition of an existing office building located at 24551 Raymond Way to construct a 71-unit affordable housing apartment complex on the proposed 1.965-acre site. Regional access to the plan area is provided by Interstate 5 (I-5) and State Route 241 (SR 241). Caltrans is a responsible agency for this project and upon review, we have the following comments:

Transportation Planning


1. Caltrans encourages the design of Complete Streets that include high-quality pedestrian, bicycle, and transit facilities that are safe and comfortable for users of all ages and abilities. Improvements may include providing secure bicycle parking, pedestrian-oriented LED lighting, and continental crosswalk striping. Complete Streets improvements also promote regional connectivity, improve air quality, reduce congestion, promote improved first-/last-mile connections, and increase safety for all modes of transportation.

Nearby existing bicycle facilities include the Class II bicycle lanes on Murlands Boulevard that provide a direct connection to the Class I Aliso Creek Bikeway. Please consider connectivity to these facilities during project development.

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

City of Lake Forest
July 13, 2020
Page 2

Comment Letter
4-2 cont

- 
2. Caltrans supports the project's inclusion of long-term bike parking. Long-term bike parking should offer security and weather protection, and should also be designed to accommodate different sizes/types of bikes (e.g. cargo bike, bike with trailer).
For additional guidance on providing functional bike parking, see the attached "Essentials of Bike Parking" guidance created by the Association of Pedestrian and Bicycle Professionals (link to online PDF: <https://www.apbp.org/Publications>).
 3. Caltrans encourages the City of Lake Forest to consider transit mobility opportunities to connect current transit bus service to include the nearby train station for Metrolink and Amtrak Pacific Surfliner rail services. These rail services provide both commuter regional and interregional/intercity rail services.
 4. Caltrans encourages increased transit ridership, this would help reduce Vehicle Miles Traveled in compliance with SB 743. OCTA Bus Route 89 serves within the project vicinity with stops located along El Toro and Raymond Way. This bus route stops at the Laguna Hills Transportation Center for regional transit connectivity including the nearest train station, Irvine Station.
 5. Please coordinate with OCTA regarding transit improvements closer to the Mountain View Affordable Housing development site and ensure the construction will not interfere with any transit services.

Comment Letter 4-3

Freight

6. Please consider incorporating designated areas/parking for freight delivery, package, and transportation network company's pickup and drop-off.
7. We recommend the development to offer pick-up point services or automated parcel systems to allow for deliveries that can be made with one truck stop instead of multiple stops to individual residences.

Comment Letter 4-4

Encroachment Permit

8. Any project work proposed in the vicinity of the State Right-of-Way (ROW) would require an encroachment permit and all environmental concerns must be adequately addressed. If the environmental documentation for

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

City of Lake Forest
July 13, 2020
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Comment Letter
4.4 cont

the project does not meet Caltrans's requirements for work done within State ROW, additional documentation would be required before approval of the encroachment permit. Please coordinate with Caltrans to meet requirements for any work within or near State ROW. For specific details for Encroachment Permits procedure, please refer to the Caltrans's Encroachment Permits Manual at:

<http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Please continue to keep us informed of this project and any future developments that could potentially impact State transportation facilities. If you have any questions or need to contact us, please do not hesitate to contact Joseph Jamoralin at (657) 328-6276 or Joseph.Jamoralin@dot.ca.gov

Sincerely,



SCOTT SHELLEY
Branch Chief, Regional-IGR-Transit Planning
District 12

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to enhance California's economy and livability"*

ESSENTIALS OF BIKE PARKING

Selecting and installing bicycle parking that works



apbp
Association of Pedestrian
and Bicycle Professionals
Expertise for Active
Transportation

Essentials of Bike Parking

Revision 1.0, September 2015

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Bicycle Professionals (APBP).



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Acknowledgments

Lead author - Nathan Broom

Contributors - Eric Anderson, Vince Caristo, Ryan Dodge, Jennifer Donlon-Wyant, Sarah Figliozzi, Elco Gauw, Dan Jatres, David Loutzenheiser, Heath Maddox, Brian Patterson, Cara Seiderman



Alta Planning + Design donated their expertise in the design and illustration of this guide. Cat Cheng, lead designer, Jillian Portelance, production designer.

Cover image: Sign D4-3 from Standard Highway Signs, 2004 Edition, http://mutcd.fhwa.dot.gov/ser-shs_millennium_eng.htm

Bicycle parking manufacturers and distributors shall not use APBP's logo or imply product endorsement by APBP without express written permission from APBP.

APBP is an association of professionals who plan, implement and advocate for walkable and bicycle-friendly places.

Association of Pedestrian
and Bicycle Professionals

bikeparking@apbp.org
www.apbp.org



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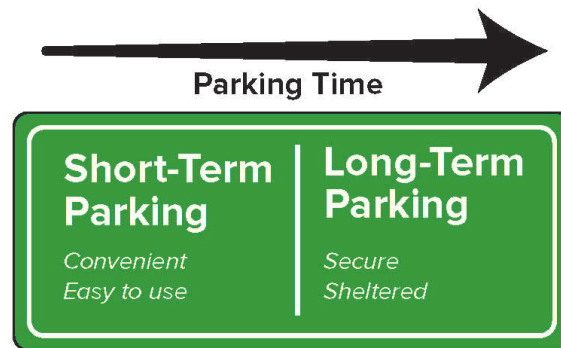
- 01** INTRODUCTION
- 02** SHORT-TERM PARKING
 - Site planning
 - Bike corrals
- 03** LONG-TERM PARKING
 - Site planning
 - Special considerations for long-term parking
- 04** INSTALLATION
 - Installation surface
 - Installation fasteners
 - Installation techniques
- 05** BICYCLE RACK SELECTION
 - Performance criteria for bike parking racks
 - Rack styles
 - Rack materials and coatings
- 10** PLACEMENT

INTRODUCTION

Among the necessary supports for bicycle transportation, bike parking stands out for being both vital and easy. Still, it requires some attention to get it right. Bike parking may go unused if it's not more appealing to users than the nearest sign post. A minor mistake in installation can make a quality rack unusable. The variety of bicycle sizes, shapes, and attachments continues to increase, and good bike parking should accommodate all types.

The Association of Pedestrian and Bicycle Professionals (APBP) prepared this guide for people planning to purchase or install bike parking fixtures on a limited scale. It is a brief overview of APBP's comprehensive *Bicycle Parking Guidelines* handbook, available at www.apbp.org.

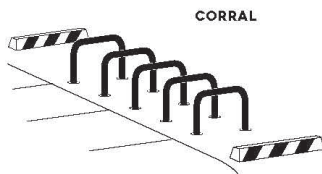
This guide divides bike parking into short-term and long-term installations. These two kinds of parking serve different needs, and the starting point for most bike parking projects is recognizing whether the installation should serve short-term users, long-term users, or both. If users will typically be parking for two hours or longer, they are likely to value security and shelter above the convenience and ease that should characterize short-term parking.



SHORT-TERM PARKING

Effective bike parking for short-term users depends on two main factors: 1) proximity to the destination and 2) ease of use.

Short-term parking is designed to meet the needs of people visiting businesses and institutions, and others with similar needs—typically lasting up to two hours. Short-term users may be infrequent visitors to a location, so the parking installation needs to be readily visible and self-explanatory.



SITE PLANNING

Location

Short-term bike parking should be visible from and close to the entrance it serves—50' or less is a good benchmark. Weather-protected parking makes bicycle transportation more viable for daily and year-round use, and it can reduce the motivation for users to bring wet bicycles into buildings. Area lighting is important for any location likely to see use outside of daylight hours.

Security

All racks must be sturdy and well-anchored, but location determines the security of short-term parking as much as any other factor. Users seek out parking that is visible to the public, and they particularly value racks that can be seen from within the destination. Areas with high incidence of bicycle theft may justify specific security features such as specialty racks, tamper-proof mounting techniques, or active surveillance.

Quantity

Many jurisdictions have ordinances governing bike parking quantity. APBP's full *Bicycle Parking Guidelines* offers complete recommendations for the amount and type of parking required in various contexts. In the absence of requirements, it's okay to start small—but bear in mind that perceived demand may be lower than the demand that develops once quality parking appears.

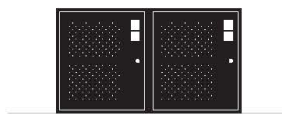
BIKE CORRALS

Some cities with limited sidewalk space and strong bicycle activity place bike parking in on-street "bike corrals" located in the street area adjacent to the curb. Bike corrals can sometimes make use of on-street areas that are unsuitable for auto parking. When replacing a single auto parking space, a corral can generally fit 8 to 12 bicycles. APBP's full *Bicycle Parking Guidelines* provides details about designing and siting bike corrals. → apbp.org

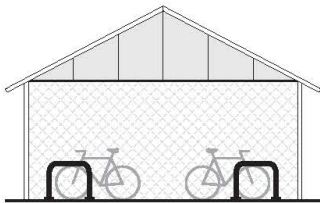
LONG-TERM PARKING

Users of long-term parking generally place high value on security and weather protection. Long-term parking is designed to meet the needs of employees, residents, public transit users, and others with similar needs. These users typically park either at home or at a routine destination such as a workplace. They often leave their bicycles unmonitored for a period of several hours or longer, so they require security and weather protection that let them park without unreasonable concern for loss or damage.

Long-term parking can take a variety of forms, including a room within a residential building or workplace, a secure enclosure within a parking garage, or a cluster of bike lockers at a transit center. Some long-term parking is open to the public—such as a staffed secure enclosure at a transit hub—and some of it is on private property with access limited to employees, residents, or other defined user groups.



BIKE LOCKERS



SHeltered Secure Enclosure

SITE PLANNING

Location

Appropriate locations for long-term parking vary with context. Long-term parking users are typically willing to trade a degree of convenience for weather protection and increased security. Long-term installations emphasize physical security above public visibility. Signage may be needed for first-time users.

Security

Security is paramount for quality long-term parking. Access to parked bicycles can be limited individually (as with lockers) or in groups (as with locked bike rooms or other secure enclosures). Options for access control include user-supplied locks, keys, smart cards, and other technologies.

Quantity

Refer to local ordinances or the comprehensive APBP *Bicycle Parking Guidelines* to determine the amount and type of parking required for various contexts.

SPECIAL CONSIDERATIONS FOR LONG-TERM PARKING

In many ways, short-term and long-term parking function similarly and are served by the same guidelines. Some exceptions are noted below.

Density

The competition of uses for high-security and sheltered locations creates particular pressure on long-term parking to fit more bicycles in less space. When parking needs cannot be met with standard racks and spacing recommended in this guide, consider rack systems designed to increase parking density. See the high-density racks table on page 7. Note that increasing density without careful attention to user needs can create parking that excludes people because of age, ability, or bicycle type. This may result in people parking bicycles in other less desirable places or choosing not to bike at all.

Bicycle design variety

Long-term parking facilities should anticipate the presence of a variety of bicycles and accessories, including—depending on context—recumbents, trailers, children’s bikes, long-tails, and others. To accommodate trailers and long bikes, a portion of the racks should be on the ground and should have an additional 36” of in-line clearance.

Performance criteria

The bike rack criteria in the next section apply to racks used in any installation, regardless of its purpose. Long-term installations often use lockers and group enclosures not discussed in this guide. Such equipment raises additional considerations that are discussed in detail in APBP’s full *Bicycle Parking Guidelines*. [↪ apbp.org](https://www.apbp.org)

INSTALLATION

Selecting an appropriate installation surface and technique is key to creating bicycle parking that remains secure and attractive over time.

INSTALLATION SURFACE

A sturdy concrete pad is an ideal surface for installing bicycle parking. Other surfaces often encountered include asphalt, pavers, and soft surfaces such as earth or mulch. These surfaces can accommodate in-ground mounting or freestanding bike racks such as inverted-U racks mounted to rails. See APBP's *Bicycle Parking Guidelines* for details. [apbp.org](https://www.apbp.org)

INSTALLATION FASTENERS

When installing racks on existing concrete, consider the location and select appropriate fasteners. Drill any holes at least three inches from concrete edges or joints. Some locations benefit from security fasteners such as concrete spikes or tamper-resistant nuts on wedge anchors. Asphalt is too soft to hold wedge and spike anchors designed for use in concrete. Installing bike parking on asphalt typically requires freestanding racks and anchor techniques specific to asphalt.

FASTENERS

CONCRETE SPIKE



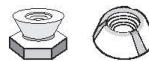
Installs quickly in concrete with a hammer. Tamper-resistant. Removal may damage concrete and/or rack.

CONCRETE WEDGE ANCHOR



Allows for rack removal as needed. Not tamper-resistant, but can accommodate security nuts (below).

SECURITY NUTS



Use with concrete wedge anchors. Security nuts prevent removal with common hand tools.

INSTALLATION TECHNIQUES

When installing racks on existing concrete, choose those with a surface-mount flange and install with a hammer drill according to the specifications of the mounting hardware selected. When pouring a new concrete pad, consider bike parking fixtures designed to be embedded in the concrete. Because replacing or modifying an embedded rack is complicated and costly, this installation technique requires particular attention to location, spacing, rack quantity, and material.



BICYCLE RACK SELECTION

PERFORMANCE CRITERIA FOR BIKE PARKING RACKS

These criteria apply to any rack for short- or long-term use.

CRITERIA	DETAILS
Supports bike upright without putting stress on wheels	The rack should provide two points of contact with the frame—at least 6" apart horizontally. Or, if a rack cradles a bicycle's wheel, it must also support the frame securely at one point or more. The rack's high point should be at least 32".
Accommodates a variety of bicycles and attachments	The racks recommended on page 6 ("racks for all applications") serve nearly all common bike styles and attachments—if installed with proper clearances (see placement section). Avoid designs and spacing that restrict the length, height, or width of bicycles, attachments, or wheels.
Allows locking of frame and at least one wheel with a U-lock	A closed loop of the rack should allow a single U-lock to capture one wheel and a closed section of the bike frame. Rack tubes with a cross section larger than 2" can complicate the use of smaller U-locks.
Provides security and longevity features appropriate for the intended location	Steel and stainless steel are common and appropriate materials for most general-use racks. Use tamper-resistant mounting hardware in vulnerable locations. Rack finish must be appropriate to the location (see materials and coatings section).
Rack use is intuitive	First-time users should recognize the rack as bicycle parking and should be able to use it as intended without the need for written instructions.

RACK STYLES

The majority of manufactured bike racks fall into one of the categories on pages 6-8. Within a given style, there is wide variation among specific racks, resulting in inconsistent usability and durability. APBP recommends testing a rack before committing broadly to it.

RACKS FOR ALL APPLICATIONS

When properly designed and installed, these rack styles typically meet all performance criteria and are appropriate for use in nearly any application.

INVERTED U also called staple, loop



Common style appropriate for many uses; two points of ground contact. Can be installed in series on rails to create a free-standing parking area in variable quantities. Available in many variations.

POST & RING



Common style appropriate for many uses; one point of ground contact. Compared to inverted-U racks, these are less prone to unintended perpendicular parking. Products exist for converting unused parking meter posts.

WHEELWELL- SECURE



Includes an element that cradles one wheel. Design and performance vary by manufacturer; typically contains bikes well, which is desirable for long-term parking and in large-scale installations (e.g. campus); accommodates fewer bicycle types and attachments than the two styles above.

This guide analyzes the most common styles of bike racks, but it is not exhaustive. Use the performance criteria on page 5 to evaluate rack styles not mentioned. Custom and artistic racks can contribute to site identity and appearance, but take care that such racks don't emphasize appearance over function or durability.

HIGH-DENSITY RACKS

These rack styles do not meet all performance criteria but may be appropriate in certain constrained situations.

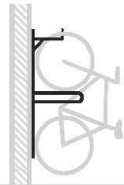
High-density rack systems can maximize the use of limited parking space, but they don't work for all users or bicycles. If installing these racks, reserve additional parking that accommodates bicycles with both wheels on the ground for users who are not able to lift a bicycle or operate a two-tier rack, or for bikes that are not compatible with two-tier or vertical racks.

STAGGERED WHEELWELL-SECURE



Variation of the wheelwell-secure rack designed to stagger handlebars vertically or horizontally to increase parking density. Reduces usability and limits kinds of bikes accommodated, but contains bikes well and aids in fitting more parking in constrained spaces.

VERTICAL



Typically used for high-density indoor parking. Not accessible to all users or all bikes, but can be used in combination with on-ground parking to increase overall parking density. Creates safety concerns not inherent to on-ground parking.

TWO-TIER



Typically used for high-density indoor parking. Performance varies widely. Models for public use include lift assist for upper-tier parking. Recommend testing before purchasing. Creates safety concerns not inherent to on-ground parking, and requires maintenance for moving parts.

RACKS TO AVOID

Because of performance concerns, APBP recommends selecting other racks instead of these.

WAVE

also called undulating or serpentine



Not intuitive or user-friendly; real-world use of this style often falls short of expectations; supports bike frame at only one location when used as intended.

SCHOOLYARD

also called comb, grid



Does not allow locking of frame and can lead to wheel damage. Inappropriate for most public uses, but useful for temporary attended bike storage at events and in locations with no theft concerns. Sometimes preferred by recreational riders, who may travel without locks and tend to monitor their bikes while parked.

COATHANGER



This style has a top bar that limits the types of bikes it can accommodate.

WHEELWELL



Racks that cradle bicycles with only a wheelwell do not provide suitable security, pose a tripping hazard, and can lead to wheel damage.

BOLLARD



This style typically does not appropriately support a bike's frame at two separate locations.

SPIRAL



Despite possible aesthetic appeal, spiral racks have functional downsides related to access, real-world use, and the need to lift a wheel to park.

SWING ARM SECURED



These racks are intended to capture a bike's frame and both wheels with a pivoting arm. In practice, they accommodate only limited bike types and have moving parts that create unneeded complications.

RACK MATERIALS & COATINGS

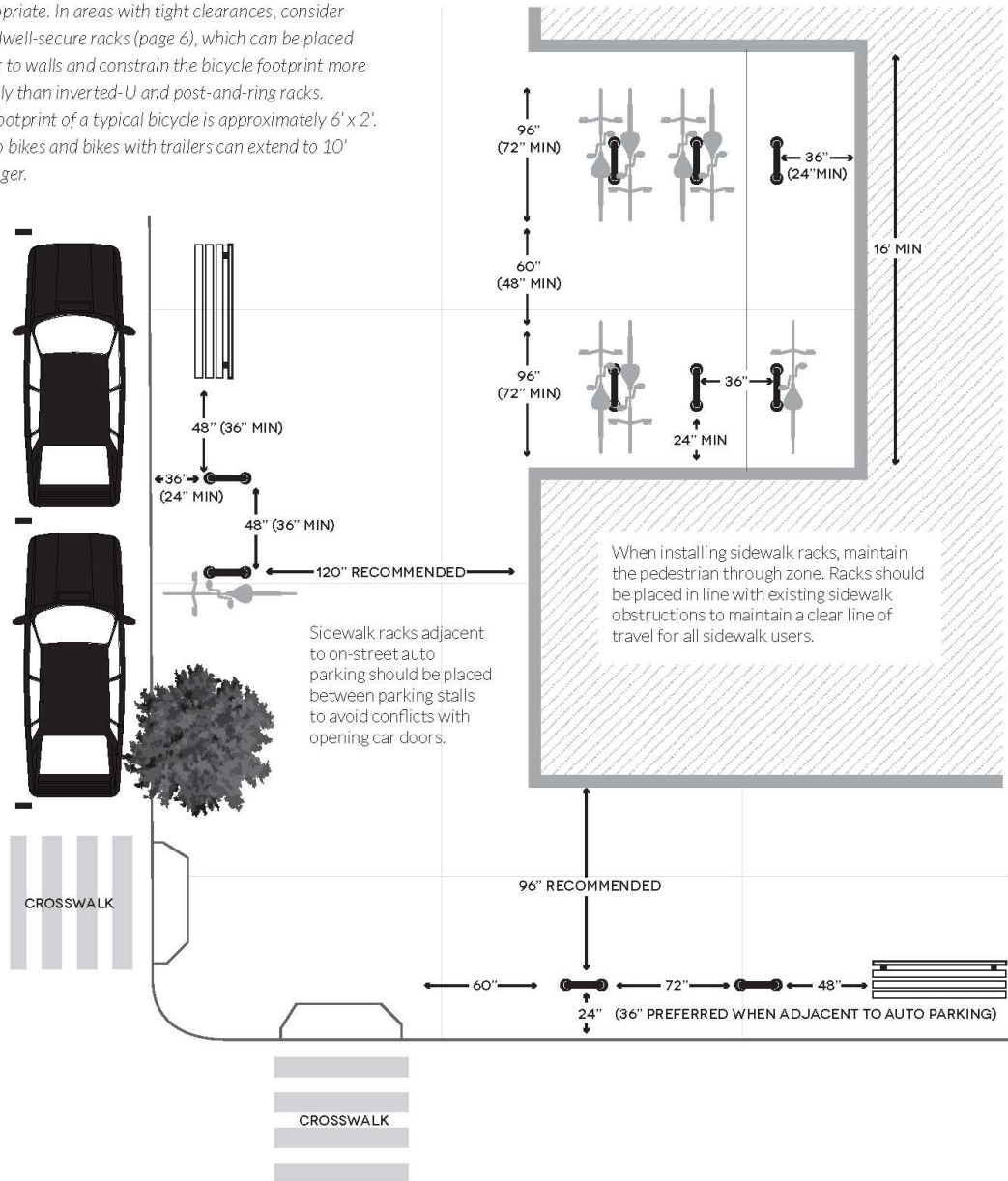
Most bicycle parking racks are made of carbon steel or stainless steel. Carbon steel requires a surface coating to resist rust while appropriate grades of stainless steel need no coating. Not all materials and coatings with the same name perform equally. Square tubing provides a security advantage as round tubing can be cut quietly with a hand-held pipe cutter. Before purchasing racks, talk to suppliers about your particular conditions and choose a material and coating that suit your needs. The following are common choices, depending on local considerations and preferences.

RACK MATERIAL - COATING	RELATIVE PURCHASE COST	DURABILITY	CAUTIONS
Carbon steel - galvanized	Usually lowest	Highly durable and low-maintenance; touch-up, if required, is easy and blends seamlessly	Utilitarian appearance; can be slightly rough to the touch
Carbon steel - powder coat* (TGIC or similar)	Generally marginally higher than galvanized	Poor durability	Requires ongoing maintenance; generally not durable enough for long service exposed to weather; not durable enough for large-scale public installations
Carbon steel - thermoplastic	Intermediate	Good durability	Appearance degrades over time with scratches and wear; not as durable as galvanized or stainless
Stainless steel - no coating needed, but may be machined for appearance	Highest	Low-maintenance and highest durability; most resistant to cutting	Can be a target for theft because of salvage value; maintaining appearance can be difficult in some locations

*When applied to carbon steel, TGIC powder coat should be applied over a zinc-rich primer or galvanization to prevent the spread of rust beneath the surface or at nicks in the finish.

PLACEMENT

The following minimum spacing requirements apply to some common installations of fixtures like inverted-U or post-and-ring racks that park one bicycle roughly centered on each side of the rack. Recommended clearances are given first, with minimums in parentheses where appropriate. In areas with tight clearances, consider wheelwell-secure racks (page 6), which can be placed closer to walls and constrain the bicycle footprint more reliably than inverted-U and post-and-ring racks. The footprint of a typical bicycle is approximately 6' x 2'. Cargo bikes and bikes with trailers can extend to 10' or longer.



RESPONSE TO COMMENT LETTER 4 – CALIFORNIA DEPARTMENT OF TRANSPORTATION

Response to Comment 4-1:

Thank you for your comment regarding this Proposed Project. Comment noted.

Response to Comment 4-2:

Thank you for your comment regarding this Proposed Project. The Proposed Project will consider the recommendation provided for transportation planning regarding bicycle facilities, transit mobility, ridership, and transit improvements.

Response to Comment 4-3:

The Proposed Project will consider the recommendation for freight delivery and transportation including incorporating designated areas/parking for freight delivery, package, and transportation network.

Response to Comment 4-4:

The Proposed Project will coordinate with Caltrans should the proposed activities encroach within the State Right-Of-Way.

Response to Comment 4-5:

Comment noted and Essentials of Bike Parking will be reviewed by the Applicant.

COMMENT LETTER #5 – CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Organization

From: [Lane, Jessie@Wildlife](mailto:Lane_Jessie@Wildlife)
To: [Wetzel, Niki](mailto:Wetzel_Niki)
Cc: [Turner, Jennifer@Wildlife](mailto:Turner_Jennifer@Wildlife)
Subject: Mountain View Affordable Housing Community Project (SCH# 2020060274)
Date: Monday, July 13, 2020 9:55:43 AM

Dear Ms. Wetzel,

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Mitigated Negative Declaration (MND) dated June, 2020, for the for the Mountain View Affordable Housing Community Project (SCH# 2020060274). CDFW is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA; §§ 15386 and 15281, respectively) and is responsible for ensuring appropriate conservation of the state's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act (Fish and Game Code § 2050 *et seq.*) and other sections of the Fish and Game Code (1600 *et seq.*).

Comment Letter 5-1

As indicated in the MND, trees on the Project site have the potential to provide habitat for nesting birds. We appreciate your consideration of nesting bird impact avoidance and minimization outlined in Mitigation Measure BIO-1. Should you have any questions pertaining to nesting bird survey protocol or other biological resources for this project, please contact CDFW for additional coordination.

Thank you,

Jessie Lane
Environmental Scientist
California Department of Fish and Wildlife
South Coast Region, Habitat Conservation Planning
3883 Ruffin Road
San Diego, CA 92123

Phone (858) 636-3159

RESPONSE TO COMMENT LETTER 5 – CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)

Response to Comment 5-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted. The discussion of MM BIO-1 in Section 5.4.1 Biological Resources will be implemented in the Proposed Project.

COMMENT LETTER #6 – ST. JOSEPH MISSION HOSPITAL

Organization

From: [Ackerman, Gayle](#)
To: [Wetzel, Niki](#); [Mansur, Jennifer](#)
Subject: FW: Affordable Housing Project support
Date: Thursday, June 18, 2020 4:21:15 PM
Attachments: 2020-06 Lake Forest AH LOS .pdf

From: Rose, Debra <DRose@lakeforestca.gov>
Sent: Thursday, June 18, 2020 9:57 AM
To: Berglund, Lisa <LBerglund@lakeforestca.gov>
Cc: Neves, Keith <kneves@lakeforestca.gov>; Ackerman, Gayle <GAckerman@lakeforestca.gov>
Subject: FW: Affordable Housing Project support

Here's the letter.

D.

Debra Rose
City Manager
City of Lake Forest
100 Civic Center Drive
Lake Forest, CA 92630
949/461-3414
www.lakeforestca.gov

Comment.Letter 6-1

From: Cornwall, Christine <Christy.Cornwall@stjoe.org>
Sent: Thursday, June 18, 2020 9:45 AM
To: Rose, Debra <DRose@lakeforestca.gov>
Subject: Affordable Housing Project support

Please see my attached letter in support of the Mountain View apartment community.
I would ask this letter be included as written comments in the upcoming Lake Forest City Council meeting.

Thank you,

Christy



June 15, 2020

Lake Forest City Council
100 Civic Center Dr.
Lake Forest, CA 92630

Re: Letter of Support for Mountain View Affordable Apartment Community

Honorable Mayor and Members of the City Council:

Mission Hospital is proud to support the affordable housing community proposed along El Toro Road and Raymond Way in the City of Lake Forest. The new affordable family development would provide 71 homes for households earning less than 50% of the County's Area Median Income (AMI) including a mix of one-bedroom, two-bedroom, and three-bedroom units and a range of onsite community amenities.

Never has there been a stronger desire to end homelessness and create housing in Orange County. In 2019, Mission Hospital in partnership with other Providence St. Joseph Hospitals in Orange County developed a plan to address these issues. A key component of this plan is to support the development of 400 units of affordable housing in Orange County. Housing affordability is also a persistent growing challenge throughout Orange County for families, veterans, seniors, and individuals, as home and rent prices continue to climb. Due to these rising costs, households are having to spend over 30% of their income on housing and a growing number are spending more than 50% of their income on housing. Prior to the Covid-19 pandemic, affordable housing was already a growing need in communities throughout Orange County. Given the disproportionate impact the pandemic has had on working class families, affordable homes will be even more needed as we look to rebuild our local economy.

For these reasons, Mission Hospital strongly supports the proposed Mountain View affordable community and urge you to support it as well. Should you have any questions about our support, please do not hesitate to contact me at Christy.cornwall@stjoe.org.

Sincerely,

Christy Cornwall, MPH, CHES
Director – Community Health Investment
Providence St. Joseph Health

Comment Letter
6-2

MISSION HOSPITAL — Laguna Beach and Mission Viejo

Mission4Health.com

31872 Coast Highway
Laguna Beach, CA 92651
(949) 499-1311

27700 Medical Center Rd.
Mission Viejo, CA 92691
(949) 364-1400



A Ministry founded by the Sisters of St. Joseph of Orange

RESPONSE TO COMMENT LETTER 6 – ST. JOSEPH MISSION HOSPITAL

Response to Comment 6-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

Response to Comment 6-2:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

COMMENT LETTER #7 – CALIFORNIA CULTURAL RESOURCE PRESERVATION ALLIANCE, INC.

Organization

From: [Patricia Martz](#)
To: [Wetzel, Niki](#)
Subject: Mitigated Negative Declaration for Mountain View Affordable Housing Community Project
Date: Wednesday, July 8, 2020 10:31:41 AM
Attachments: [Lake Forest Mitigated Negative Declaration Mountain View Affordable Housing Community Project.docx](#)

Dear Ms. Wetzel,
Please see the attached letter.

Thank You,

Patricia Martz, Ph. D.
President
California Cultural Resource Preservation Alliance, Inc.

Comment Letter 7-1



P.O. Box 54132
Irvine, CA 92619-4132

California Cultural Resource Preservation Alliance, Inc.
An alliance of American Indian and scientific communities working for
the preservation of archaeological sites and other cultural resources.

July 8, 2020

Ms. Niki Wetzel
Assistant Director of Community development
100 Civic Center Drive
Lake Forest, CA 92630

Re: Mitigated Negative Declaration for the Mountain View Affordable Housing Community Project

Dear Ms. Wetzel:

Thank you for the opportunity to comment on the above-referenced project. First, I wish to commend the City for providing much needed affordable housing. Second, I am writing to express some concern regarding the potential for impacts to buried archaeological resources and human remains.

Given the many water and other resources, the region would have been a favorable place for pre-contact Native American occupation. I could not find any information regarding the date that the building to be demolished was constructed. If it was prior to 1970 before the passage of CEQA, there would have been no archaeological inspection of the property to ensure that cultural resources were not present.

I understand that the City has some very responsible regulations and guidelines regarding the preservation of cultural and natural resources. Therefore, I trust that if the existing office building was constructed prior to 1970, that monitoring by a qualified archaeologist and culturally affiliated Native American will be implemented when ground disturbance exceeds the previous construction depths.

Sincerely,

Patricia Martz, Ph.D.
President

Comment
Letter 7-2

RESPONSE TO COMMENT LETTER 7 – CALIFORNIA CULTURAL RESOURCE PRESERVATION ALLIANCE, INC. (CCRPA)

Response to Comment 7-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

Response to Comment 7-2:

Public websites indicate that the building to be demolished located at 23591 El Toro Road was built in 1979 and is not listed as a historic property. However, the Proposed Project will incorporate MM CUL-1 and TCR-1 to mitigate potential impacts to undiscovered archeological and cultural resources during ground disturbing activities.

COMMENT LETTER #8 – RON ROBBINS

Individual

Elizabeth Fortin

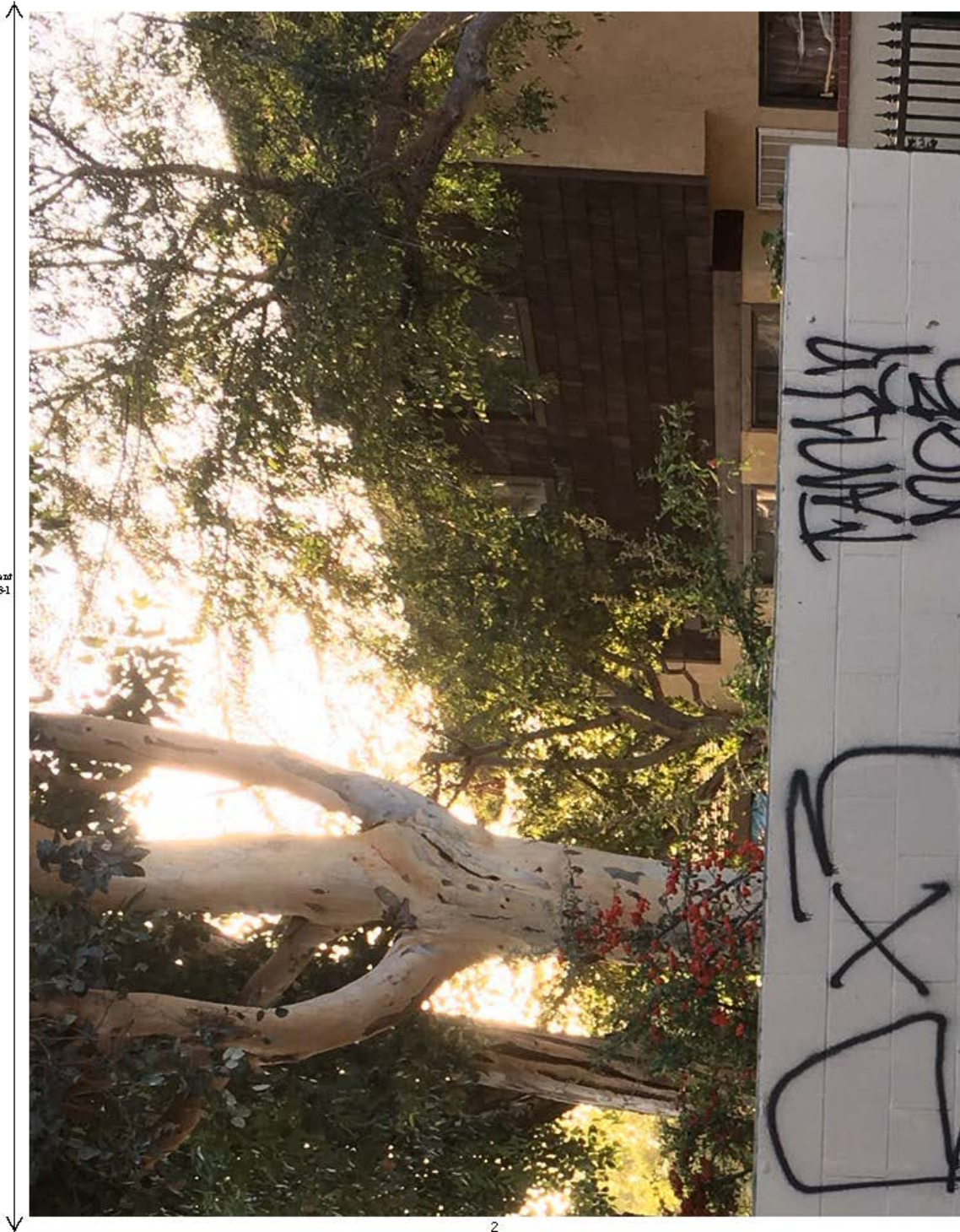
From: Ron Robbins <ron.robbins212@icloud.com>
Sent: Monday, June 15, 2020 6:08 PM
To: Wetzel, Niki
Subject: The city's insane plan to further ruin our residential neighborhood

Wanted you to see the local gang-wall separating our tract from the proposed apartment building site. We are already plagued by overcrowding due to several illegal boarding houses operating from residences, not to mention overflow street parking here on Los Andes, from the already overcrowded apartment area near the post office. Please check the history of our tract which (includes Jutewood Pl), Lots of police activity involving drug dealing among other things. Not to mention, the wasteful expense of tearing down a perfectly good office building, especially considering the pandemic when the last thing we need is more overcrowded housing conditions! The opposition from us responsible homeowners in the area won't stop!

Comment
Letter 8-1



Comment
Letter 8-1
cont



2

Comment
Letter 8-1
cont.

↑

Sent from my iPhone

RESPONSE TO COMMENT LETTER 8 – RON ROBBINS

Response to Comment 8-1:

Thank you for your comment regarding this Proposed Project. This comment does not address the adequacy of the Draft Initial Study/MND; therefore, no further response is required. Your comment has been noted.

COMMENT LETTER #9 – RON ROBBINS

Individual

Elizabeth Fortin


From: Ron Robbins <ron.robbins212@icloud.com>
Sent: Monday, June 15, 2020 6:12 PM
To: Wetzel, Niki
Subject: Los Andes St Overflow parking already on our tract

Comment
Letter 9-1

Comment
Letter
9-1 cont



Comment:
Letter:
9-1 cont:



Sent from my iPhone

RESPONSE TO COMMENT LETTER 9 – RON ROBBINS

Response to Comment 9-1:

Thank you for your comment regarding this Proposed Project. This comment does not address the adequacy of the Draft Initial Study/MND; therefore, no further response is required. Your comment has been noted.

COMMENT LETTER #10 – MICHELLE T

Individual

Elizabeth Fortin

From: Michelle T <jossmamma@gmail.com>
Sent: Tuesday, June 16, 2020 10:04 AM
To: Wetzels, Niki
Subject: Fwd: Mountain View affordable housing

Begin forwarded message:

Comment
Letter 10-1

From: Michelle T <jossmamma@gmail.com>
Date: June 16, 2020 at 10:02:09 AM PDT
To: nwetzel@lakeforest.ca.gov
Subject: Mountain View affordable housing

Hello please make sure the increase in vehicles, traffic, sewage, utilities usage are also considered

RESPONSE TO COMMENT LETTER 10 – MICHELLE T

Response to Comment 10-1:

Thank you for your comment regarding this Proposed Project. Analysis regarding traffic and utilities are provided in Section 5.17 Transportation, and Section 5.19 Utilities of the IS/MND. Your comment has been noted.

COMMENT LETTER #11 – RON ROBBINS

Individual

Elizabeth Fortin

From: Ron Robbins <ron.robbins212@icloud.com>
Sent: Saturday, June 20, 2020 9:19 AM
To: Wetzel, Niki
Subject: OUR RESIDENTIAL TRACT IS ALREADY DEALING WITH HIGH-CRIME
Attachments: IMG_5719.MOV

Comment
Letter 11-1

A major police bust last month, one of many recent ones, along with ongoing narcotics-dealing investigations in our tract. In all of Lake forest, our tract probably has the most illegal boarding houses, Overcrowding, unsafe living conditions for coronavirus, excess cars on our street, Criminal behavior and police activity. The last thing we need is more overcrowded low income housing nearby, as there's plenty of that already in our so-called residential neighborhood.

Sent from my iPhone

RESPONSE TO COMMENT LETTER 11 – RON ROBBINS

Response to Comment 11-1:

Thank you for your comment regarding this Proposed Project. This comment does not address the adequacy of the Draft Initial Study/MND; therefore, no further response is required. Your comment has been noted.

COMMENT LETTER #12 – GLORIA SIEVERS

Individual

From: [Gloria Sievers](#)
To: [Wetzel, Niki](#)
Subject: Comments on the Mitigated Negative Declaration
Date: Wednesday, June 24, 2020 4:03:36 PM

June 24, 2020

nwetzel@lakeforestca.gov

I am writing to give my view of the proposed 71-unit affordable housing apartment complex in Lake Forest off El Toro Road.

My husband and I attended a City Council meeting where a representative presented their “facts” concerning this project; how it would be advantageous for the area, and would not negatively affect people who live in the near vicinity.

There were a lot of negative views for this project at that meeting — people who have lived near this proposed project area for a number of years and are not at all happy about the plans.

Taking a business building that is used for approximately 10 hours a day, generally Monday through Friday, and turning it into a residential building (71 units of various sizes) with most likely at least 2 people per unit (more in the larger units), and possibly more than the “planned resident count” of those presenting this project.

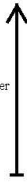
One of my real concerns is the vehicle traffic — logically, each unit will have at least one vehicle, possibly 2 (I don’t know how these “residents” can have 1-1/2 vehicles per unit as touted by the presenters); and since it will be residents, not people going to an office building during office hours, there will be vehicle traffic during a large part of a 24-hour day. How can these people presenting the project realistically say that there will be reduced traffic with these residents rather than from people using the business building? People run errands/work at all hours of the day - and night.

As residents near this proposed project, my husband and I (and many neighbors) are very concerned that our street will become a main thoroughfare for people avoiding the area around this building. Our street is already used quite a bit by people who are avoiding El Toro Road, and many of them travel at speeds over the 25 mph that is mandated for residential areas; many run stop signs also. Of utmost concern is their apparent lack of concern for people walking, people with young children — Olivewood Elementary School is just blocks away — people with pets, and of course, children walking themselves to the school. A large number of these children come from the apartments between El Toro Road and Dune Mear, where the school is located.

Traffic on El Toro Road has gotten quite congested in the last few years — it is very common for long lines of cars at each stop light at any time of the day. People get frustrated and many times they will run a red light (guess their time is more important than any other driver’s). This has become very common — I have been the lead car at an intersection waiting for my green light and there have been 3 cars go through on red . All this traffic creates a lot of exhaust at all hours of the day, which is not healthy for drivers or anyone walking or riding a bicycle or motorcycle.

Comment Letter 12-1

Comment Letter
12-1 cont



If the City of Lake Forest really has the best interest of the city at heart, I would hope that they reconsider this project and come up with another use for the building.

Gloria Sievers
ggsmac873@cox.net

RESPONSE TO COMMENT LETTER 12 – GLORIA SIEVERS

Response to Comment 12-1:

Thank you for your comment regarding this Proposed Project. Please refer to Section 5.17 Transportation of the IS/MND. As stated on Page 75 of the Initial Study/MND, “In April 2020, Fehr and Peers prepared a Transportation Assessment to document the trip generation of the proposed Project and address Senate Bill 743 (SB 743) for vehicle miles traveled (VMT) (J). The results of the report indicate that the proposed Project would generate fewer trips as compared to its existing use as an office building.” Your comment has been noted.

COMMENT LETTER #13 – STAN MILLER

Individual

Elizabeth Fortin

From: Stan Miller <stanfmiller@yahoo.com>
Sent: Saturday, July 4, 2020 9:08 AM
To: Assemblymember.Choi@assembly.ca.gov
Cc: Wetzels, Niki; pandaleong@cityoflakeforest.com
Subject: NO on affordable housing in Lake Forest

No one wants the 71 unit affordable housing apartment complex built at 24551 Raymond Way and 23591 El Toro Rd. 12 of the units are being set aside for no doubt homeless drug and alcohol addicts.

Moving these drug addicts on welfare close to all the seniors living next door is dangerous. You should be helping to oppose it. The area isn't even zoned for this type of dense construction. This will just degrade the area, lower property values and make it more dangerous for it's neighbors many of whom are seniors.

The Lake Forest City Council, Mayor and planning department are showing complete disregard for the safety of it's current residents.

On Saturday, July 4, 2020, 08:13:42 AM PDT, Asm. Choi <assemblymember.choi@outreach.assembly.ca.gov> wrote:

[Display errors? Click here to view in browser.](#)



Dear Friends,

Today, as we light up the Bar-B-Q and watch some firework displays, let's reflect on the significance of today and the 4th of July.

Today, 244 years ago, 56 men signed their names with the final sentence on the Declaration of Independence "we mutually pledge to each other, our lives, our fortunes, and our sacred honor." This simple act done by a diverse group

Comment
Letter
13-1 cont

of people, farmers, lawyers, merchants, and a few immigrants who were not even born in the colonies, cost many of them everything. From the original 56 signers, over nine died in the Revolutionary War, and 15 lost everything in the war and died in poverty. Signing their lives away and sacrificing everything to stand for liberty and against tyranny, this simple act of bravery gave this country its birth.

Their sacrifice was just the beginning of America's struggle to strive to freedom. In the 244 years since the Declaration of Independence, over 1.3 million soldiers have died in the preservation of freedom and over another 1.4 million have been injured as well. Together, from all walks of life, from all ethnicities, all religions, and backgrounds, countless men and women have stood and sacrificed everything including their life for this country.

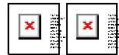
So let us today reflect on the meaning of fireworks in the night sky, reflect on the cost paid to give us this day, and always honor the principles that this country was founded on "that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the Pursuit of Happiness."

From my office, we wish you and your family a safe and HAPPY INDEPENDENCE DAY!

Best regards,



Steven S. Choi Ph.D.
State Assemblyman



Website: www.assembly.ca.gov/Choi

Email: Assemblymember.Choi@assembly.ca.gov

Steven S. Choi, Ph.D.
Assemblyman, Sixty-Eighth District
3240 El Camino Real, Ste. 110
Irvine, CA 92602
Phone (714) 665-6868
Fax (714) 665-6867



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From: [Pandaleon, George](#)
To: [Stan Miller](#)
Cc: Assemblymember.Choi@assembly.ca.gov; [Wetzel, Niki](#)
Subject: Re: NO on affordable housing in Lake Forest
Date: Saturday, July 4, 2020 10:50:06 AM

Wrong state

Best wishes,

George

George A. Pandaleon
Mayor
City of Lake Forest, IL
847-373-9857
www.cityoflakeforest.com

On Jul 4, 2020, at 11:08 AM, Stan Miller <stanfmiller@yahoo.com> wrote:

CAUTION: This email originated from outside the organization. Verify the legitimacy of the email with the sender before clicking links or opening attachments from unexpected sources.

No one wants the 71 unit affordable housing apartment complex built at 24551 Raymond Way and 23591 El Toro Rd. 12 of the units are being set aside for no doubt homeless drug and alcohol addicts.

Moving these drug addicts on welfare close to all the seniors living next door is dangerous. You should be helping to oppose it. The area isn't even zoned for this type of dense construction. This will just degrade the area, lower property values and make it more dangerous for it's neighbors many of whom are seniors. The Lake Forest City Council, Mayor and planning department are showing complete disregard for the safety of it's current residents.

Comment
Letter
13-1 cont

On Saturday, July 4, 2020, 08:13:42 AM PDT, Asm. Choi
<assemblymember.choi@outreach.assembly.ca.gov> wrote:

[Display errors? Click here to view in browser.](#)

c



Comment
Letter
13-1 cont

Dear Friends,

Today, as we light up the Bar-B-Q and watch some firework displays, let's reflect on the significance of today and the 4th of July.

Today, 244 years ago, 56 men signed their names with the final sentence on the Declaration of Independence "we mutually pledge to each other, our lives, our fortunes, and our sacred honor." This simple act done by a diverse group

Comment
Letter
13-1 cont

of people, farmers, lawyers, merchants, and a few immigrants who were not even born in the colonies, cost many of them everything. From the original 56 signers, over nine died in the Revolutionary War, and 15 lost everything in the war and died in poverty. Signing their lives away and sacrificing everything to stand for liberty and against tyranny, this simple act of bravery gave this country its birth.

Their sacrifice was just the beginning of America's struggle to strive to freedom. In the 244 years since the Declaration of Independence, over 1.3 million soldiers have died in the preservation of freedom and over another 1.4 million have been injured as well. Together, from all walks of life, from all ethnicities, all religions, and backgrounds, countless men and women have stood and sacrificed everything including their life for this country.

So let us today reflect on the meaning of fireworks in the night sky, reflect on the cost paid to give us this day, and always honor the principles that this country was founded on "that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the Pursuit of Happiness."

From my office, we wish you and your family a safe and HAPPY INDEPENDENCE DAY!

Best regards,

Steven S. Choi Ph.D.
State Assemblyman

Website: www.assembly.ca.gov/Choi

Email: Assemblymember.Choi@assembly.ca.gov

Steven S. Choi, Ph.D.
Assemblyman, Sixty-Eighth District
3240 El Camino Real, Ste. 110
Irvine, CA 92602
Phone (714) 665-6868
Fax (714) 665-6867



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Comment
Letter
13-1 cont



the person/entity to whom it was originally addressed. Any use by others is strictly prohibited.

RESPONSE TO COMMENT LETTER 13 – STAN MILLER

Response to Comment 13-1:

Thank you for your comment regarding this Proposed Project. As discussed in Section 5.11 Land Use and Planning of the IS/MND, with the submittal and approval of a General Plan Amendment and Zone change, the development of a residential facility would be consistent with the City's land use and zoning requirements. The comment does not address the adequacy of the Draft Initial Study/MND; therefore, no further response is required. Your comment has been noted.

COMMENT LETTER #14 – CHRISTINE MORINELLO

Individual

Elizabeth Fortin

From: Christine Morinello <auntchristy4@gmail.com>
Sent: Thursday, July 9, 2020 9:01 PM
To: PlanningCommission
Cc: Barajas, Francisco; Armando, Mark; Carney, Terence; Fuentes, Jolene; Ludden, Thomas
Subject: National CORE Mountain View Affordable and Supportive Housing Project

Dear Vice Chairman Barajas, Commissioner Armando, Commissioner Carney, Commissioner Fuentes, and Commissioner Ludden:

Thank you for your service on the Lake Forest Planning Commission. I am writing to ask you to approve the National CORE Mountain View Affordable and Supportive Housing Project to be located at 24551 Raymond Way.

For several years I was a client of a business located in the Mountain View Business Center and I am familiar with the property. It is ideally situated for this purpose due to its proximity to transportation along El Toro Road and various goods and services within walking distance in The Arbor and The Orchard at Saddleback. I was both a renter and a homeowner in Lake Forest for a number of years and, although I now live in Rancho Santa Margarita, I continue to patronize retail businesses and professional services in Lake Forest regularly.

I care deeply about the need for affordable housing and permanent supportive housing. I have spent countless hours since the 1980s performing volunteer work to support our homeless neighbors and persons experiencing food insecurity. Our community has a responsibility to care for our brothers and sisters who are struggling on the margins of society.

Comment
Letter 14-1

Some misguided community members oppose this development out of fear, citing alleged concerns over real property values, cost, traffic and parking. These unsubstantiated complaints are merely a smoke screen for the real issue underlying the opposition, which is fear of people who are viewed as being "different from the norm." I implore you not to allow the unfounded fears of a small but vocal minority to override the urgent need for this development.

Permanent supportive housing is not only a compassionate solution, but it is a demonstrably cost-effective intervention methodology. The annual public cost of a chronically unsheltered individual with a disability can reach a shocking \$439,787.00. Once that individual has been placed in permanent supportive housing the annual public cost, including shelter and services, drops to \$55,332.00. This is a savings of 88%.

With the enormity of jobs and income lost due to the COVID-19 pandemic, we will see the need for affordable housing increase as foreclosure and eviction moratoriums expire. Lake Forest has a golden opportunity to make a significant difference in the economic outcome in South Orange County with the Mountain View Project.

Thank you for allowing me to present my opinions and for taking the time to consider the points I have raised.

Very truly yours,
Christine Morinello

RESPONSE TO COMMENT LETTER 14 – CHRISTINE MORINELLO

Response to Comment 14-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

COMMENT LETTER #15 – JANICE COCHRAN

Individual

From: [janice_cochran](#)
To: [PlanningCommission](#)
Subject: Core mountain view affordable housing
Date: Friday, July 10, 2020 8:19:58 AM

Comment Letter 15-1

I am a home owner in Mission Viejo and frequently shop and attend church in Lake Forest. I am fully supportive of the Core affordable housing initiative. I feel it is our moral obligation to provide affordable housing to those in need. PLEASE help those in need with your support of the Core mountain view affordable housing.
Thank you for your attention on this important subject,
Jan cochran

Sent from my T-Mobile 4G LTE Device

RESPONSE TO COMMENT LETTER 15 – JANICE COCHRAN

Response to Comment 15-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

COMMENT LETTER #16 – MARILYN SCHROEDER

Individual

Elizabeth Fortin

From: Marilyn Schroeder <123chuckle@cox.net>
Sent: Friday, July 10, 2020 1:05 PM
To: PlanningCommission
Cc: Barajas, Francisco; Armando, Mark; Carney, Terence; Fuentes, Jolene; Ludden, Thomas
Subject: National CORE Mountain View Affordable & Supportive Housing Project

Dear Lake Forest Planning Commissioners,

I am writing to you today to ask you to support the National Core Mountain View housing project. I am a member of a religious congregation that is located in Lake Forest and a member of Welcoming Neighbors Home Initiative, a group of volunteers advocating for people without homes.

I have never experienced homelessness, but I can imagine the constant stress and anxiety of what it would be like (ie searching for shelter in order to sleep and be safe, finding food, transportation, preventing theft of any belongings, daily hygiene requirements especially now during a pandemic etc.). When my church was meeting regularly on Sunday mornings, a young man who was homeless attended. He lived in his car but he was very uncomfortable as he must be over 6'5" tall. He took showers in one of the bathrooms at my church and was able to get food during snack time. Now that we are no longer meeting at the church, how is he managing? Out of compassion and fairness, the city of Lake Forest should provide homeless people a home where they can close and lock the door.

The location of the National Core Mountain View housing project seems like an ideal location as it is near a commercial district with transportation, food sources and health care needs available. I'm asking you to support this affordable and supportive housing project at 24551 Raymond Way.

Thank you for your time and service!

Sincerely,
Marilyn Schroeder

Comment
Letter 16-1

RESPONSE TO COMMENT LETTER 16 – MARILYN SCHROEDER

Response to Comment 16-1:

Thank you for your comment regarding this Proposed Project. Your comment has been noted.

SECTION 7.0 – REVISIONS TO THE DRAFT MITIGATED NEGATIVE DECLARATION

This errata section identifies changes made to the Draft MND to correct or clarify the information contained in the document. Changes made to the Draft MND are identified here in ~~strikeout~~ text to indicate deletions and **bold italics** to signify additions.

Section 5.15.1 a)i) – Public Services

The OCFA Standards of Cover discusses the distribution network by providing percentage of incidents and associated response times. Response times is the interval between dispatch notification and arrival on scene. **The current standards are provided below. Response times are from receipt of the service call to a unit on scene:** ~~Review of the 2004 data provides by following response time ranges (OCFA 2006):~~

- ~~● 6:00 minutes total response time 55% of the time~~
- ~~● 7:00 minutes total response time 75% of the time~~
- ~~● 7:22 minutes total response time 80% of the time~~
- ~~● 8:30 minutes total response time 90% of the time~~
- **First-in engines should arrive on-scene to medical aids and/or fires within 7 minutes and 20 seconds 80 percent of the time.**
- **First-in truck companies should arrive on-scene to fires within 12 minutes 80 percent of the time.**
- **First-in paramedic companies should arrive on-scene at all medical aids within 10 minutes 80 percent of the time.**

The proposed Project would not result in new or expanded facilities and would not significantly affect the response times for fire services. OCFA currently serves the City and has no significant concerns regarding the proposed Project. Further, a **condition of approval will be required that states, prior to issuance of grading permits, the applicant is required to obtain Orange County Fire Authority Fire Protection Agreement approval.**

Section 2.2 Project Location and Setting

Parcel 1: Residential

To develop Parcel 1, the existing 31,573-square-foot office building located at 24551 Raymond Way will be demolished. The then vacant 1.965-acre site would be developed with one 4-story residential building to provide a total of 71 apartment homes with a community center and recreational amenities located at the northern end of the site. Developed at an overall density of 36.13 units per acre, the new building will include 18 one-bedroom units (522 net square feet), 35 two-bedroom units (750 net square feet), and 18 three-bedroom units (1,020 net square feet). In total, the plan for Parcel 1 proposes 54,771 square feet of residential development, 8,610 square feet of outdoor balconies/patio, and 17,801 square feet of community facilities/common areas. The total gross building area is 81,182 square feet.

The residential building will be located on the southwest side of the parcel, adjacent to Raymond Way. The building is three and four stories with varying roof styles and heights, with a maximum height of **53 feet. 51 feet 2 inches.**

Zone Change

Based on the City's current Zoning Map, the Project will also necessitate a Zone Change from the Professional and Administrative (PA) district to the Multi-Family Dwelling District (R2) for Parcel 1 to allow residential use of the property. Per Chapter 9.152.010, *Affordable Housing Incentives and Density Bonus Provisions*, of the City of Lake Forest Municipal Code (LFMC), the development qualifies for an increase in density and development incentives to increase the provision of affordable housing. The development is requesting four development incentives: (1) an increase in the maximum allowed height (LFMC Section 9.56.070(B)) from 35 feet to **53 feet 51 feet and 2 inches**, (2) a reduction in the required front setback (LFMC Section 9.56.070 (E)) from a minimum of 20 feet to 13 feet 9 inches and (3) a reduction in the required rear setback (LFMC Section 9.56.070 (E)) from 25 feet to 12 feet 1 inch, and (4) a reduction in the number of parking stalls within 200 feet of their corresponding residential unit (LFMC Section 9.168.040(E)(1)).

The 22-inch increase in the building's maximum height does not constitute a "substantial revision" requiring recirculation of the MND because the increase in height will not result in any significant effect on the environment. (Pub. Resources Code, § 15073.5, subd. (b).) As noted in the Draft Initial Study, the "increase of the building height would not result in adverse impacts because there are no designated scenic vistas within the area" and because the "proposed Project would have an architectural design and style that would be compatible with existing development." (Initial Study, p. 14.) The 22-inch increase in the building's maximum height does not change these conclusions. The proposed height of the building has not been revised in the site plans and remains consistent at 53 feet and the height within the MND was updated to be consistent with the plans. Furthermore, an addition of 22 inches in height would have a negligible effect on the character of the surrounding environment, on views to any scenic resources, and with respect to light and glare.

Section 5.18.1 Tribal Cultural Resources

The following mitigation measure has been revised based on the results of the consultation and coordination between the City and the Juaneño Band of Mission Indians Acjachemen Nation-Belardes and the Gabrieleno Band of Mission Indians - Kizh Nation . As stated in the State CEQA Guidelines section 15073.5, recirculation is not necessary for the following: "Mitigation measures are replaced with equal or more effective measures pursuant to Section 15074.1."

The change in mitigation would not require recirculation because the revised mitigation measure would not change the level of significance. This revised mitigation further expands the mitigation requested during tribal consultation.

- MM TCR-1:** ~~The applicant will be required to retain the services of a qualified Native American Monitor(s) during construction related ground disturbance activities including, but not limited to, pavement removal, potholing, grubbing, weed abatement, boring, grading, excavation, or trenching within the project area. The monitor must be selected by a Tribe culturally affiliated with the project area and will be~~

~~present on-site during the construction phases that involve ground disturbance activities. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the monitor has indicated that the site has a low potential for archaeological resources. If archaeological or cultural resources are encountered, they will be documented by the Native American monitor and collected for preservation.~~

Prior to the commencement of any ground disturbing activity at the project site, the project applicant shall retain a Native American Monitor(s) with traditional ties to the project area. A copy of the executed contract shall be submitted to the City of Lake Forest Planning and Building Department prior to the issuance of any permit necessary to commence a ground-disturbing activity. The Tribal monitor(s) will only be present on-site during the construction phases that involve ground-disturbing activities. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor(s) will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project Site are completed, or when the Tribal Representatives and Tribal Monitor(s) have indicated that all upcoming ground-disturbing activities at the Project Site have little to no potential for impacting Tribal Cultural Resources. Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the qualified archaeologist and Tribal monitor(s) approved by the Consulting Tribes. Due to federal funding for this project, any resources recovered from ground disturbing activities must be prepared and submitted to a federally compliant curation facility as specified in 36 CFR § 79.3.

If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue on other parts of the Project Site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If a non-Native American resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource," time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible,

treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Due to federal funding for this project, any resources recovered from ground disturbing activities must be prepared and submitted to a federally compliant curation facility as specified in 36 CFR § 79.3. The exception to this requirement would be the recovery of human remains, associated grave goods, and sacred items, which are subject to NAGPRA regulations (43 CFR Subtitle A,.Part 10).

SECTION 8.0 – MITIGATED NEGATIVE DECLARATION

This document, along with the Draft Initial Study/Mitigated Negative Declaration; Mitigation Monitoring and Reporting Program; and the Notice of Determination, constitute the Final Mitigated Negative Declaration for the Mountain View Affordable Housing Community Project in the City of Lake Forest.

Pursuant to Section 21082.1 of the California Environmental Quality Act, the City has independently reviewed and analyzed the Initial Study and Mitigated Negative Declaration for the Proposed Project and finds that these documents reflect the independent judgment of the City. The City of Lake Forest, as lead agency, also confirms that the project mitigation measures detailed in these documents are feasible and will be implemented as stated in the MND and MMRP.

Signature

Date

Printed

Title

APPENDIX A – Public Review Draft IS/MND and Appendices



**MOUNTAIN VIEW AFFORDABLE HOUSING
COMMUNITY PROJECT
LAKE FOREST, CALIFORNIA
INITIAL STUDY/MITIGATED NEGATIVE
DECLARATION**

Prepared for:



CITY OF LAKE FOREST
100 Civic Center Drive
Lake Forest, California 92630

Prepared by:

CHAMBERS GROUP, INC.
5 Hutton Centre Drive, Suite 750
Santa Ana, California 92707

June 2020

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SECTION 1.0 – INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA), the State CEQA Guidelines, the City of Lake Forest’s (City) Local CEQA Guidelines, and the City’s CEQA Significance Thresholds Guide, this Initial Study has been prepared for the proposed 71-unit affordable housing apartment complex (Project) at 24451 Raymond Way and 23591 El Toro Road, located near the northeast corner of El Toro Road and Raymond Way in the City of Lake Forest.

Pursuant to Section 15063(a) of the State CEQA Guidelines, the City is required to undertake the preparation of an Initial Study to determine whether the proposed action will have a significant effect on the environment. The purposes of this Initial Study are to: (1) identify potential environmental impacts, (2) provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration, (3) enable the Lead Agency to modify the Project (through mitigation of potential adverse impacts, if any), (4) facilitate assessment of potential environmental impacts early in the design of the Project, and (5) provide documentation for the potential finding that the Project will not have a significant effect on the environment or can be mitigated to a level of insignificance (CEQA Guidelines, Section 15063[c]). This Initial Study is also an informational document providing an environmental basis for subsequent discretionary actions that could be required from other Responsible Agencies.

This Initial Study evaluates the potential environmental impacts that may result from development of the Project. Consistent with State CEQA Guidelines Sections 15050, 15051, and 15368, the City is the Lead Agency under CEQA, and it is responsible for adoption or certification of the environmental document and approval of the Project.

1.1 CONTACT PERSON

Any questions or comments regarding the preparation of this Initial Study, its assumptions, or its conclusions should be referred to:

Niki Wetzel, AICP, Assistant Director of Community Development
City of Lake Forest
Community Development Department
100 Civic Center Drive
Lake Forest, California 92630
(949) 461-3479 (tel)
(949) 461-3511 (fax)
nwetzel@lakeforestca.gov

SECTION 2.0 – PROJECT DESCRIPTION

2.1 PROJECT PURPOSE

National Community Renaissance of California (NCRC) , the Applicant, in coordination with the City of Lake Forest (City), proposes a 71-unit affordable housing apartment complex project located near the northeast corner of El Toro Road and Raymond Way in the City. The proposed Project requires approval of a General Plan Amendment, Zone Change, Tentative Parcel Map, Site Development Permit, Affordable Housing Agreement, and Planned Sign Program. The purpose of the Project is to provide affordable units to households earning less than 60 percent of the Area Median Income; of which 12 of the units will be set aside for Permanent Supporting Housing.

The City has prepared this Initial Study (IS) to provide the public and responsible agencies with information about the potential environmental impacts associated with implementation of the proposed Project. This IS includes a project-level analysis of the potential effects associated with the Project.

2.2 PROJECT LOCATION AND SETTING

Located near the northeast corner of El Toro Road and Raymond Way, the proposed Project site is situated in the southwestern quadrant of the City, in Orange County, California, just a few blocks north of Interstate 5.

The Project site is generally L-shaped and comprises a single parcel (APN 617-441-02) totaling 3.76 acres. The parcel is fully developed with two 2-story office buildings, surface parking lots, and landscaped areas. One office building (approximately 28,820 square feet) is situated on the eastern end of the site fronting El Toro Road (23591 El Toro Road).

The second office building (approximately 31,573 square feet) is located on the western edge of the site, fronting Raymond Way (24551 Raymond Way). Access to the site is provided at three points, from El Toro Road, Raymond Way, and Packer Place.

The Project site is currently zoned Professional Administrative (PA) and has a Professional Office land use designation in the City's General Plan. The current land use designation and zoning do not allow for the development of residential uses on site.

Tentative Parcel Map

The proposed Project will require a Tentative Parcel Map to divide the parcel into two. Parcel 1 will be approximately 1.965 acres (85,596 square feet (net)) on the western and northern portion of the site fronting Raymond Way and Packer Place. Parcel 2 will be a rectangular parcel on the southeastern half of the site, approximately 1.798 acres (78,306 square feet), fronting El Toro Road. Though subdivided, no barriers between the parcels are proposed, and access through both sites will be reciprocal.

Site Development Permit

The proposed Project will require approval of a Site Development Permit (SDP) application. The purpose of the SDP would ensure that the proposed Project would conform to the development and design standards of the City.

Parcel 1: Residential

To develop Parcel 1, the existing 31,573-square-foot office building located at 24551 Raymond Way will be demolished. The then vacant 1.965-acre site would be developed with one 4-story residential building to provide a total of 71 apartment homes with a community center and recreational amenities located at the northern end of the site. Developed at an overall density of 36.13 units per acre, the new building will include 18 one-bedroom units (522 net square feet), 35 two-bedroom units (750 net square feet), and 18 three-bedroom units (1,020 net square feet). In total, the plan for Parcel 1 proposes 54,771 square feet of residential development, 8,610 square feet of outdoor balconies/patio, and 17,801 square feet of community facilities/common areas. The total gross building area is 81,182 square feet.

The residential building will be located on the southwest side of the parcel, adjacent to Raymond Way. The building is three and four stories with varying roof styles and heights, with a maximum height of **53 feet**. ~~51 feet 2 inches~~. The building design provides articulation with the incorporation of wall plane changes, balconies, material changes, and tower elements. The building architecture features a variety of building materials, including stone, horizontal siding, vertical siding, roof shingles, and metal roofs. The proposed color palette for the building will consist of earth tone colors. In the center of the site, centrally located from the residential buildings, the development will provide several recreational amenities, including an approximately 2,050-square-foot community center, a small playground for young children (“tot lot”), outdoor fireplace with seating areas, and large activity lawn. A trash enclosure will be provided at a central location and will match the architectural style of the main building.

The residential development proposed on Parcel 1 will provide 70 units affordable to households earning less than 60 percent of the Area Median Income (AMI), of which 12 of the units will be set-aside for Permanent Supportive Housing (PSH). A two-bedroom manager’s unit will be included on site that will not be income-restricted. National CORE will employ staff and provide a range of supportive services on site for the PSH and traditional affordable housing units based on the specific needs of the households selected to live in the community. Typical supportive services include counseling, financial literacy, youth programs, healthy living education, and job training.

One vehicular entry point to the site is provided off of Packer Place. The entry point to the site is a 24-foot driveway providing direct access to surface parking. Two pedestrian walkways will also be provided: one located at the western edge of the property providing egress to and from Raymond Way and another pedestrian access point next to the driveway allowing pedestrians to enter off Packer Place. The site plan for Parcel 1 proposes 108 uncovered parking spaces on site to accommodate resident parking needs, including five spaces (one van and four standard spaces) that are Americans with Disabilities Act (ADA) accessible. Of the 108 spaces, two will be reserved for electric vehicle charging (one for cars and one that is ADA van accessible). Parcel 1 will also include seven long-term bicycle parking spaces. A monument sign for the residential building is proposed on the property, at the corner of Raymond Way and Packer Place.

Parcel 2: Office Building

Parcel 2 would maintain the two-level, garden-style, multi-tenant 28,827-square-foot office building in its current location. To accommodate employees and visitors on Parcel 2, the parking lot on Parcel 2 will be re-stripped to increase the total number of parking stalls from 113 stalls to 115 stalls (including three ADA accessible stalls). This meets the City’s code requirement of 115 spaces based on the required ratio of 1 space per 250 square feet.

General Plan Amendment

Based on the City's General Plan, the proposed Project would require a General Plan Amendment from Professional Office to High Density Residential (25-43 DUs/acre) to allow residential uses on Parcel 1.

Zone Change

Based on the City's current Zoning Map, the Project will also necessitate a Zone Change from the Professional and Administrative (PA) district to the Multi-Family Dwelling District (R2) for Parcel 1 to allow residential use of the property. Per Chapter 9.152.010, *Affordable Housing Incentives and Density Bonus Provisions*, of the City of Lake Forest Municipal Code (LFMC), the development qualifies for an increase in density and development incentives to increase the provision of affordable housing. The development is requesting four development incentives: (1) an increase in the maximum allowed height (LFMC Section 9.56.070(B)) from 35 feet to **53 feet** ~~51 feet and 2 inches~~, (2) a reduction in the required front setback (LFMC Section 9.56.070 (E)) from a minimum of 20 feet to 13 feet 9 inches and (3) a reduction in the required rear setback (LFMC Section 9.56.070 (E)) from 25 feet to 12 feet 1 inch, and (4) a reduction in the number of parking stalls within 200 feet of their corresponding residential unit (LFMC Section 9.168.040(E)(1)).

Construction

Construction activities occurring on site will include the demolition of the building located on Parcel 1, construction of the 71-unit building, minor site grading, excavation, and recompaction of existing surficial soils to provide a uniform surface. In addition to contractor vehicles, heavy equipment will be used on site which includes excavators, backhoe, bulldozer, graders, compactors, and dump trucks. All equipment will be staged within the existing parking lot. The proposed Project is anticipated to begin construction by summer of 2021 and will be completed by summer of 2023

Operation

It is anticipated that the residential apartments will start leasing around spring of 2023. The existing office building, located on Parcel 2, will continue to operate during the construction of the new residential building. Onsite maintenance and security will be provided by private third-party companies.

2.3 REQUIRED PERMITS AND APPROVALS

The City is the Lead Agency for the Project as it has principal responsibility for issuing discretionary approvals for the Project. There are no responsible agencies with discretionary approval authority over the Project. The City will issue discretionary approvals in connection with the following:

Discretionary Permits

Affordable Housing Agreement

General Plan Amendment

Zone Change

Tentative Parcel Map

Site Development Permit

Planned Sign Program

Responsible Agencies

California Department of Fish and Wildlife

Reviewing Agencies

California Air Resources Board

County of Orange Housing and Community Development

El Toro Water District

Orange County Fire Authority

State Water Resources Control Board

South Coast Air Quality Management District

Native American Heritage Commission

Figure 1: Project Vicinity and Location Map

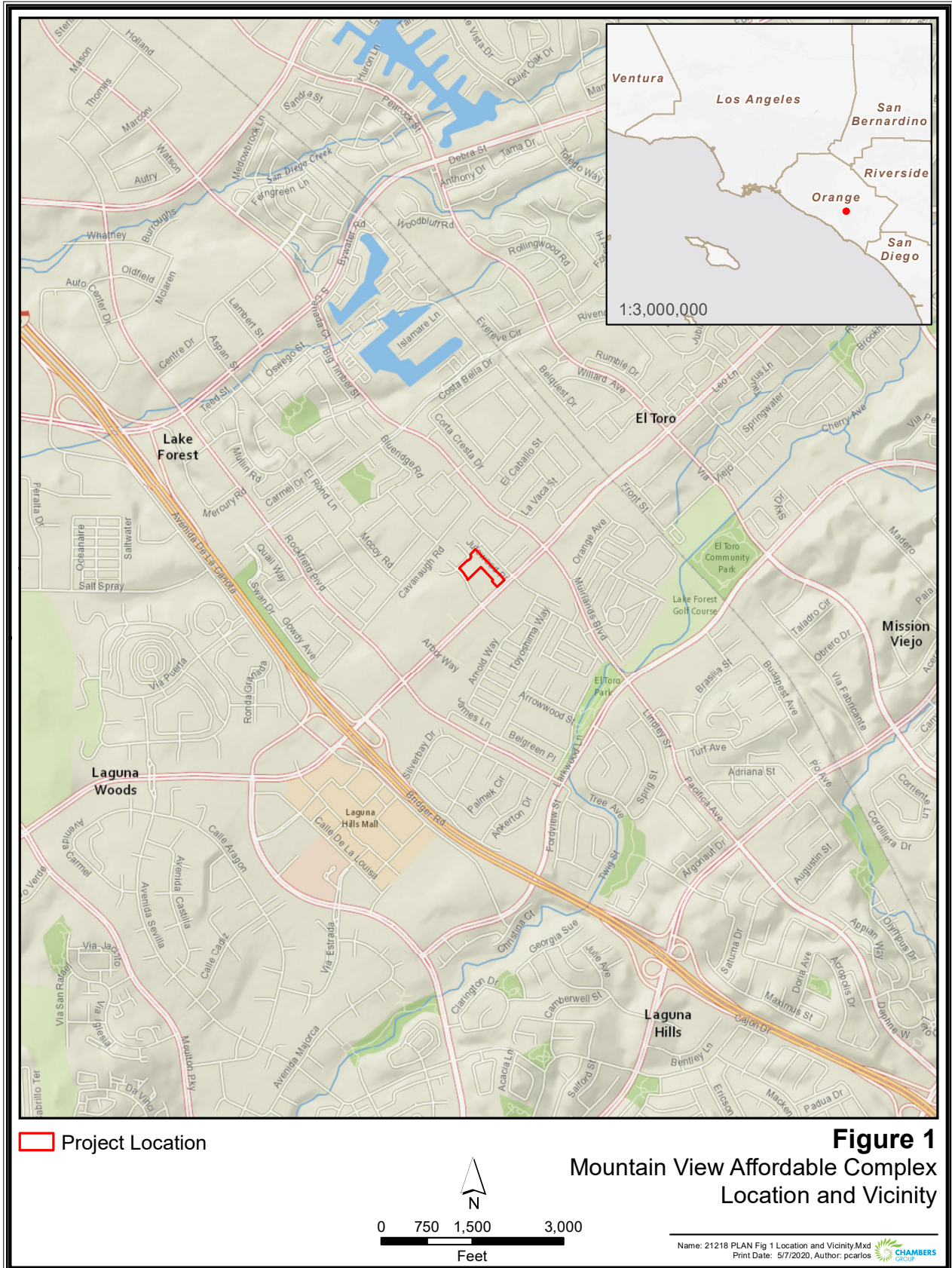


Figure 2: Project Aerial



Figure 3: Site Plan

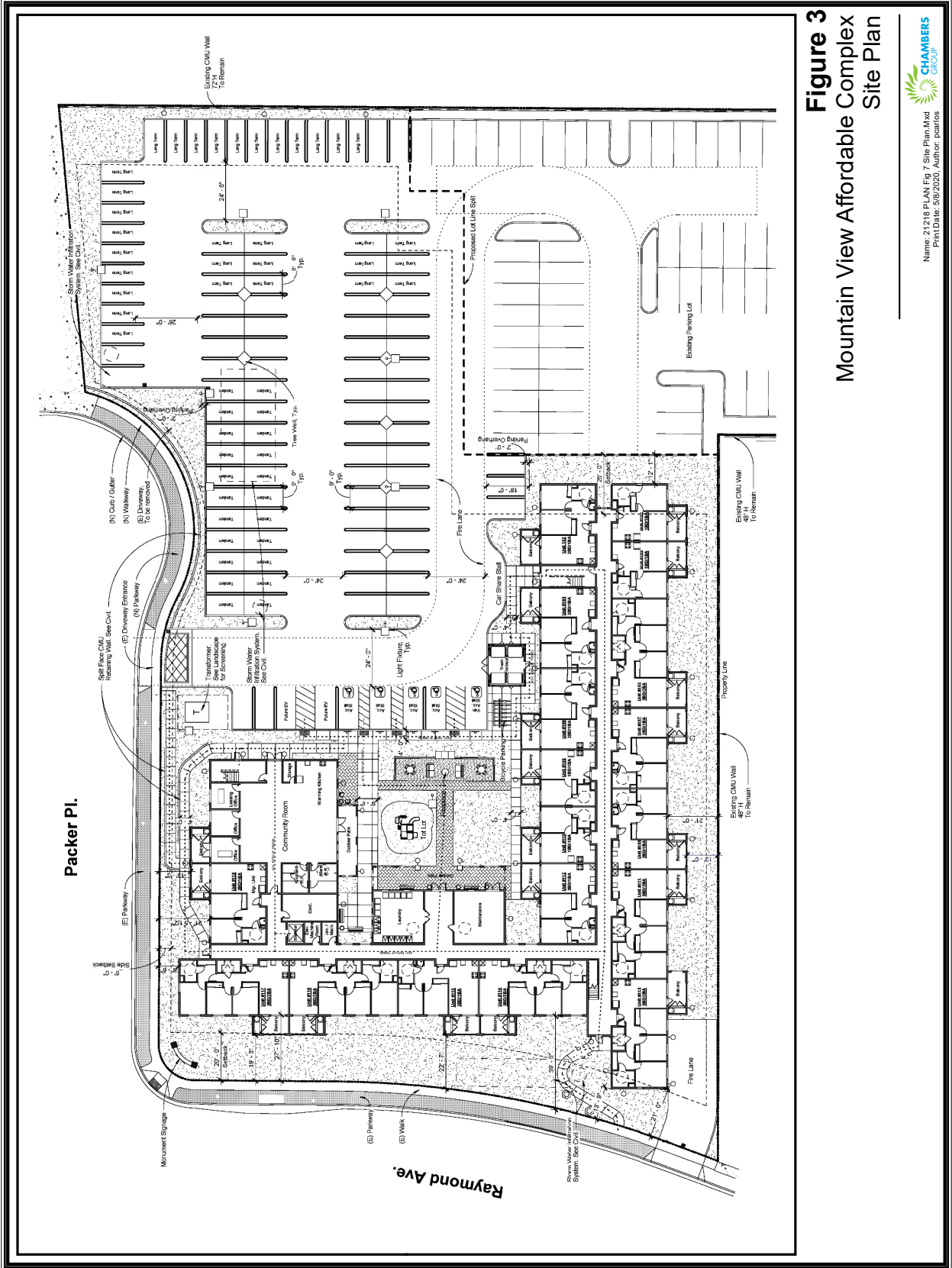


Figure 3
 Mountain View Affordable Housing Community
 Site Plan

CHAMBERS GROUP
 Name: 21218 PLAN Fig 7 Site Plan Mxd
 Print Date: 5/9/2020, Author: postifos

Figure 4: General Plan Amendment

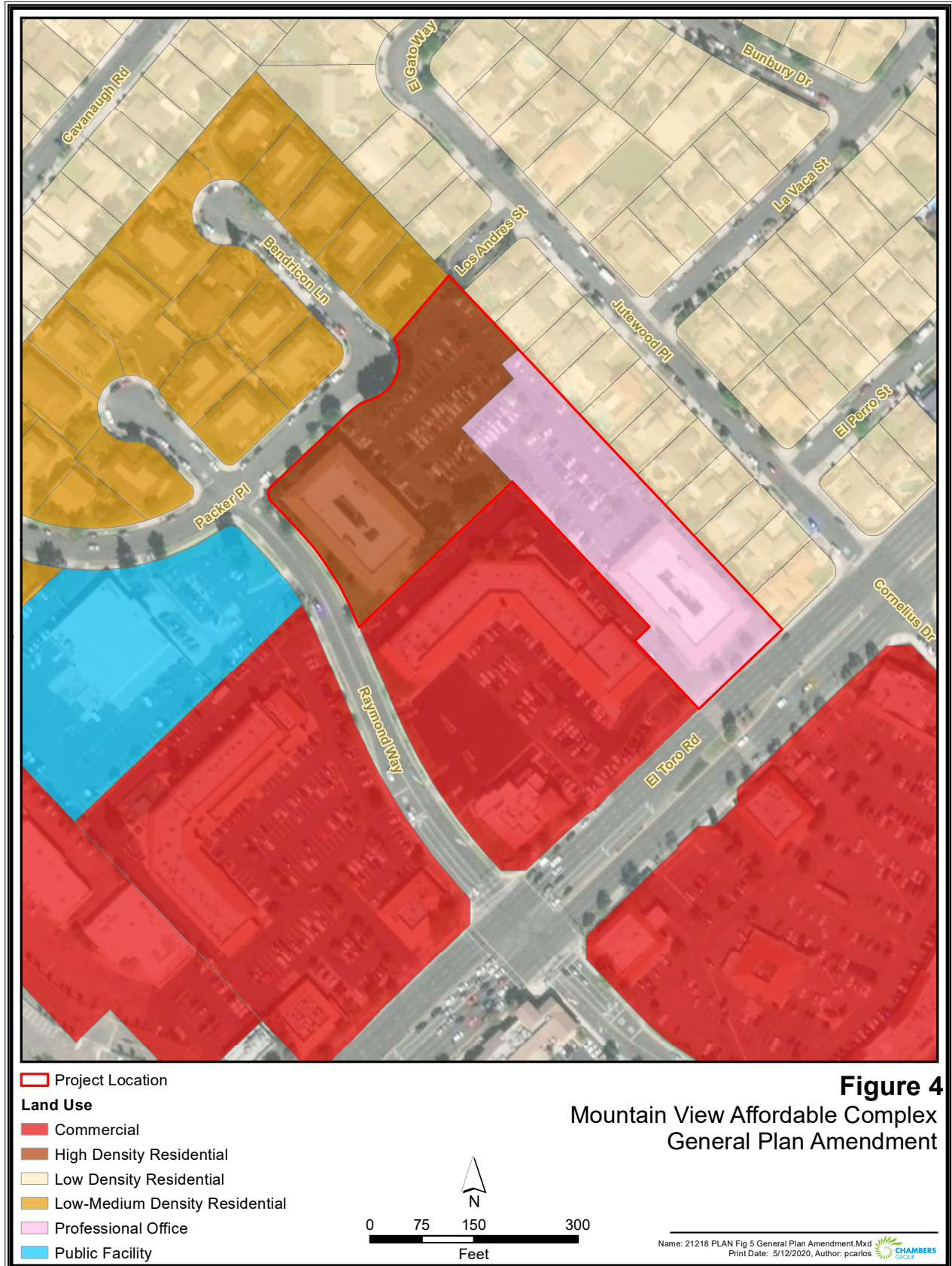
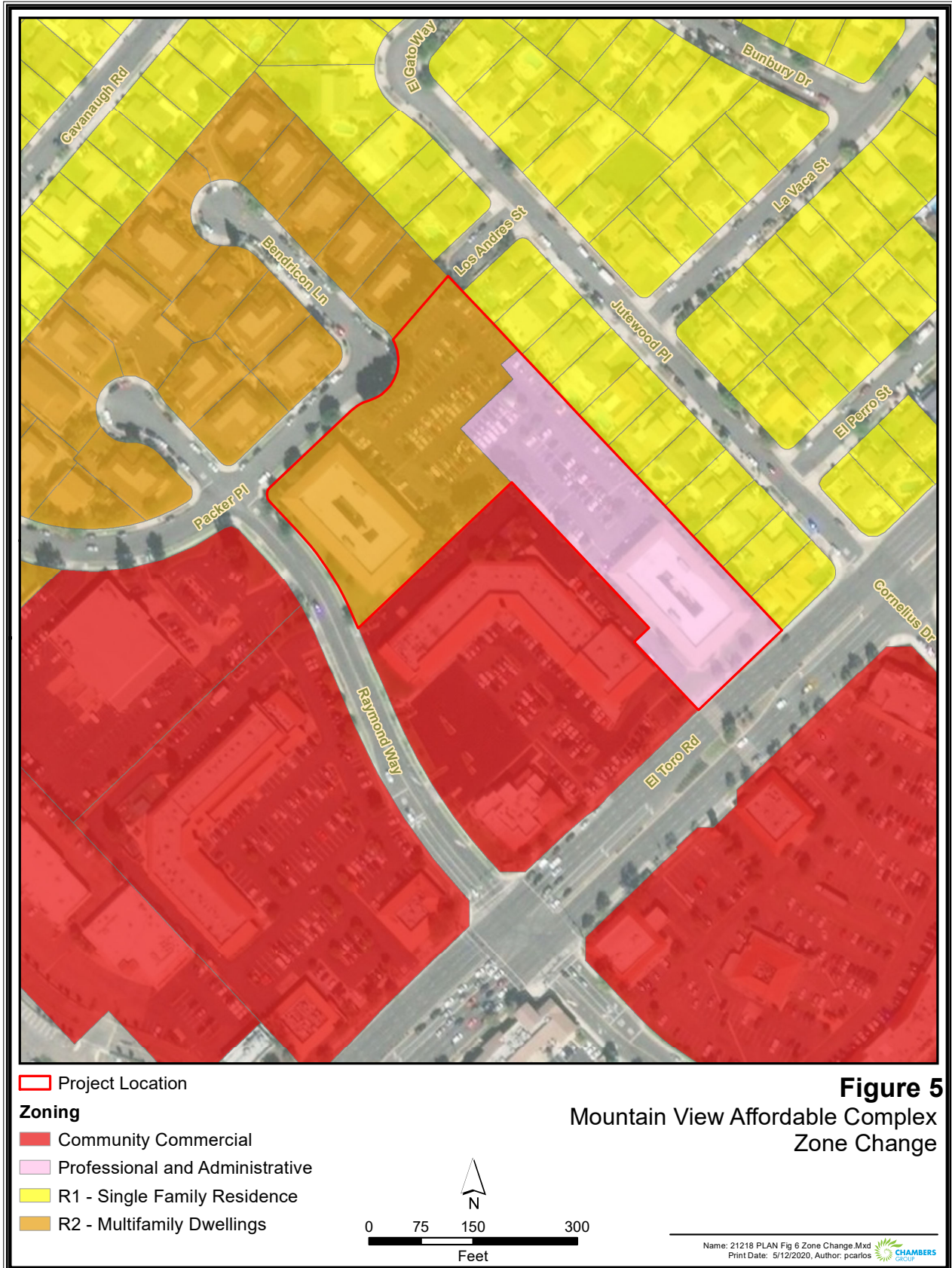


Figure 5: Zone Change



SECTION 3.0 – ENVIRONMENTAL DETERMINATION

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would potentially be affected by this project, involving at least one impact that is a “Potentially Significant Impact,” as indicated by the checklists on the following pages. For each of the potentially affected factors, mitigation measures are recommended that would reduce the impacts to less than significant levels.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology /Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology /Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input checked="" type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities /Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

3.2 DETERMINATION

On the basis of this initial evaluation:

1. I find that the project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
2. I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
3. I find the proposed project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
4. I find that the proposed project **may have a “potentially significant impact” or “potentially significant unless mitigated impact”** on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
5. I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Name

Title

SECTION 4.0 – EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if substantial evidence exists that an effect may be significant. If one or more “Potentially Significant Impact” entries are marked when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. (State CEQA Guidelines, Section 15063(c)(3)(D).) In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. The explanation of each issue should identify:
 - a. the significance criteria or threshold, if any, used to evaluate each question; and
 - b. the mitigation measure identified, if any, to reduce the impact to less than significant.

*Note: Instructions may be omitted from final document.

SECTION 5.0 – CHECKLIST OF ENVIRONMENTAL ISSUES

5.1 AESTHETICS

1.	AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.1.1 Impact Analysis

a) *Would the project have a substantial adverse effect on a scenic vista?*

Less than Significant Impact. The proposed Project is located within a commercial business center and is fully developed. Views from the proposed Project consist of single and multi-family residents to the north, a block wall to the east followed by a residential area, and various commercial businesses to the south and west. Trees of varying heights surround the property to the north.

While the City of Lake Forest contains numerous areas and viewsheds with relatively high scenic value, such as views of Saddleback Mountain, there are no officially designated scenic vista points or scenic highways in the City. Regardless, there are no direct views to any mountains, ridgelines, or other visible scenic resources at ground level on the project site. As such, equipment operating during project construction would not block any scenic resources. Further, once operational, the proposed Project would be built and designed to blend with the existing surroundings. The surrounding area consists mostly of two-story buildings. Application of an Affordable Housing Incentive would allow an increase of the building heights to allow the construction of the four-story residential building. The increase of the building height would not result in adverse impacts because there are no designated scenic vistas within the area. Furthermore, the proposed Project would have an architectural design and style that would be compatible with existing development. Impacts would be less than significant.

b) *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Less than Significant Impact. The City's CEQA Significant Thresholds Guide has not designated any scenic vistas or corridors within the City (City of Lake Forest 2009). The County of Orange Transportation Element identifies El Toro Road as a landscape corridor, according to their Scenic Highway Plan figure. Landscape corridors traverse developed areas and are designated for special treatment to provide a pleasant driving environment. Any development occurring within the landscape corridor must complement the scenic highway (County of Orange 2005).

The proposed development would not occur along El Toro Road. The proposed activities would not substantially damage scenic resources, trees, rock outcroppings, or historic buildings within a state scenic highway because the proposed Project is not located along a state scenic highway. Furthermore, while El Toro Road is designated as a landscape corridor for the County of Orange, the proposed Project would not involve any modifications to El Toro Road. Therefore, impacts would be less than significant.

- c) *Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Less than Significant Impact.

According to the City's CEQA Thresholds, a project would result in a significant visual impact if it does not meet the following thresholds:

- The project is proposed to have an architectural style or to use building materials that will be in vivid contrast to an adjacent development where that development had been constructed adhering to a common architectural style or theme.
- The project is located on a visually prominent site and, due to its height, bulk, architecture or signage, will be in vivid contrast to the surrounding development or environment degrading the visual unity of the area.
- A project would include unscreened outdoor uses or materials.
- A project would result in the introduction of an architectural feature or building mass that conflicts with the character of the surrounding development.

The proposed Project will be constructed and designed to maintain the neighborhood compatibility. The proposed Project is in a fully urbanized area and is not considered to be a visually prominent site. Any proposed outdoor uses would remain within the new residential facility and would be screened off from public view. Furthermore, there are no zoning regulations directly related to scenic quality. The General Plan does not include any specific policies related to scenic quality, but does include policies that promote a high-quality design, encourage new development projects to achieve visual compatibility with surrounding development, and ensures that the scale and character of new development is appropriate to the setting and intended use. The project has been designed in compliance with these General Plan policies in that the proposed building will provide quality architecture, reflects well-

articulated elevations, with varying roof lines, changes in building materials, and different wall planes. Therefore, impacts on the visual quality would be less than significant.

- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Less than Significant Impact. The proposed Project site and its surroundings are fully developed. Other existing sources of light are present within and adjacent to the proposed Project. Sources of illumination include the existing building lighting in the proposed Project site, street lighting, interior building lighting of the other businesses and homes, street lamps, lighting in parking lots, security lighting, business signage, and vehicle lights.

Construction would provide additional sources of illumination with the presence of construction equipment and vehicles. The proposed construction activities and any grading activities would be limited to the hours of 7:00 a.m. and 8:00 p.m. Monday, through Saturday as listed in Chapter 11.16 of the City’s Municipal Code. Construction is not allowed on Sundays or a Federal holiday. Once operational, the new sources of illumination would come from the newly constructed residential building. No changes would be made to the existing office building.

Because the proposed Project site is currently developed and has existing sources of illumination, the construction of the residential building and modifications to the parking lots would not create a new and substantial source of illumination or glare. Furthermore, as shown on a Photometric Plan submitted for the project, the lighting has been designed and located so that direct light rays are confined to the premises. Impacts would be less than significant.

5.2 AGRICULTURE AND FOREST RESOURCES

2.	<p>AGRICULTURE & FOREST RESOURCES. (In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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(a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)	Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or the conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.2.1 Impact Analysis

- a) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. The proposed Project site is in a highly urbanized area, and no farmlands or agricultural resources are on site or in the adjacent areas. According to the California Department of Conservation, the proposed Project site is classified as Urban and Built Land and does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2020a). Therefore, implementation of the proposed Project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No impact would occur.

- b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The proposed Project site is not zoned for agricultural use, and Williamson Act contracts do not occur on this property (County of Orange 2001). No impact would occur.

- c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. The proposed Project site is within a highly urbanized area, and no forest land or timber resources are on site or in the adjacent areas. The Project site is not zoned as forestland, timberland, or timberland zoned Timberland Production (City of Lake Forest 2020a). No impact would occur.

d) *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact. As described in Impact c), the proposed Project site is within an urbanized area, and no forest land exists on the proposed Project site. No impact would occur.

e) *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or the conversion of forest land to non-forest use?*

No Impact. The proposed Project site is developed and is located within a highly urbanized area. As described in Impacts a) and c), no farmland or forest land is located on or adjacent to the site. No impact would occur.

5.3 AIR QUALITY

3.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.3.1 Environmental Setting

The proposed Project site is located in the City of Lake Forest within the County of Orange. The proposed Project site is located within the South Coast Air Basin (Air Basin), and air quality regulation is administered by the South Coast Air Quality Management District (SCAQMD). The SCAQMD implements the programs and regulations required by the federal and State Clean Air Acts.

Regulatory Setting

The proposed Project site lies within the Air Basin, which is managed by the SCAQMD. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), inhalable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and lead. The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

Areas are classified under the federal Clean Air Act as either “attainment” or “nonattainment” areas for each criteria pollutant, based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The Air Basin has been designated by the federal Environmental Protection Agency (EPA) as a nonattainment area for O₃ and PM_{2.5}. Currently, the Air Basin is in attainment with the NAAQS for CO, SO₂, NO₂, and PM₁₀. The Air Basin is designated as partial nonattainment for lead and is based on two source-specific monitors in Vernon and in the City of Industry that are both near battery recycling facilities. The 2012 Lead State Implementation Plan (SIP) for Los Angeles County provides measures to meet attainment of lead by December 31, 2015. Current monitoring data shows that lead is now below the standards at all monitoring stations; however, it will take three years of meeting the standards before Los Angeles County can request to be redesignated by the EPA.

The EPA has designated the Air Basin as extreme nonattainment for the 8-hour average ozone standard. In 2015, the EPA strengthened its 8-hour “primary” and “secondary” ozone standards to 0.070 parts per million (ppm). The previous standard, set in 2008, was 0.075 ppm. The SCAQMD, the agency principally responsible for comprehensive air pollution control in the Air Basin, adopted the 2016 Air Quality Management Plan (AQMP) in March 2016 that provides measures to reduce 8-hour ozone levels to below the federal standard by 2037.

Additionally, the EPA has designated the Air Basin as nonattainment for PM_{2.5}. In 1997, the EPA established standards for PM_{2.5} (particles less than 2.5 micrometers), which were not implemented until March 2002. The 1997 PM_{2.5} standard of 15 micrograms per cubic meter (µg/m³) was attained on August 24, 2016. However, on December 14, 2012, the EPA revised the primary annual PM_{2.5} NAAQS from 15 µg/m³ to 12 µg/m³. The 2012 AQMP provides measures to reduce PM_{2.5} emissions to within the federal standard by December 31, 2025. PM_{2.5} is a subset of the PM₁₀ emissions whose standards were developed to complement the PM₁₀ standards that cover a full range of inhalable particle matter. For the PM₁₀ health standards, the annual PM₁₀ standard was revoked by the EPA on October 17, 2006; and the 24-hour average PM₁₀ attainment status for the Air Basin was redesignated to attainment (maintenance) on July 26, 2013.

The Air Basin has been designated by CARB as a nonattainment area for O₃, NO₂, PM₁₀, and PM_{2.5}. Currently, the Air Basin is in attainment with the State ambient air quality standards for CO, SO₂, and sulfates and is unclassified for visibility-reducing particles and hydrogen sulfide. The adopted AQMPs provide measures to meet the State standards for ozone, NO₂, PM₁₀, and PM_{2.5}. Table 1 presents the designations and classifications applicable to the proposed Project area.

Table 1: Designations/Classifications for the Project Area

Pollutant	Average Time Standard	National Standards Attainment Date ¹	California Standards ²
1979 1-Hour Ozone (O ₃) ³	1-Hour (0.12 ppm)	Nonattainment (Extreme) 2/6/2023	Nonattainment
1997 8-Hour Ozone (O ₃) ⁴	8-Hour (0.08 ppm)	Nonattainment (Extreme) 6/15/2024	
2008 8-Hour Ozone (O ₃)	8-Hour (0.075 ppm)	Nonattainment (Extreme) 7/20/2032	

Table 1: Designations/Classifications for the Project Area

Pollutant	Average Time Standard	National Standards Attainment Date ¹	California Standards ²
2015 8-Hour Ozone (O ₃)	8-Hour (0.070 ppm)	Nonattainment (Extreme) 8/3/2038	
Carbon Monoxide (CO)	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance) 6/11/2007 (attained)	Maintenance
Nitrogen Dioxide (NO ₂) ⁵	1-Hour (100 ppb)	Unclassifiable/Attainment Attained	Attainment
	Annual (0.053 ppm)	Attainment (Maintenance) 9/22/1998	
Sulfur Dioxide (SO ₂) ⁶	1-Hour (75 ppb)	Designation Pending/ Pending	Attainment
	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/Attainment 3/19/1979 (attained)	
	24-Hour (150 µg/m ³)	Attainment (Maintenance) 7/26/2013	
Particulate Matter (PM ₁₀)	24-Hour (150 µg/m ³)	Attainment (Maintenance) 7/26/2013	Nonattainment
Particulate Matter (PM _{2.5})	24-Hour (35 µg/m ³)	Nonattainment (Serious) 12/31/2019	Nonattainment
	1997 Annual (15.0 µg/m ³)	Attainment 8/24/2016	
	Annual (12.0 µg/m ³)	Nonattainment 12/31/2025	
Lead (Pb)	3-Months Rolling (0.15 µg/m ³)	Nonattainment (Partial) ⁷ 12/31/2015	Nonattainment

Note:

- ¹ Obtained from <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=14>
- ² Obtained from <http://www.arb.ca.gov/desig/adm/adm.htm>.
- ³ 1-hour O₃ standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data has some continuing obligations under the former standard.
- ⁴ 1997 8-hour O₃ standard (0.08 ppm) was reduced (0.075 ppm) in 2008; the 1997 O₃ standard and most related implementation rules remain in place until the 1997 standard is revoked by U.S. EPA.
- ⁵ New NO₂ 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO₂ standard retained.
- ⁶ The 1971 annual and 24-hour SO₂ standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO₂ 1-hour standard. Area designations are expected in 2012, with Basin designated Unclassifiable/Attainment
- ⁷ Partial Nonattainment designation – Los Angeles County portion of Basin only. Expect redesignation to attainment based on current monitoring data.

California Emissions Estimator Model™ Employed To Estimate AQ Emissions

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2016.3.2. The purpose of this model is to more accurately

calculate construction-source and operational-source criteria pollutants (nitrogen oxides [NO_x], volatile organic compounds [VOCs], particulate matter less than 10 microns [PM₁₀], particulate matter less than 2.5 microns [PM_{2.5}], sulfur oxides [SO_x], and carbon monoxide [CO]) and greenhouse gas (GHG) emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this proposed Project to determine construction and operational impacts related to the proposed Project. Outputs from the model runs are provided in the Air Quality and Greenhouse Gas Emissions Memo, Appendix A.

5.3.2 Impact Analysis

a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

Less than Significant Impact. The proposed Project site is located within the Air Basin, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Air Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as State and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet State and federal ambient air quality standards.

Currently, these State and federal air quality standards are exceeded in most parts of the Air Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the State and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, State, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements. The proposed Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook (1993) (11). These indicators are discussed below:

Consistency Criterion No. 1: As detailed below, both construction and operation of The proposed Project will not result in an increase in the frequency or severity of existing air quality

violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if Localized Significance Thresholds (LSTs) or regional significance thresholds were exceeded. As evaluated in Impact b) below, the proposed Project's regional and localized construction-source emissions would not exceed applicable regional significance thresholds and LSTs. As such, the Project would result in a less than significant impact.

Operational Impacts – Consistency Criterion 1

As evaluated in Impact b) below, the proposed Project's regional and localized operational-source emissions would not exceed applicable regional significance thresholds and LSTs. As such, a less than significant impact is expected.

On the basis of the preceding discussion of construction and operational impacts, the proposed Project is determined to be consistent with the first criterion.

Consistency Criterion No. 2: The proposed Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the time frames required under federal law. Growth projections from local general plans adopted by cities in the district are provided to SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the City of Lake Forest General Plan is considered to be consistent with the AQMP.

Although the proposed Project is not consistent with the current land use zoning designation, the proposed Project would result in fewer trips and consequently fewer vehicular-related emissions than the existing office designation. Additionally, as noted above, the proposed Project would not exceed any regional or localized emissions thresholds. Lastly, the purpose of the proposed Project is to provide affordable housing in the region and supports the goals and objectives of the AQMP by reducing vehicle miles traveled (Appendix H).

On the basis of the preceding discussion, the proposed Project is determined to be consistent with the second criterion.

AQMP Consistency Conclusion

The proposed Project would not have the potential to result in or cause NAAQS or CAAQS violations. Since the proposed Project would generate less vehicle miles traveled than what would occur with the current land use designation, the proposed Project's development intensity is consistent with the development intensities allowed within the General Plan. Additionally, proposed Project construction and operational-source emissions would not exceed

the regional or localized significance thresholds as previously indicated. The proposed Project is therefore considered to be consistent with the AQMP. Accordingly, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.

- b) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Less than Significant Impact. The proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. As shown above in Table 1, the proposed Project area is designated as a federal and/or State nonattainment area for ozone and PM_{2.5}. To estimate if the proposed Project may adversely affect the air quality in the region, the SCAQMD has prepared the CEQA Air Quality Handbook (SCAQMD 1993) to provide guidance to those who analyze the air quality impacts of proposed projects. The SCAQMD CEQA Air Quality Handbook states that any project in the Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes of this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 2.

Table 2: Regional Thresholds of Significance

	Pollutant Emissions (Pounds/Day)						
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}	Lead
Construction	75	100	550	150	150	55	3
Operation	55	55	550	150	150	55	3

Source: SCAQMD, <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>

In order to assess local air quality impacts, the SCAQMD has developed LSTs to assess the Project-related air emissions in the Project vicinity. SCAQMD has also provided Final Localized Significance Threshold Methodology (LST Methodology), July 2008, which details the methodology to analyze local air emission impacts. The LST Methodology found that the primary emissions of concern are NO₂, CO, PM₁₀, and PM_{2.5}.

The LST Methodology provides look-up tables with different thresholds based on the location and size of the project site and distance to the nearest sensitive receptors. The look-up tables provide 1-acre, 2-acre, and 5-acre project sizes; the 2-acre project site was utilized here, since that is the nearest size to the 1.965-acre proposed Project site. As detailed above, the proposed Project site is located in Air Monitoring Area 19, which covers the Saddleback Valley. The nearest sensitive receptors to the proposed Project site are single-family homes located approximately 22 feet (7 meters) north of the proposed Project site and the existing Montessori Children’s School that is located approximately 67 feet (20 meters) southeast of the proposed Project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. Table 3 shows the LSTs for NOx, CO, PM₁₀, and PM_{2.5} for both construction and operational activities.

Table 3: Local Thresholds of Significance

Activity	Allowable Emissions (pounds/Day) ¹			
	NO _x	CO	PM ₁₀	PM _{2.5}
Construction	131	993	6	4
Operation	131	993	2	1

¹ The nearest sensitive receptors are single-family homes located approximately 22 feet (7 meters) north of the Project site. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.

Source: SCAQMD's Mass Rate Look-Up Tables for two acres in Air Monitoring Area 19 found at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-1st-look-up-tables.pdf?sfvrsn=2>

The following section calculates the potential air emissions associated with the construction and operations of the proposed Project and compares the emissions to the SCAQMD standards.

Construction

Construction of the proposed Project would create air emissions primarily from equipment exhaust and fugitive dust. The proposed Project is anticipated to include demolition of existing structures currently occupying the Project site. It is estimated that the existing 31,573-square-foot office building will be demolished and hauled off-site. The model default trip length of 20 miles has been utilized accordingly, which provides for a conservative analysis, since Bowerman Landfill is located 11 miles away and Prima Deshecha Landfill is located 15 miles away (driving distances). The proposed Project is anticipated to require approximately 500 cubic yards (CY) of fill during grading activities. As such, the soil import function in CalEEMod was enabled, and 500 CY of import was modeled accordingly.

The estimated maximum daily construction emissions without mitigation are summarized in Table 4. Under the assumed construction modeling scenario discussed above, emissions resulting from the proposed Project construction would not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related construction-source emissions, and no mitigation is required.

Table 4: Project Construction Emissions and Regional Thresholds (Without Mitigation)

	Emissions (lbs/Day)					
	VOC	NO _x	CO	SOX	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	45.90	22.94	15.86	0.03	3.17	1.93
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Note: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads

In addition to evaluating the proposed Project's regional impacts to the Air Basin, analysis has been completed to determine the proposed Project's potential to exceed the State and federal air quality standards in the Project vicinity. The nearest sensitive receptors to the proposed

Project site are single-family homes located approximately 22 feet (7 meters) north of the proposed Project site.

Table 5 identifies the localized impacts at the nearest receptor location in the vicinity of the proposed Project. Outputs from the model runs for construction LSTs are provided in Appendix A. Under the assumed construction modeling scenario (as previously discussed), emissions resulting from the proposed Project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant; accordingly, the proposed Project’s construction will not expose sensitive receptors to substantial pollutant concentrations. Thus, a less than significant impact related to sensitive receptors exposure to pollutants concentrations from Project construction would occur, and no mitigation is required.

Table 5: Localized Significant Summary of Construction (Without Mitigation)

On-Site Demolition Emissions	Emissions (Pounds/Day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	20.95	14.66	1.72	1.17
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	NO	NO	NO	NO
On-Site Site Preparation Emissions	Emissions (Pounds/Day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	18.35	7.71	3.08	1.91
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	NO	NO	NO	NO
On-Site Grading Emissions	Emissions (Pounds/Day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	15.09	6.45	2.60	1.61
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	NO	NO	NO	NO

Note: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads

Operations

Operational activities associated with the proposed Project would not result in significant emissions of CO, VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5}. Less than significant operational-related emissions are expected from the following primary sources: area source emissions, energy source emissions, mobile source emissions, and onsite equipment emissions. The proposed Project-related operational air quality impacts derive primarily from vehicle trips generated by the proposed Project. According to the Trip Generation Assessment, the proposed Project would generate 263 two-way trips per day (131 inbound and 132 outbound trips) (Fehr & Peers 2019).

Table 6 summarizes the proposed Project’s daily regional emissions from ongoing operations. Detailed construction model outputs are presented in Appendix A. During operational activity, the proposed Project will not exceed any of the thresholds of significance and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which the

Project region is nonattainment under an applicable federal or State ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related operation-sources emissions, and no mitigation is required.

Table 6: Project Operational Emissions and Regional Thresholds (Without Mitigation)

Operational Activities – Summer Scenario	Emissions (Pounds/Day)					
	VOC	NO _x	CO	SOX	PM ₁₀	PM _{2.5}
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.42	1.66	5.71	0.02	1.92	0.52
Total Maximum Daily Emissions	2.17	1.99	11.70	0.02	1.98	0.58
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO
Operational Activities – Winter Scenario	Emissions (Pounds/Day)					
	VOC	NO _x	CO	SOX	PM ₁₀	PM _{2.5}
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.41	1.71	5.45	0.02	1.92	0.52
Total Maximum Daily Emissions	2.16	2.04	11.44	0.02	1.98	0.58
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Note: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads

c) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Less than Significant Impact. The proposed Project would not expose nearby sensitive receptors to substantial toxic air contaminants (TACs). According to SCAQMD methodology, health effects from TACs are usually described in terms of “individual cancer risk.” “Individual Cancer Risk” is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

Construction-Related TAC Emissions

Construction of the proposed Project would generate TAC emissions from the onsite operation of diesel-powered equipment in the form of diesel particulate matter (DPM). Cancer potency factors for DPM and other TACs are based on animal lifetime studies or worker studies where there is a long-term exposure to the carcinogenic agent (OEHHA 2015). Given the relatively limited number of heavy-duty construction equipment, the varying distances to the nearby sensitive receptors that construction equipment would operate, and the short-term construction schedule, the proposed Project would not result in a long-term (i.e., 70 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk. In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes and requires equipment operators to label each piece of

equipment and provide annual reports to CARB of their fleet's usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet; currently, no commercial operator is allowed to purchase Tier 0 or Tier 1 equipment and by January 2023 no commercial operator is allowed to purchase Tier 2 equipment. In addition to the purchase restrictions, equipment operators need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. Therefore, less than significant short-term toxic air contaminant impacts would occur during construction of the proposed Project.

Operations-Related TAC Emissions

Particulate matter (PM) from diesel exhaust is the predominant TAC in most areas; and, according to The California Almanac of Emissions and Air Quality 2013 Edition, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is from diesel exhaust. Some chemicals in diesel exhaust, such as benzene and formaldehyde have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program. According to *Health Risk Assessments for Proposed Land Use Project*, prepared by CAPCOA, July 2009, recommends that sensitive receptors should not be placed near distribution centers that generate more than 100 truck deliveries per day or more than 40 truck deliveries per day with transport refrigeration units (TRUs). Since the proposed project would generate well below the 100 trucks per day threshold that would have the potential to create a significant TAC impact at the nearby sensitive receptors as determined by CAPCOA's screening criteria, a less than significant TAC impact would occur during the ongoing operations of the proposed Project, and no mitigation would be required.

Therefore, operation of the proposed Project would result in a less than significant exposure of sensitive receptors to substantial pollutant concentrations.

CO "Hot Spot"

The proposed Project would not result in potentially adverse CO concentrations or "hot spots." At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technologies on industrial facilities, CO concentrations in the Air Basin and in the state have steadily declined. According to the SCAQMD Air Quality Data Tables, in 2007 the Saddleback Valley had maximum CO concentrations of 3 ppm for 1 hour and 2.2 ppm for 8-hours and in 2018 the Saddleback Valley had maximum CO concentrations of 1.2 ppm for 1-hour and 0.9 ppm for 8-hours, which represent decreases in CO concentrations of 60 percent and 59 percent, respectively between 2018 and 2007 (SCAQMD 2007). In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and NAAQS. SCAQMD conducted a CO hot spot analysis for attainment at the busiest intersections in Los Angeles during the peak morning and afternoon periods and did not predict a violation of CO standards. The four intersections analyzed by the SCAQMD were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning and LOS F in the evening peak hour.

Since the nearby intersections to the proposed project are much smaller with less traffic than what was analyzed by the SCAQMD and since the CO concentrations are now approximately 60 percent lower than when CO was designated in attainment in 2007, no local CO Hotspot are anticipated to be created from the proposed project and no CO Hotspot modeling was performed. Therefore, a less than significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed Project.

- d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Less than Significant Impact. The potential for the proposed Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The proposed Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements that limit the time of day when construction may occur as well as SCAQMD Rule 1108 that limits VOC content in asphalt and Rule 1113 that limits the VOC content in paints and solvents would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant, and no mitigation is required (SCAQMD 1976).

Based on an aerial review of the proposed Project vicinity, none of the uses listed above associated with odor complaints are located in the immediate vicinity of the proposed Project. Therefore, construction and operation of the proposed Project would not create objectionable odors affecting a substantial number of people, and impacts would be less than significant.

5.4 BIOLOGICAL RESOURCES

4.	BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

LSA Associates (LSA) was retained by National CORE to provide a Biological Resources Technical Memorandum for the proposed Project in November 2019 (Appendix B). A literature review was conducted to assist in determining the existence or potential occurrence of special status plant and animal species within the Project site and in the Project vicinity. A site assessment was conducted on November 10, 2019, by an LSA Biologist. Notes were made on general site conditions, the vegetation, potential jurisdictional waters, wildlife species observed, and the suitability of habitat for various special status species. Plant and animal species observed during the field survey were recorded.

5.4.1 Impact Analysis

- a) *Would the project have a substantial adverse effect, either directly or through habitat modification, on any species identified as candidate, sensitive or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

- b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Less than Significant Impact. Vegetation within the proposed Project site is not associated with any natural vegetation communities (Appendix B). Rather, the vegetation consists of ornamental lawn, trees, and shrubs associated with the landscaped areas of the Project site. Plant species observed on site include Indian hawthorn (*Rhaphiolepis indica*), English ivy (*Hedera helix*), and turfgrass. Approximately 100 ornamental/non-native trees were noted within the proposed Project site, including red ironbark eucalyptus (*Eucalyptus sideroxylon*), blue gum eucalyptus (*Eucalyptus globulus*), ficus (*Ficus* sp.), Brazilian pepper (*Schinus terebinthifolius*), and alder (*Alnus spaethii*). Animal species observed on site include common raven (*Corvus corax*). Approximately 45 trees are proposed to be removed to accommodate the construction of the new residential project.

According to the Biological Resources Technical Memorandum, the proposed Project site does not contain suitable habitat for species protected by the federal Endangered Species Act, the California Endangered Species Act, or the Native Plant Protection Act. Additionally, the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), local agencies, and special status groups such as the California Native Plant Society (CNPS), maintain lists of species that they consider to be in need of monitoring. Legal protection for these special status species varies widely. No other special status species are expected to occur within the proposed Project site due to lack of suitable habitat. Additionally, the proposed Project site does not lie within any federally designated critical habitat or riparian habitat (Appendix B). Impacts would be less than significant.

- c) *Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. According to the Biological Resources Technical Memorandum, no drainage features, ponded areas, or riparian habitat potentially subject to jurisdiction by the CDFW or U.S. Army Corps of Engineers (USACE) were found within the proposed Project site. No impacts would occur.

- d) *Would the project Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Less than Significant Impact with Mitigation Incorporated. The proposed Project site is developed and within a highly urbanized area. No undeveloped open space or riparian habitat borders the Project site that could act as a wildlife corridor.

The Biological Resources Technical Memorandum states that the site does contain suitable habitat for nesting birds. During the bird breeding season (typically February 1 through August 31), large trees on or adjacent to the Project site may be used by hawks, ravens, or other large birds for nesting. Smaller trees, shrubs, and other vegetation may provide nest sites for

smaller birds. Nesting bird species with potential to occur are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800 and by the Migratory Bird Treaty Act (MBTA) (16 United States Code 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey. To prevent any impacts to protected nesting birds, the proposed Project will implement mitigation measure (MM)-BIO-1 below.

MM-BIO-1: A nesting bird pre-construction survey will be conducted by a qualified biologist and submitted to the City three days prior to demolition and/or vegetation removal activities during nesting bird season (September to January). Should nesting birds be found, an exclusionary buffer will be established by a qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Nesting bird habitat within the Project site will be resurveyed during bird breeding season if there is a lapse in construction activities longer than seven days.

With implementation of MM-BIO-1, impacts would be less than significant.

Implementation of MM-BIO-1 would reduce Project-related impacts to nesting birds to less than significant. Therefore, impacts to migratory wildlife or native wildlife nursesey sites would be less than significant.

- e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Less than Significant Impact. As mentioned above in Impact a), approximately 100 ornamental/non-native trees were noted within the Project site, including red ironbark eucalyptus, blue gum eucalyptus, ficus, Brazilian pepper, and alder. The City’s Eucalyptus Tree Conservation Ordinance (Title 6, Chapter 6.20, City of Lake Forest Code of Ordinances; “Ordinance”) was established to control infestation of the eucalyptus longhorn borer. The eucalyptus longhorn borer attacks stressed or damaged plants. The Ordinance regulates the maintenance and removal of eucalyptus trees. Removal of trees on the proposed Project site would comply with the Ordinance to prevent impacts from tree removal. Impacts would be less than significant.

- f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservancy Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. The proposed Project site is not within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) or any other adopted natural community conservation plan, habitat conservation plan, or adopted natural resource protection plan. No impact would occur.

5.5 CULTURAL RESOURCES

5.	CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c)	Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.5.1 Impact Analysis

- a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

Less than Significant Impact. A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Additionally, the National Register of Historic Places (NRHP) requires a property be at least 50 years old to be considered for the register (NPS 2020).

Appendix D of the City’s 2040 General Plan includes a Paleontological and Cultural Resources Assessment for the entirety of the City. Six historic resources were identified within the City boundaries, but no historic resources were identified within the Project site. The closest historic resources are the Big Shots/El Toro Meat Market and the Prothero House, approximately 200 feet and 1,000 feet from the proposed Project site respectively. These sites were listed by the

local Saddleback Valley Historical Society (City of Lake Forest 2018a). Additionally, the existing office buildings on site were built in the late 1970s and therefore are less than 50 years old (City of Lake Forest 2018a). Moreover, they are not anticipated to be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; be associated with the lives of persons important in our past; embody the distinctive characteristics of a type, period, region, or method of construction; or represent the work of an important creative individual or possess high artistic values; or yield information important in prehistory or history. Impacts would be less than significant.

- b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Less than Significant Impact with Mitigation Incorporated. The Native American Heritage Commission (NAHC) Sacred Lands File search was conducted for the proposed Project. The results identified sacred sites or tribal cultural resources within the search radius or surrounding vicinity of the proposed Project site. Tribal Consultation was conducted for the proposed Project. The discussion on tribal cultural resources is provided in Section 5.18. The Paleontological and Cultural Resources Assessment included as Appendix D of the City's 2040 General Plan determined through a record search that 138 previously recorded cultural resources are located within the City's boundaries (City of Lake Forest 2018a). The proposed Project site is within a highly urbanized area, and much of the site has been previously disturbed through major grading for the existing office buildings and parking lots. The proposed Project will include minor site grading, excavation, and recompaction. No records indicate that any archaeological resources could be present within the previously disturbed areas.

Native soils are soils that have not been previously disturbed. Should the excavation work reach native soils, the proposed Project would implement the following mitigation measure to minimize impacts to undiscovered cultural and archaeological resources during ground-disturbing activities.

MM CUL-1: A qualified archaeological monitor shall be present during ground-disturbing activities, such as trenching and excavation, that could expose native soils. If archaeological resources are discovered during ground-disturbing activities, the monitor shall temporarily halt all construction activities in the general area of discovery until the resources area examined by a qualified monitor, to be retained by the Applicant. The monitor shall recommend next steps (i.e., additional excavation, curation, preservation, etc.) in a written document submitted to the City for review and approval. Prior to issuance of the building permit, the archaeological monitor shall prepare and submit a final report documenting the construction activities of the day, identifying survey sites, discuss the existing condition of the monitored areas, and discuss any resources that were discovered.

With the Implementation of MM CUL-1, the proposed Project would result in less than significant impacts to archaeological resources.

- c) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Less than Significant Impact. The proposed Project site and surrounding area is developed and highly urbanized. No current information suggests that the site has any uncovered human remains or has been historically used as a burial ground. Therefore, it is highly unlikely that the proposed Project would disturb any human remains during implementation of the proposed Project. Should human remains be uncovered during construction, as specified by State Health and Safety Code Section 7050.5, no further disturbance would occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code 5097.98. If such a discovery occurs, excavation or construction would halt in the area of the discovery, the area would be protected, and consultation and treatment would occur as prescribed by law. If the County Coroner recognizes the remains to be Native American, he or she would contact the Native American Heritage Commission, who would appoint the Most Likely Descendant. Additionally, if the bones are determined to be Native American, a plan would be developed regarding the treatment of human remains and associated burial objects; and the plan would be implemented in coordination with the Most Likely Descendant. Therefore, impacts would be less than significant.

5.6 ENERGY

6.	ENERGY Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.6.1 Impact Analysis

- a) *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Less than Significant Impact. The proposed Project would not result in a significant environmental impact due to use of energy resources during construction and operation. Energy resources that would potentially be impacted include electricity, natural gas, and petroleum-based fuel supplies and distribution systems. This analysis includes a discussion of the potential energy impacts of the proposed Project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. A general definition of each of these energy resources is provided below.

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar,

geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for onsite distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the state, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network; and, therefore, resource availability is typically not an issue. Natural gas satisfies almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet.

Petroleum-based fuels currently account for a majority of the California's transportation energy sources and primarily consist of diesel and gasoline types of fuels. However, the state has been working on developing strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, petroleum-based fuel consumption in California has declined.

The following section calculates the potential energy consumption associated with the construction and operations of the proposed Project and provides a determination if any energy utilized by the proposed Project is wasteful, inefficient, or unnecessary consumption of energy resources.

Construction Energy

The construction activities for the proposed Project are anticipated to include demolition and grading of the Project site, building construction and application of architectural coatings to the proposed 71-unit affordable housing apartment complex, and paving of the proposed parking lot and onsite roads. The proposed Project would consume energy resources during construction in three general forms:

1. Petroleum-based fuels used to power off-road construction vehicles and equipment on the Project site and construction worker travel to and from the Project site, as well as delivery and haul truck trips (e.g., hauling of demolition material to offsite reuse and disposal facilities)
2. Electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power
3. Energy used in the production of construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass

Construction-Related Electricity

During construction the proposed Project would consume electricity to construct the new structures and infrastructure. Electricity would be supplied to the Project site by Southern California Edison (SCE) and would be obtained from the existing electrical lines in the vicinity of the Project site. The use of electricity from existing power lines rather than temporary diesel- or gasoline-powered generators would minimize impacts on energy use. Electricity consumed during Project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities include electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary and nominal and would cease upon the completion of construction. Overall, construction activities associated with the proposed Project would require limited electricity consumption that would not be expected to have an adverse impact on available electricity supplies and infrastructure. Therefore, the use of electricity during Project construction would not be wasteful, inefficient, or unnecessary.

Construction-Related Natural Gas

Construction of the proposed Project typically would not involve the consumption of natural gas. Natural gas would not be supplied to support construction activities, thus construction would not create a demand. Since the Project site is currently developed and currently has natural gas service to the Project site, construction of the proposed Project would be limited to installation of new natural gas connections within the Project site. Development of the proposed Project would likely not require extensive infrastructure improvements to serve the Project site. Construction-related energy usage impacts associated with the installation of natural gas connections are expected to be confined to trenching in order to place the lines below surface. Therefore, construction-related impacts to natural gas supply and infrastructure would be less than significant.

Construction-Related Petroleum Fuel Use

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would be utilized by both off-road equipment operating on the proposed Project site and on-road automobiles transporting workers to and from the Project site and on-road trucks transporting equipment and supplies to the Project site.

Construction activities associated with the proposed Project would be required to adhere to all State and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. Impacts regarding transportation energy would be less than significant. Development of the proposed Project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the proposed Project. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete; therefore, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

Operational Energy

The ongoing operation of the proposed Project would require the use of energy resources for multiple purposes including, but not limited to, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Energy would also be consumed during operations related to water usage, solid waste disposal, landscape equipment, and vehicle trips.

Operations-Related Electricity

Operation of the proposed Project would result in consumption of electricity at the Project site. The proposed Project would comply with all federal, State, and City requirements related to the consumption of electricity, including California Code of Regulations (CCR) Title 24, Part 6 Building Energy Efficiency Standards and CCR Title 24, Part 11: California Green Building Standards. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed building, including enhanced insulation, use of energy efficient lighting and appliances, as well as requiring a variety of other energy-efficiency measures to be incorporated into all of the proposed structure. Therefore, it is anticipated the proposed Project will be designed and built to minimize electricity use and that existing and planned electricity capacity and electricity supplies would be sufficient to support the proposed Project's electricity demand. Thus, impacts with regard to electrical supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

Operations-Related Natural Gas

Operation of the proposed Project would result in increased consumption of natural gas at the Project site. The proposed Project would comply with all federal, State, and City requirements related to the consumption of natural gas, including CCR Title 24, Part 6 Building Energy Efficiency Standards and CCR Title 24, Part 11: California Green Building Standards. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed structures, including enhanced insulation as well as use of efficient natural gas appliances and HVAC units. Therefore, it is anticipated the proposed Project will be designed and built to minimize natural gas use and that existing and planned natural gas capacity and natural gas supplies would be sufficient to support the proposed Project's natural gas demand. Thus, impacts with regard to natural gas supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

Operations-Related Vehicular Petroleum Fuel Usage

As detailed in the *Final Memorandum 23591 El Toro Road Trip Generation Assessment*, prepared by Fehr & Peers, October 15, 2019, the proposed Project would generate 263 daily trips, while the existing office building generates 321 daily trips, which results in a net reduction of 58 daily trips with implementation of the proposed Project. As such, operation of the proposed Project would result in a decreased consumption of petroleum-based fuels related to vehicular travel to and from the Project site. In addition, the proposed project would provide affordable housing near existing public transit and employment opportunities, which would further reduce vehicle-related petroleum fuel usage. The proposed Project would comply with regulatory compliance measures outlined by the State and county related to Air Quality, Greenhouse Gas Emissions (GHG),

Transportation/Circulation, and Water Supply. Additionally, the proposed Project would be constructed in accordance with all applicable county Building and Fire Codes. Therefore, the proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation. Impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. Energy consumption from new residential projects are primarily controlled by Title 24, Part 6 building energy efficiency requirements that require incorporation of several energy efficiency measures into the design of the proposed residential project, that includes use of LED lighting, enhanced insulation and windows, and high efficiency ventilation and appliances. In addition, the Proposed Project would be required to meet the Part 11 California Green Building Standards Code (CalGreen), which provides minimum requirements for bicycle parking, carpool/vanpool/electric vehicle parking spaces, use of water-efficient plumbing and landscaping fixtures, recycling and use of recycled materials in building products. Specific CalGreen requirements that are applicable to the proposed Project include requiring that a minimum of 65 percent of construction waste be diverted from landfills, providing bicycle parking spaces, as well as providing electric vehicle charging stations within the proposed parking lot. Through implementation of the above programs, regulations, and policies, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

5.7 GEOLOGY AND SOILS

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Albus-Keefe & Associates, Inc. (Albus-Keefe) prepared a Preliminary Geotechnical Investigation Report (Geotechnical Report) for the proposed Project in April 2020 (Appendix C). In order to make geotechnical recommendations for design and construction of the proposed Project, the report includes review of the Project’s conceptual site plan; review of published geologic and seismic data for the Project site and surrounding area; review of historical aerial photographs; exploratory drilling and soil sampling; laboratory testing of selected soil samples; engineering analyses of data obtained from review, exploration, and laboratory testing; and evaluation of site seismicity, liquefaction, and settlement potential. Results of the Geotechnical Report have been summarized and incorporated below.

5.7.1 Impact Analysis

- a) *i) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

Less than Significant Impact. The proposed Project would not directly or indirectly cause potential substantial adverse effects relating to an earthquake fault. The geologic literature and field exploration discussed in the Preliminary Geotechnical Study do not indicate the presence of active faulting within the site. The site does not lie within an “Earthquake Fault Zone” as defined by the State of California in the Earthquake Fault Zoning Act. The potential for ground rupture due to fault displacement beneath the Project site is considered very low. In addition, the proposed Project would not involve any construction activities that would indirectly or directly rupture a known fault. (Appendix C). Impacts would be less than significant.

- ii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

Less than Significant Impact. While the Project site lies relatively close to several seismically active faults as discussed above, the design of the proposed Project in accordance with the

current California Building Code would minimize impacts related to ground shaking, as noted in the geotechnical report attached as Appendix C. Impacts would be less than significant. (Appendix C)

iii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Less than Significant Impact. As previously mentioned, no active faults are known to travel through the proposed Project site nor does the site lie within the bounds of an “Earthquake Fault Zone” as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act. As such, the potential for ground rupture due to fault displacement beneath the Project site is considered very low. Based on the fine-grained nature of subsurface materials, the potential for liquefaction at the proposed Project site is also considered to be low. Additionally, the Project site is underlain by Pleistocene-aged deposits, typically not susceptible to liquefaction, and is not located within a San Diego Seismic Study liquefaction zone (Appendix C). Impacts would be less than significant.

iv) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

No Impact. According to the Preliminary Geotechnical Investigation, geologic hazards associated with landslides are not anticipated at the proposed Project site due to the site not being located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability. In addition, the proposed Project site is relatively flat with no sloped areas that could result in landslides (Appendix C). No impact would occur.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The proposed Project would not result in substantial soil erosion or the loss of topsoil. According to the Lake Forest Existing Conditions Report, any construction associated within the City that could disturb more than one acre of land would be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit [CGP]), as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). The CGP requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to implement stormwater Best Management Practices (BMPs) (City of Lake Forest 2018b). Compliance with the applicable SWPPP regulations and implementation of BMPs would reduce all Project-related impacts concerning topsoil and soil erosion to a less than significant impact. Moreover, the Project will be required to comply with the Orange County Grading Manual, which the City has adopted as part of their municipal code (Chapter 8.30, Section 012). Compliance with this compilation of rules, procedures, and interpretations ensures compliance with the provisions of the City’s Grading and Excavation Code (County of Orange 2017).

- c) *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?*

Less than Significant Impact with Mitigation Incorporated. As mentioned above, geologic hazards associated with landslides, ground rupture, and liquefaction are not anticipated at the proposed Project site. Lateral spreading are like landslides that occur on gentle slopes or relatively flat terrain. Because the proposed Project is not located within a flood zone, it is unlikely that lateral spreading could occur on the Project site (Appendix F).

To address potential subsidence on site, Albus-Keefe performed analyses to evaluate the potential for settlement of the underlying alluvial fan deposits. Results of the testing indicate the alluvial fan deposits have low compressibility. Based on the data from field exploration and laboratory testing, subsidence from these materials is estimated to be less than 1.0 inch in the Project site. According to the geotechnical report, the existing artificial fills on site consist of variable materials that are inadequately compacted for support of the proposed Project in its current condition. Therefore, additional measures referenced in MM-GEO-1 are recommended to result in less than significant impacts. excavation and recompaction of the existing surficial soils to provide a uniform compacted blanket will be performed.

MM-GEO-1: Prior to the issuance of a grading permit, the Applicant shall submit grading plans and construction drawings that comply with the recommendation provided in Section 6.0 of the Geotechnical Report, subject to approval of the City's Engineer and Building Official. These recommendations address design considerations for earthwork, seismic design parameters, foundation design, retaining and screening walls, exterior flatwork, concrete mix design, corrosion, preliminary pavement design, and post grading considerations.

- d) *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Less than Significant Impact with Mitigation Incorporated. Based on Albus-Keefe laboratory test results and visual manual classification from the Geotechnical Report, the near-surface soils within the proposed Project site are generally anticipated to possess a low expansion potential. However, in order to confirm the conditions on site, the Geotechnical Report recommends additional testing for soil expansion subsequent to rough grading and prior to construction of foundations and other concrete flatwork to confirm these conditions. This additional testing will be implemented through mitigation measure MM GEO-1. Implementation of MM GEO-1 would lower impacts related to soil expansion to less than significant.

- e) *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

No Impact. The proposed Project would use and expand upon the existing utilities on site, including available wastewater connections. No septic tanks are proposed as a part of the Project. No impact would occur.

- f) *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?*

Less than Significant Impact. The City’s 2040 General Plan includes a Paleontological and Cultural Resources Assessment for the entirety of the City. The Paleontological and Cultural Resources Assessment uses a multilevel ranking system developed by professional resource managers within the Bureau of Land Management (BLM) as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system has a multi-level scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings. The probability for finding significant fossils in a project area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria. According to the Paleontological and Cultural Resources Assessment, the proposed Project site is located within an area dominated by late Miocene to early Pliocene deposits, specifically the Capistrano Formation, which consists of marine siltstone and sandstone. The Appendix reports this area of the City to be of low paleontological sensitivity (City of Lake Forest 2018b). Furthermore, the proposed Project is fully developed and previously disturbed with no identifiable unique geological features. The proposed activities will include minor site grading and excavation and recompaction of existing surficial soils. Impacts would be less than significant.

5.8 GREENHOUSE GAS EMISSIONS

8.	GREENHOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.8.1 Impact Analysis

- a) *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- b) *Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Less than Significant Impact. The City has not established thresholds applicable to the Project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For

the proposed Project, which is located in the Air Basin, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold, which applies to commercial/residential projects (SCAQMD 2008); therefore, for the purposes of this analysis, a significant impact would occur if the proposed Project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 metric tons of carbon dioxide equivalent (MtCO_{2e}) per year.

GHGs are naturally present in the atmosphere and are released by natural sources or formed from secondary reactions taking place in the atmosphere. In addition, human activities over the past 200 years have caused greatly increased quantities of GHGs to be released into the atmosphere, which in turn increases the natural greenhouse effect and are thought to cause global warming. Human-induced GHGs include the following:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

The annual GHG emissions associated with the operation of the proposed Project are estimated to be 602.17 MtCO_{2e} per year as summarized in Table 7. Direct and indirect operational emissions associated with the proposed Project are compared with the SCAQMD's proposed Tier 3 threshold of significance for non-industrial projects, which is 3,000 MtCO_{2e} per year. As shown, the proposed Project would result in a less than significant impact with respect to GHG emissions.

Further, the proposed Project will comply with all applicable regulations intended to reduce GHG emissions. Finally, the proposed Project is consistent with the general goals and objectives identified in SCAG's Sustainable Community Strategy/ Regional Transportation Plan, which, pursuant to SB 375, calls for the integration of transportation, land-use, and housing policies to plan for achievement of the GHG emissions target for the region. Thus, a less than significant impact related to GHG emissions from proposed Project construction and operation would occur, and no mitigation is required.

Table 7: Total Project GHG Emissions (Annual)

Emission Source	Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total CO _{2e}
Annual construction-related emissions amortized over 30 years	10.87	0.001	0.00	10.91
Area	23.23	0.02	5.10E-4	23.98
Energy	164.20	5.54E-3	1.95E-3	164.92
Mobile Sources	349.65	0.01	0.00	350.02
Waste	6.63	0.39	0	16.42
Water Usage	30.98	0.15	3.81E-3	35.92
Total CO_{2e} (All Sources)				602.17
Screening Threshold (CO_{2e})				3,000

Emission Source	Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Threshold Exceeded?	NO			
Source: Mountain View Affordable Housing Air Quality and GHG Memo, April 16, 2020, Urban Crossroads				

5.9 HAZARDS AND HAZARDOUS MATERIALS

9.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.9.1 Environmental Setting

Converse Consultants was contracted to produce a Phase I and Phase II Environmental Site Assessment Report (Phase I ESA, Phase II ESA) of the proposed Project site in July and August 2019, respectively (Appendix D and Appendix E). The Phase I ESA was conducted in order to identify, to the extent practical, Recognized Environmental Conditions (RECs) in connection with the Project site. The term Recognized Environmental Conditions is defined by the American Society of Testing and Materials (ASTM) Standard Practice as the presence or likely presence of any hazardous substances or petroleum products in, at, or on a property due to any release to the environment; and under conditions indicative of a release to the environment; under conditions that pose a material threat of a future release to the

environment. The Phase II ESA was performed to follow up on the ongoing open site investigation of contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way) identified and discussed in the Phase I assessment.

5.9.2 Impact Analysis

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less than Significant Impact. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building. These Project construction activities would require grading operations, utility work, surface paving operations, and landscaping. This would necessitate the routine transport of potentially hazardous commercial materials, including but not limited to gasoline, oil, solvents, cleaners, paint, pesticides, and fertilizer. However, any potentially hazardous materials used or found on site would be handled in accordance with state and federal regulations regarding the transport, use, and storage of hazardous materials.

Once operational, the proposed Project would utilize substances typically used in residential and office settings. These include household and office cleaning products, household goods, and other materials needed for maintenance of the properties including commercial grade cleaning products or chemicals required for landscaping and gardening purposes.

All construction and operational activities would be required to adhere to local standards set forth by the City, as well as state and federal health and safety requirements that are intended to minimize risk to the public from hazardous materials, such as California Division of Occupational Safety and Health (Cal/OSHA) requirements, the Hazardous Waste Control Act, the California Accidental Release Prevention (CalARP) Program, and the California Health and Safety Code. As a result, the proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or result in a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. In addition, the proposed Project would implement a Spill Prevention Control Plan to minimize and address accidental releases of any potentially hazardous chemicals. Therefore, construction and operational impacts for these issues would be less than significant.

- c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less than Significant Impact with Mitigation Incorporated. The proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

In particular, the proposed Project does not entail the construction of a factory or industrial use that would emit hazardous emissions or require handling of hazardous or acutely hazardous materials, substances or waste. Rather, the proposed Project consists of the demolition of an existing building to construct a building with 71 residential units.

While asbestos (ACMs), lead (LBP) and Polychlorinated Biphenyls (PCBs) are likely present in the building to be demolished as part of the Project based on the construction date of the building, demolition of the existing building would not emit any hazardous emissions with the incorporation of mitigation set forth herein. MM-HAZ 1 requires that all demolition that could result in the release of ACMs or LBP must be conducted according to South Coast Air Quality Management District Rules 1403 Asbestos Emissions from Demolition Activities. This will ensure that the proposed Project would not emit hazardous emissions based on completion of hazardous materials surveys prior to demolition, adherence to existing regulatory standards for site demolition and hazardous materials handling through regulatory notifications, engineering controls, off-site disposal at licensed facilities and recordkeeping.

Moreover, the Project would require only minimal handling of hazardous materials, substance, or waste during construction. For example, construction activities on Project Site may involve the temporary use of vehicle fuels, paints, oils, and transmission fluids. Because all potentially hazardous materials would be used and stored in compliance with applicable federal, State, and local regulations, including Cal-OSHA Title 8 Section 5194 Hazard Communication impacts to the surrounding community would be less than significant. Notably, this compliant use would reduce the likelihood of any improper handling, potential releases or spills to below levels of significant concern. Hazardous materials used during construction activities will be in used accordance with Cal-OSHA safety guidance and accompanied by Safety Data Sheets to be kept on-site. Additionally, the Orange County Fire Authority (OCFA) would have the authority to perform inspections and enforce federal and State laws governing the storage, use, transport, and disposal of hazardous materials and wastes. In addition, construction excavation activities will be completed in accordance with applicable South Coast Air Quality Management District Rule 403 Fugitive Dust regulations for nuisance or fugitive dust. Compliance with these regulations will reduce the likelihood of any dust releases across the property line to below levels of concern by using best available dust control measures such as wet methods and track out devices.

Operation on the site would not create a hazard through upset or accident conditions involving hazardous materials. The types and amounts of hazardous materials that would be used in connection with the proposed Project would be typical of those used for residential purposes (e.g., cleaning solutions, solvents, landscaping pesticides, painting supplies, and petroleum products).

All materials and substances would be subject to applicable health and safety requirements. Compliance with existing regulations would result in no reasonably foreseeable upset or accident conditions that would create a significant hazard to the public due to the release of hazardous materials during construction. Compliance with Titles 17, 19 and 27 of the California Code of Regulations and their enabling legislation in Chapter 6.5 of the California Health Safety code would reduce the likelihood of any improper handling, potential releases or spills to below levels of significant concern.

To minimize impacts to the adjacent school, the following mitigation measures would be implemented to reduce impacts related to hazardous materials to a less than significant level.

MM HAZ-1: Prior to issuance of demolition permit for the demolition of structures that were constructed before 1980, the Applicant shall conduct a thorough investigation to determine if asbestos, lead, or polychlorinated biphenyls (PCBs) exist on the site. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards, Title 8, Division 1, Chapter 4, Subchapter 4, Article 4, Section 1529 and 1523.2. Compliance with Cal/OSHA standard would result in use of licensed contractors, licensed waste transporters and licensed waste disposal facilities and therefore potential impacts would be mitigated to a level of less than significant if the demolition is conducted according to Cal/OSHA standards.

Therefore, construction and operational impacts for these issues would be less than significant with mitigation incorporated.

- d) *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Less than Significant Impact. The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and therefore, would not create a significant hazard to the public or the environment. The site is not listed on government databases as Superfund site, past or present landfill or site with known hazardous materials releases or impacts.

- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact. The closest airport to the proposed Project site is John Wayne Airport, approximately 10 miles northwest. The proposed Project site is not located within 2 miles of a public airport and is not within the John Wayne Airport runway protection and accidental potential zones (ALUC 2008). No impact would occur.

- f) *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less than Significant Impact. The City is located within the County's "Operational Area" for emergency preparedness and response programming providing guidance during disasters. The Orange County Emergency Operations Center (EOC) functions as the communication and coordination center for both the County and Operational Area emergency response organization and disaster preparedness. This provides a central point for coordinating operational, administrative, and support needs of the County and Operational Area Members (County of Orange 2020a). Additionally, the County's Emergency Management Division provides emergency management and preparedness services to the unincorporated areas of the County and supports the efforts of the County Operational Area (County of Orange 2020b). All roads in the

vicinity of the proposed Project would remain open for travel during both operations and construction. The proposed Project would not impair or interfere with decisions made by the County’s Office of Emergency Communications (OEC) or Emergency Management Division. The proposed Project would not block or close any roadways that may affect emergency accesses to and from the proposed Project or the existing neighborhood. Impacts would be less than significant.

- g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Less than Significant Impact. The proposed Project site is not located within an identified Very High Fire Hazard Severity Zone (VHFHSZ) (CALFIRE 2011). Additionally, the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace. Operation of the outdoor fireplace will be in compliance with City’s Municipal Code Chapter 8.06, Section R1001.13: Outdoor Fireplaces, Fire Pits, Fire Rings, or similar devices, as well as Chapter 8.24, Section 307: Open Burning, Recreational Fires, Fire Pits, Fire Rings, and Portable Outdoor Fireplaces (City of Lake Forest 2020b). The outdoor fireplace would also not be operated on red flag warning days which indicate that environmental conditions are ideal in extreme fire behavior. This includes days with low humidity, strong winds, and potential lightning strikes. Overall, the proposed Project would not expose people or structures to significant wildland fire-related risks. This impact is less than significant.

5.10 HYDROLOGY AND WATER QUALITY

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	i) Result in substantial erosion or siltation on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flood on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.10.1 Impact Analysis

- a) *Would the project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?*

Less than Significant Impact. The proposed Project would not violate any water quality standards or waste discharge requirements, and it would not substantially degrade surface or ground water quality. The City’s Stormwater Quality Management Chapter of the Municipal Code lists prohibited illicit connections and discharges within the City. Further prohibited discharges are provided in the City’s Local Implementation Plan which refers to the compliance requirements with the City’s Municipal Separate Storm Sewer System (MS4). According to the Preliminary WQMP, the applicable total maximum daily loads (TMDLs) of the watershed include metals, nutrients, pesticides, and turbidity/siltation. Pollutants of concern for the proposed Project are sediment, nutrients, pathogens, and pesticides.

Because the proposed Project would disturb greater than one acre, the proposed Project would require a National Pollutant Discharge Elimination System (NPDES) permit under the California General Permit and Construction General Permit according to the California Water Boards. The Construction General Permit would require preparation of and implementation of a SWPPP. The SWPPP would include BMPs to mitigate any stormwater pollutants. Types of BMPs to minimize pollutants to water quality include the use of sand filter to filter water or coverings to prevent rain or water from carrying any contaminants in the runoff. An example of these BMPs include the following, with additional details provided in the Preliminary WQMP (Appendix G).

Non-Structural Source Control BMPs:

- Education for Property Owners, Tenants and Occupants
- Activity Restrictions
- BMP Maintenance
- Activity Restrictions

Structural Source Control BMPs:

- Storm drain system stenciling and signage

- Trash and waste storage areas to reduce pollution introduction
- Efficient irrigation system, landscape design, water conservation, smart controllers, and source control

Furthermore, a dry well BMP was chosen for the site to capture on-site flows. Dry wells would capture and store urban runoff to improve surface water quality and reduce localized flooding. During operations, general housekeeping practices such as regulating proper waste disposal of office and household wastes, removal of litter within the properties and parking lots, and preventing any car maintenance activities within the parking lot would minimize the amount of polluted runoff generated from the Project site. Therefore, implementation of the SWPPP and associated BMPs, as well as general housekeeping activities, would result in less than significant impacts.

- b) *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less than Significant Impact. The proposed Project would not result in the substantial decrease of groundwater supplies or interfere with groundwater recharge. The proposed Project is currently developed and would not create additional impervious surfaces that would interfere with groundwater recharge. According to the Preliminary Water Quality Management Plan (WQMP) prepared for the Project on April 2020 by RRM Design Group, the pre-Project conditions consists of 1.07 acres of pervious surfaces, with 2.70 acres of impervious surfaces. After development of the proposed Project, the area of pervious surfaces would be 0.94 acres, with impervious surfaces at 2.82 acres (Appendix G). In addition, the proposed Project also does not include activities involving groundwater extraction. Impacts would be less than significant.

- c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

- i) *result in substantial erosion or siltation on or off site;*

Less than Significant Impact. A Preliminary Hydrology Report and Preliminary Water Quality Management Plan was prepared for the Project on April 2020 by RRM Design Group. Currently, drainage sheet flows from the parking lot in a northwesterly direction toward Packer Place. Drainage flows out of the existing driveway into the curb and gutter on Packer Place. Eventually, runoff enters the municipal storm drain system through a curb inlet at the end of Bendricon Lane. Some runoff from the building flows overland in a westerly direction toward Raymond Way where it enters the municipal storm drain system through an inlet near the easterly corner of the intersection of Raymond Way and Packer Place. Runoff from the parking lot on Parcel 2 flows overland through Parcel 1 to Packer Place. The remainder of runoff from Parcel 2 flows to El Toro Road. Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean (Appendix G).

The proposed Project would not substantially alter the existing topography because the Project site is generally flat and fully developed. The proposed Project is not located adjacent to any streams or rivers and would not be replacing significant open and pervious surfaces with impervious surfaces.

As discussed in Section 4.7 Impact b), because the area of disturbance would be greater than 1 acre, the proposed Project would prepare and implement a SWPPP and would include project BMPs and an Erosion Control Plan to address stormwater runoff and minimize erosion. These can include use of vegetated buffers, silt fencing, fiber logs, or filter bags. As discussed in impact (a), structural and non-structural BMPs are included in the Preliminary WQMP. The proposed Project would also comply with the design objectives for water quality BMPs. These are provided at the City website under the Public Works Department for construction, industrial and commercial business, municipal, new development, common area/homeowner, and residential activities. They include erosion and non-stormwater BMPs, sediment control, and waste management (City of Lake Forest 2020c). Furthermore, the Preliminary Hydrology Report states that the proposed Project would maintain existing drainage patterns and discharge locations. In addition to the SWPPP, dry well BMPs have been chosen for the Project site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Storage chambers are proposed to operate in-line with the dry wells and provide additional storage to meet the required retention volume, per the separate Post-Construction Stormwater Management Plan (Appendix F). Impacts, therefore, would be less than significant.

- ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;*
- iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources or polluted runoff; or*
- iv) impede or redirect flood flows?*

Less than Significant Impact.

As previously discussed in Section 4.7 impact b), the proposed Project would prepare and implement a SWPPP to control and direct surface runoff so that the proposed Project would not result in on- or offsite flooding. The addition of BMPs within the SWPPP, Spill Prevention Control and Erosion Control Plan would minimize the amount of polluted runoff generated from the Project site. During operations, implementation of general housekeeping activities as discussed in impact a) would minimize the contribution of polluted runoff. Impacts related to the surface runoff and flooding would be less than significant.

As noted in the Preliminary Hydrology Report, the proposed drainage designs would meet the standards of the Orange County Hydrology Manual. Furthermore, the proposed Project reduces the post-development peak flow of runoff to that of pre-development rate for the hydrological analysis for all storm events (Appendix F). Because the proposed Project does not involve the replacement of substantial pervious surfaces with impervious surfaces, and because the proposed Project is fully developed, it would not result in significant peak flow runoff after post-development. Impacts would be less than significant.

The Project site falls in Zone X, with minimal chance of flood hazard, according to the Federal Emergency Management Agency National Flood Hazard Layer (FEMA NFHL) (Appendix F). The proposed Project would not impede or redirect flood flows or cause an increase in potential flooding because the Project site is not located within a flood zone. Impacts would be less than significant.

d) *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

No Impact. The proposed Project is in the City of Lake Forest and is located inland, approximately 8 miles northeast from the coastline. The Project site is not located within a flood zone nor is it nearby an ocean or lake. It is approximately 2 miles west of the El Toro Reservoir and 3.5 miles west from Lake Mission Viejo. According to the City’s Existing Condition’s Report, the area will not be subject to inundation from a dam failure (City of Lake Forest 2018b); and according to the City of Mission Viejo’s Public Safety Element, the Project site is not located within the inundation area of Lake Mission Viejo. Because of the proposed Project’s distance from any large bodies of water such as a reservoir, lakes, or ocean, no impact would occur (City of Mission Viejo 2009).

e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Less than Significant Impact. The Santa Ana Regional Water Quality Control Board and San Diego Regional Water Quality Control Board adopted NPDES permits in 2009 and 2013, respectively. These permits require permittees to continue to implement stormwater quality management plans to control pollutants.

As discussed in Section 4.7 Impact b), the proposed Project would apply for a NPDES permit, SWPPP, and Spill Prevention Control Plan that would comply with the City’s existing MS4 permits. These permits along with its BMPs would reduce polluted stormwater runoff. The proposed Project will not require any onsite groundwater extraction. Water uses on site will be provided by El Toro Water District (ETWD), which relies on imported water (ETWD 2016). Therefore, impacts would be less than significant.

5.11 LAND USE AND PLANNING

11.	LAND USE/PLANNING Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.11.1 Impact Analysis

a) *Would the project physically divide an established community?*

No Impact. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building.

The proposed Project would not physically divide an established community because no features such as a highway or other infrastructure would cause a permanent physical division to the residential areas north and east of the proposed Project. The proposed Project activities will remain within the currently developed parcel, and no new buildings would be developed outside of the parcel. No impacts would occur.

b) *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

Less than Significant Impact. The proposed Project site is currently zoned as PA-Professional/Admin and designated by the 2040 General Plan as Professional Office Commercial. The current land use designation and zoning of the site do not allow for the development of residential uses.

For the proposed Project to move forward, a General Plan Amendment is included with the project would be required to revise the current Professional Office designation to High Density Residential to allow for residential uses on Parcel 1. The proposed Project would also require a zone change to permit additional density allow for residential development.

The need to develop residential units within the site is to fill the current housing needs of the City. The Southern California Association of Governments (SCAG) is in the process of developing a Regional Housing Needs Allocation (RHNA) for the 2021 to 2029 period and based on the current draft of the Connect So Cal, the City of Lake Forest has been assigned 3,163 residential units (City of Lake Forest 2019).

The proposed Project would result in conflict with the existing land use and zoning designations. However, the approval of a General Plan Amendment and Zone Change would make the proposed Project consistent with the City’s land use and zoning as well as with the City’s CEQA thresholds and municipal code. The proposed Project would comply with health and safety building codes with the application and approval of a building permit. Therefore, impacts would be less than significant.

5.12 MINERAL RESOURCES

12.	MINERAL RESOURCES Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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(a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.12.1 Impact Analysis

a) *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No Impact . The proposed Project would not result in the loss of availability of a known mineral resource. Notably, the proposed Project largely entails the replacement of an existing building with another building. There is no mineral resource currently available for mining at the proposed Project site, which is already fully developed. Moreover, the proposed Project would not include any mining activities that would result in the loss of availability of known mineral resources. While the proposed Project will require heavy ground disturbance and earthwork activities, excavation depths are not anticipated to be deep enough to uncover significant mineral resources. No impact would occur.

b) *Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact. The proposed Project area does not contain any known mineral resources that would be of value, and the proposed Project is not located in a mineral resource recovery site. Additionally, no mining or mineral extracting activities are proposed. No impact would occur.

5.13 NOISE

13.	NOISE Would the project result in:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.13.1 **Environmental Setting**

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic and commercial and industrial activities are also major sources of noise in some areas. Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the proposed Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Monday, December 16, 2019 (Appendix H).

The noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 8 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 of the Noise Impact Analysis provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels by the northern corner of the Project site near existing single-family residential homes. The noise levels at this location consist primarily of parking lot vehicle movements and traffic on Packer Place. The noise level measurements collected show an overall 24-hour exterior noise level of 59.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.0 A-weighted decibel (dBA) Leq with an average nighttime noise level of 51.9 dBA Leq.
- Location L2 represents the noise levels on east of the Project site near Montessori Children's School House. The noise levels at this location consist primarily of parking lot vehicle movements as well as activity from children playing at Montessori Children's School House. The noise level measurements collected show an overall 24-hour exterior noise level of 58.8 dBA Community Noise Equivalent Level (CNEL). The energy (logarithmic) average daytime noise level was calculated at 52.7 dBA Leq with an average nighttime noise level of 52.0 dBA Leq.
- Location L3 represents the noise levels west of the Project site near existing multi-family homes. The noise level measurements collected show an overall 24-hour exterior noise level of 62.5 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.8 dBA Leq with an average nighttime noise level of 55.5 dBA Leq. The noise levels at this location consist primarily of traffic noise from Packer Place.

- Location L4 represents the noise levels northwest of the Project site on Packer Place near existing multi-family residential homes. The 24-hour CNEL indicates that the overall exterior noise level is 58.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.6 dBA Leq with an average nighttime noise level of 49.8 dBA Leq. Traffic on Packer Place represents the primary source of noise at this location.

Table 8 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets as well as parking lot vehicle movements from nearby businesses. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 8.

Table 8:24-Hour Ambient Noise Level Measurements

Location ¹	Description	Energy Average Noise Level (dBA Leq) ²		CNEL
		Daytime	Nighttime	
L1	Located by the northern corner of the Project site near existing single-family residential homes.	54.0	51.9	59.0
L2	Located east of the Project site near Montessori Children's School House.	52.7	52.0	58.8
L3	Located west of the Project site near existing multi-family homes.	57.8	55.5	62.5
L4	Located northwest of the Project site on Packer Place near existing multi-family residential homes.	54.6	49.8	58.0
L1	Located by the northern corner of the Project site near existing single-family residential homes.	54.0	51.9	59.0

¹ See **Error! Reference source not found.**4 for the noise level measurement locations.

Energy (logarithmic) average levels.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 9 shows the significance criteria summary matrix.

On-Site Traffic Noise

- If the on-site noise levels:
 - exceed the exterior noise level standard of 60 dBA CNEL for outdoor areas (e.g., rear yard of single-family homes, multi-family patios and balconies (with a depth of 6 feet or more), common recreation areas, playgrounds, or picnic areas) (City of Lake Forest 2020d); or
 - exceed an interior noise level of 45 dBA CNEL for noise-sensitive uses (HUD and City of Lake Forest CEQA Significance Thresholds Guide, Table 3-1)

Operational Noise

- If Project-related operational (stationary source) noise levels exceed the exterior 55 dBA L50 daytime or 50 dBA L50 nighttime noise level standards for sensitive land uses. These standards shall not be exceeded for a cumulative period of 30 minutes (L50), or the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L25) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L8) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L2) in any hour, or the standard plus 20 dBA at any time (Lmax) (Sections 11.16.040(A) & (B) of the City of Lake Forest Municipal Code, and Table 3-2 of the City of Lake Forest CEQA Significance Thresholds Guide).

Construction Noise and Vibration

- If Project-related construction activities create noise levels which exceed the 85 dBA Leq acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure); or
- If Project-related construction activities generate vibration levels which exceed the Caltrans building damage vibration level threshold for older residential structures of 0.3 inch per second peak particle velocity (PPV), or the distinctly perceptible human annoyance vibration level threshold of 0.04 inch per second PPV at nearby sensitive receiver locations (Caltrans Transportation and Construction Vibration Guidance Manual, Tables 19 & 20)

Table 9: Significance Criteria Summary

Land Use	Receiving Land Use	Conditions(s)	Significance Criteria	
			Daytime	Nighttime
On-Site Traffic Noise ¹	Residential & School	Exterior Noise Level Standard	65 dBA CNEL	
		Interior Noise Level Standard	45 dBA CNEL	
Operational Noise ¹	Noise-Sensitive	Exterior Noise Level Standards	See Table 3-1.	
Construction Noise & Vibration	Noise-Sensitive	Noise Level Threshold ²	85 dBA Leq	n/a
		Vibration Level Threshold (Building Damage) ³	0.3 in/sec PPV	n/a
		Vibration Level Threshold (Distinctly Perceptible) ³	0.04 in/sec PPV	n/a

¹ Source: HUD and the City of Lake Forest CEQA Thresholds Guide.

² Source: NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.

³ Source: Caltrans Transportation and Construction Vibration Guidance Manual, September 2013, Tables 19 & 20.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "n/a" = No nighttime construction activity is permitted, so no nighttime construction noise level limits are identified; "PPV" = peak particle velocity

5.13.2 Impact Analysis

- a) *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Less than Significant Impact.

Construction Noise Levels

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that, when combined, can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. Hard site conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e., construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

Construction Reference Noise Levels

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of construction activity area for each stage of construction to the nearest receiver location at shown on Table 10.

Table 10: Construction Reference Noise Levels

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})
Demolition	Demolition Activity	67.9	71.9
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

Note: ¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

Construction Noise Level Compliance

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from the edge of the construction activity areas to each of the nearby receiver locations. As shown on Table 11, the unmitigated construction noise levels are expected to range from 56.2 to 73.7 dBA Leq at the nearby receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Lake Forest Municipal Code Section 11.16.060 of 7:00 a.m. to 8:00 p.m. on weekdays, including Saturdays.

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related the NIOSH noise level threshold of 85 dBA Leq is used as acceptable thresholds for construction noise at the nearby sensitive receiver locations. The construction noise analysis shows that the noise sensitive residential receiver locations will satisfy the 85 dBA Leq significance threshold during Project construction activities as shown on Table 12. Therefore, the noise impacts due to Project construction noise are considered less than significant at all noise sensitive receiver locations.

Table 11: Unmitigated Construction Equipment Noise Level Summary

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	70.3	73.7	71.9	70.0	69.6	63.6	73.7
R2	69.5	72.9	71.1	69.2	68.8	62.8	72.9
R3	67.5	70.9	69.1	67.2	66.8	60.8	70.9
R4	62.9	66.3	64.5	62.6	62.2	56.2	66.3
R5	67.8	71.2	69.4	67.5	67.1	61.1	71.2

¹ Construction noise receiver locations are shown on Figure 4.

² Construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020.

Table 12: Construction Noise Level Compliance

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})		
	Highest Construction noise Levels ²	Threshold	Threshold Exceeded? ⁴
R1	73.7	85	No
R2	72.9	85	No
R3	70.9	85	No
R4	66.3	85	No
R5	71.2	85	No

² Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Figure 4.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020.

Figure 6: Noise Receiver Locations



Operational Noise Levels

Using the reference noise levels to represent the proposed Project operations that include tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure, and roof-top air conditioning units, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 13 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 41.0 to 49.9 dBA Leq.

Table 13: Daytime Project Operational Noise Levels

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Playground Activities	29.1	23.3	7.1	5.0	11.7
Community Area	48.8	44.5	28.9	25.9	40.1
Trash Enclosure	38.8	33.3	19.2	15.5	40.5
Air Conditioning Unit	41.4	41.1	41.4	40.8	44.1
Total (All Noise Sources)	49.9	46.4	41.7	41.0	46.7

¹ See 3 for the noise receiver locations.

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Table 14 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 38.4 to 43.7 dBA Leq. The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1). No Project playground or community area operational activities are expected during the nighttime hours from 10:00 p.m. to 7:00 a.m. Appendix H includes the detailed noise model inputs including the existing perimeter walls used to estimate the Project operational noise levels presented in this section.

Table 14: Nighttime Project Operational Noise Levels

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Playground Activities	0.0	0.0	0.0	0.0	0.0
Community Area	0.0	0.0	0.0	0.0	0.0
Trash Enclosure	37.8	32.3	18.2	14.5	39.5
Air Conditioning Unit	39.0	38.7	39.0	38.4	41.7
Total (All Noise Sources)	41.5	39.6	39.0	38.4	43.7

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

¹ See Figure 7 for the noise source and receiver locations.

Operational Noise Level Compliance

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against the City of Lake Forest exterior noise level standards at nearby noise-sensitive receiver locations. Table 15 shows the operational noise levels associated with Mountain View Affordable Housing Community Project will satisfy the City of Lake Forest 55 dBA Leq daytime and 50 dBA Leq nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered less than significant at the nearby noise-sensitive receiver

Table 15: Operational Noise Level Compliance

Receiver Location ¹	Project Operational Noise Levels (dBA L _{eq}) ²		Noise Level Standards ³		Thresholds Exceeded? ⁴	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	49.9	41.5	55	50	No	No
R2	46.4	39.6	55	50	No	No
R3	46.4	39.0	55	50	No	No
R4	41.0	38.4	55	50	No	No
R5	46.7	43.7	55	50	No	No

¹ See Figure 7 for the noise source and receiver locations.

² Proposed Project operational noise levels as shown on Table 16 and Table 17

³ City of Lake Forest exterior noise level standards for residential land use, from Section 11.16.040 of the Municipal Code.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

⁵ "Day" = 7:00 a.m. to 7:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Project Operational Noise Level Increases

To describe the Project operational noise level increases, the Project operational noise levels have been combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Table 16 and Table 17, respectively. As indicated on Table 16, Table 17, and Table 18, the Project will generate unmitigated daytime and nighttime operational noise level increases ranging from 0.1 to 1.4 dBA Leq at the nearby receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Table 9, the increases at the sensitive receiver locations will be less than significant.

Accordingly, the proposed Project would not expose persons to noise levels in excess of standards established by the City, and impacts would be less than significant.

Figure 7: Operational Noise Source Locations

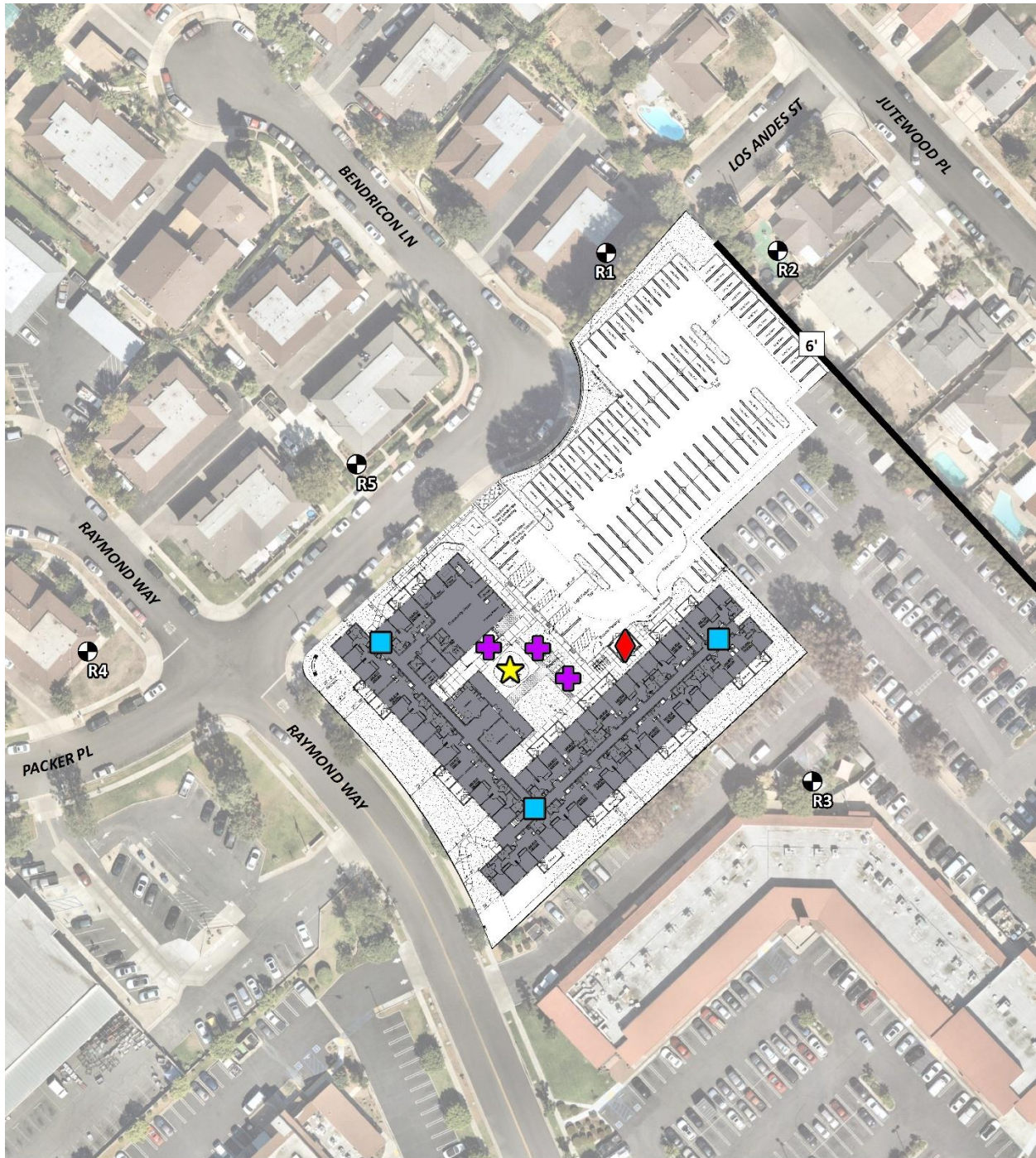


Table 16: Daytime Project Operational Noise Level Increase

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded? ⁷
R1	49.9	L1	54.0	55.4	1.4	5.0	No
R2	46.4	L1	54.0	54.7	0.7	5.0	No
R3	46.4	L2	52.7	53.6	0.9	5.0	No
R4	41.0	L3	57.8	57.9	0.1	5.0	No
R5	46.7	L4	54.6	55.3	0.7	5.0	No

¹ See Figure 6 for the sensitive receiver locations.

² Total Project daytime operational noise levels as shown on Table 13.

³ Reference noise level measurement locations as shown on Figure 6

⁴ Observed daytime ambient noise levels as shown Table 8.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria obtained from Section 11.16.040 of the Municipal Code.

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Table 17: Nighttime Project Operational Noise Level Increase

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded? ⁷
R1	49.9	L1	54.0	55.4	1.4	5.0	No
R2	41.5	L1	51.9	52.3	0.4	5.0	No
R3	39.6	L1	51.9	52.1	0.2	5.0	No
R4	39.0	L2	52.0	52.2	0.2	5.0	No
R5	38.4	L3	55.5	55.6	0.1	5.0	No

¹ See Figure 6 for the sensitive receiver locations.

² Total Project daytime operational noise levels as shown on Table 13.

³ Reference noise level measurement locations as shown on Figure 6

⁴ Observed daytime ambient noise levels as shown Table 8.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria obtained from Section 11.16.040 of the Municipal Code.

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

Table 18: Nighttime Project Operational Noise Level Contributions

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded? ⁷
R1	26.7	L1	44.1	44.2	0.1	5.0	No
R2	37.3	L2	48.1	48.4	0.3	5.0	No
R3	44.6	L3	41.7	46.4	4.7	5.0	No
R4	42.2	L3	41.7	45.0	3.3	5.0	No
R5	42.0	L3	41.7	44.9	3.2	5.0	No
R6	40.8	L3	41.7	44.3	2.6	5.0	No
R7	40.7	L3	41.7	44.2	2.5	5.0	No
R8	33.7	L3	41.7	42.3	0.6	5.0	No

¹ See Figure 6 for the sensitive receiver locations.

² Total Project daytime operational noise levels as shown on Table 13.

³ Reference noise level measurement locations as shown on Figure 6

⁴ Observed daytime ambient noise levels as shown Table 8.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria obtained from Section 11.16.040 of the Municipal Code.

Source: Mountain View Affordable Housing Community, Noise Impact Analysis, Urban Crossroads, May 14, 2020

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Less than Significant Impact. Construction activity associated with the proposed Project would not result in generation of excessive groundborne vibration or groundborne noise levels. Groundborne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). The Noise Impact Analysis (Urban Crossroads, 2020) analyzed the vibration created from construction operating on the Project site that was based on the construction vibration assessment methodology published by the FTA. Table 17 presents the expected Project-related vibration levels at distances ranging from 67 to 204 feet from the primary area of Project construction activity.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 inch per second PPV at 25 feet. At distances ranging from 67 to 204 feet from primary Project construction activities, construction vibration velocity levels are expected to range from 0.004 to 0.020 inch per second PPV. Table 19 shows that the vibration level created during Project construction will remain below the Caltrans building damage threshold of 0.3 inch per second PPV at all receiver locations.

Table 19: Unmitigated Construction Equipment Vibration Levels

Receiver ¹	Distance to Const. Activity (Feet)	Receiver PPV Levels (in/sec)					Thresholds (in/sec PPV)		Threshold Exceeded? ²	
		Small Bulldozer (< 80k lbs)	Jack-hammer	Loaded Trucks	Large Bulldozer (> 80k lbs)	Highest Vibration Level	Human Annoyance	Building Damage	Human Annoyance	Building Damage
R1	185'	0.000	0.002	0.004	0.004	0.004	0.04	0.3	No	No
R2	204'	0.000	0.002	0.003	0.004	0.004	0.04	0.3	No	No
R3	67'	0.001	0.008	0.017	0.020	0.020	0.04	0.3	No	No
R4	148'	0.000	0.002	0.005	0.006	0.006	0.04	0.3	No	No
R5	71'	0.001	0.007	0.016	0.019	0.019	0.04	0.3	No	No

¹ Construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.
² Does the peak vibration exceed the acceptable vibration thresholds?
 "PPV" = Peak Particle Velocity

Compared with the California Department of Transportation (Caltrans) construction vibration standard for human annoyance, the proposed Project construction activities will remain below the distinctly perceptible vibration standard of 0.04 inch per second PPV at all receiver locations. The Project-related vibration impacts at the nearby sensitive receiver locations, therefore, represent a *less than significant* impact from Project construction activities. Accordingly, the proposed Project would not expose persons to excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

- c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public us airport, would the project expose people residing or working in the project area to excessive noise levels?*

Less than Significant Impact. The closest airport to the Project site is John Wayne Airport, which is located approximately 10 miles northwest of the Project site; and, therefore, the Project site is not located within 2 miles of a public airport or within an airport land use plan; nor is the Project within the vicinity of a private airstrip. As such, the Project site would not be exposed to excessive noise levels from airport operations. As such, airport and airstrip noise impacts to the proposed Project would be less than significant.

5.14 POPULATION AND HOUSING

14.	POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.14.1 Impact Analysis

- a) *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

Less than Significant Impact. The proposed Project would not induce substantial unplanned population growth in the area for several reasons.

First, the Project, which includes construction of a residential building, is intended to provide housing primarily to *existing* residents of Lake Forest that meet the low income/affordable housing requirements. The proposed Project would comply with LU-1e of the Land Use Element which is to encourage residential developments to incorporate affordable units to accommodate a range of household types, special need populations, and income levels (City of Lake Forest 2020e). The California Department of Housing and Community Development released its annual progress report on the status of the remaining units required for cities to meet their Regional Housing Needs Allocation (RHNA) numbers. As of June 2019, Lake Forest had a total of 1,393 units needed for affordable housing remaining (HCD 2019). Accordingly, while the proposed Project entails construction of 71 apartments, these apartments will not result in substantial unplanned population growth in the area, since the proposed Project is intended to primarily serve the area’s existing residents.

Second, even if the proposed Project does provide housing to persons who are not currently existing residents of Lake Forest, the resulting population growth would not be substantial. The proposed Project would construct 71 apartments, with 18 one-bedroom, 35 two-bedroom, and 18 three-bedroom floor plans. At maximum capacity, assuming two persons per bedroom, the proposed Project could provide housing to approximately 284 residents. According to the Department of Finance’s May 2020 publication, the City’s population in January 2020 was 84,711 (State of California 2020). Even assuming the Project would add 284 new residents to the City’s population (unlikely since the Project’s inhabitants are expected to predominantly be existing City residents), this would represent a 0.3 percent increase in population. The proposed Project’s maximum potential population growth would thus not be substantial.

Third, any population growth resulting from the proposed Project would not be unplanned. As discussed above, the intent of the proposed Project is to provide housing to existing residents of Lake Forest that would meet the low income/affordable housing requirements.

Finally, the proposed Project would not result in any indirect, substantial unplanned population growth. The proposed Project involves the demolition of an existing office building; in its place, a residential building will be constructed. The proposed Project does not include the extension of roads or other infrastructure.

For all of the foregoing reasons, the proposed Project would not induce substantial unplanned population growth in an area, either directly or indirectly. Impacts would be less than significant.

- b) *.Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

Less than Significant Impact. The proposed Project would not displace substantial numbers of existing people or housing or necessitate the construction of replacement housing. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building. The proposed Project would not result in removal of any single or multi-family dwellings. The proposed Project does not include activities that would directly displace existing people or housing, such as the construction of roadways or infrastructure that would cause a permanent physical division to the residential areas located north and east of the proposed Project. Furthermore, the proposed Project provides additional housing options for limited income populations. Impacts would be less than significant.

5.15 PUBLIC SERVICES

15.	PUBLIC SERVICES.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	i) Fire Protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ii) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	iii) Schools?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.15.1 Impact Analysis

- a) *i) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?*

Less than Significant Impact. The Orange County Fire Authority (OCFA) provides fire protection, suppression, inspection, paramedic and emergency medical services, and hazardous materials response in the City (City of Lake Forest 2020f). The three stations serving the City of Lake Forest are Station 19, Station 42, and Station 54. The nearest station to the proposed Project is OCFA Station 19, located at 23022 El Toro Road, approximately 0.7 mile east. The second nearest fire station is Station 22, approximately 0.8 mile west from the proposed Project, located at 24001 Paseo de Valencia. This station, however, is in the City of Laguna Woods. OCFA Station 19 would likely be the first responder in the event of an emergency (Google Maps 2020).

The OCFA Standards of Cover discusses the distribution network by providing percentage of incidents and associated response times. Response times is the interval between dispatch notification and arrival on scene. **The current standards are provided below. Response times are from receipt of the service call to a unit on scene:** Review of the 2004 data provides by following response time ranges (OCFA 2006):

- ~~• 6:00 minutes total response time 55% of the time~~
- ~~• 7:00 minutes total response time 75% of the time~~
- ~~• 7:22 minutes total response time 80% of the time 8:30 minutes total response time 90% of the time~~
- **First-in engines should arrive on-scene to medical aids and/or fires within 7 minutes and 20 seconds 80 percent of the time.**
- **First-in truck companies should arrive on-scene to fires within 12 minutes 80 percent of the time.**
- **First-in paramedic companies should arrive on-scene at all medical aids within 10 minutes 80 percent of the time.**

The proposed Project will comply with OSHA and California Fire Code for fire safety during construction and demolition. These include proper storage of flammable materials, providing training to contractors on emergency response and fire suppression methods, and restrictions on the use of specific equipment during red flag warning days.

A letter was received by OCFA in reference to the proposed Project. Based on their assessment, OCFA has no significant concerns. Contingent upon approval of a conditional use permit by the Planning Department/Planning Commission, OCFA has provided a list of conditions of approval

that are applicable to the proposed Project that involve plan submittals, installation of emergency responder system radio systems, occupancy inspections, conducting phase occupancy, pre-construction meetings, and lumber-drop inspections.

The proposed Project would not result in new or expanded facilities and would not significantly affect the response times for fire services. OCFA currently serves the City and have no significant concerns of the proposed Project **with the incorporation of the following condition of approval.**

Prior to issuance of grading permits, the following shall be completed:

The applicant shall submit evidence of approval by Orange County Fire Authority of an approved Fire Protection Agreement to the Planning Division.

Impacts would be less than significant.

ii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Less than Significant Impact. Law enforcement/police services are provided by the Orange County Sheriff's Department (OCSD). Their services include patrol, traffic enforcement, accident analysis investigation, parking enforcement, general and special investigations, and the Community Support Unit (City of Lake Forest 2020g). The physical location for Police Services in the City is at 100 Civic Center Drive in Lake Forest, approximately 3 miles east from the proposed Project. The nearest OCSD Sheriff's Department is located at 20202 Windrow Drive in Lake Forest, approximately 4 miles northeast from the proposed Project. The OCSD serving Lake Forest currently includes one lieutenant, five sergeants, three investigators, 38 deputies, an investigative assistant, five community services officers, and a crime prevention specialist (OCSD 2020).

The proposed Project would not result in new or expanded facilities and would not significantly affect the response times for police services. OCSD currently provides law enforcement/police services to the City. While the proposed Project would be expected to marginally increase demand for police protection services compared to existing conditions, OCSD would be able to meet the increased demand that would be associated with the increase in population. OCSD has reviewed project plans and have not indicated a need for additional facilities or resources to service the proposed Project. Furthermore, the proposed residential building will include outdoor cameras, security lighting, and a private patrol to monitor the site and provide additional security services.

iii) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant

environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

Less than Significant Impact with Mitigation Incorporated. The Saddleback Valley Unified School District provides educational services to residents within the City. The nearest public and private schools to the proposed Project are as follows:

- Montessori Children’s School House, located immediately south of the proposed Project within the existing parcel
- Olivewood Elementary School, located at 23391 Dune Mear Road, approximately 0.3 mile north of the proposed Project
- Arbor Christian School, located at 23302 El Toro Road, approximately 0.4 mile southeast from the proposed Project

During construction, an increased number of construction employees and equipment would be working at the site. However, construction workers are not anticipated to permanently reside within the proposed Project site.

A Residential Development School Fee Justification Study was prepared for Saddleback Valley Unified School District (School District) in March 2020. Student generation factors were listed for multi-family attached units (the number of students per housing unit). These factors were adjusted based on incomplete and incorrect address information, school level, and land uses. The generation factors for elementary schools were 0.2150, intermediate school at 0.0634, and high school at 0.1127. At 71 units, the proposed Project could result in roughly 15 elementary school students, 4.5 middle school students, and approximately 8 high school students. The projected students from future units for the City are 2,678, with a total 842 surplus seats available to accommodate projected student enrollment. It is estimated that the school district would have an estimated 1,836 surplus of projected students within the City. The current capacities and enrollment is provided in the study. As of March 2020, there is a shortage of 19 seats for the elementary schools, a surplus of 351 seats for middle schools, and a surplus of 587 seats for high schools (SVUSD 2020). The nearest elementary, middle, and high schools to the proposed Project are Olivewood Elementary, Serrano Intermediate School, and El Toro High School. Serrano Intermediate School and El Toro High School have a surplus of seats and have capacity to accommodate additional students. Olivewood Elementary, according to the study, has a shortage of 11 seats. The shortage of 11 seats at Olivewood Elementary would not require construction of a new school. The District would have to consider its enrollment and facility space to determine whether it could add 11 more seats within the school or whether it would need to reallocate students elsewhere in the District. Finally, the applicant would be required to pay school impact fees at current fee rates to ensure impacts to schools would be less than significant.

Once operational, the proposed Project would introduce additional populations to the proposed Project site, which could result in an increase of student enrollment within the School District. The School District would be able to accommodate new middle school and high school students based on current enrollment and capacity levels. However, this does not take into account

capacity and availability of private schools within the City. Additionally, it is not expected that a majority of the new population would enroll into the nearby schools or impact the quality of school services. According to the School District's School Fee Justification, prior to issuance of a building permit, the local school district must certify that the application is in compliance with its Developer Fee Program.

The Montessori Children's School House has an outdoor fenced area that is adjacent to the proposed Project. The proposed Project would result in disturbance to the play area during demolition and construction. The proposed Project would not require the school to modify its hours of operation. In order for the outdoor play area to remain operational, the proposed Project would implement MM HAZ-1 to minimize the potential impacts of hazardous materials to the outdoor play area. Once operational, the proposed Project would be used as a residential and office area with parking, which would result in similar conditions as before construction. Impacts would be less than significant with mitigation incorporated.

- b) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks?*

Less than Significant Impact. The proposed Project includes recreational amenities for resident uses only. Refer to Section 5.16.1 on recreational facilities.

The nearest parks to the proposed Project are Veterans Park, approximately 0.75 mile northeast from the proposed Project, and El Toro Park, , approximately 0.75 mile southeast from the proposed Project, and Heroes Park approximately 0.75 mile east from the proposed Project (Google 2020). The proposed Project could introduce additional populations to the proposed Project site that could increase the use of nearby parks. The proposed Project would provide its fair share of development impact fees to maintain the use of the existing parks. In addition, this analysis assumes that the new residents would not be existing City residents utilizing both parks. It is likely that only a small percentage of the new residents would access the public parks, since recreational amenities are already provided with the new residential building. The proposed Project would not require new parks or expansion of existing parks. Therefore, impacts would be less than significant.

- c) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities?*

Less than Significant Impact. The proposed Project could result in impacts to other public facilities with the addition of residential units to the Project site. The Orange County Library-El Toro is located at 24672 Raymond Way, approximately 0.2 mile south of the proposed Project. The nearest hospital is Saddleback Medical Center, located approximately 1 mile southwest from the proposed Project.

While the proposed Project is expected to add 71 new housing units, the development is expected to service existing housing needs within the City to meet the RHNA housing requirements. Furthermore, the proposed Project would not result in a significant increase in population that could affect the availability and quality of other public facilities. As a result, the proposed Project would not result in substantial adverse physical impacts associated with provision of new or physically altered governmental facilities. Impacts would be less than significant.

5.16 RECREATION

16.	RECREATION. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.16.1 Impact Analysis

- a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Less than Significant Impact. The proposed Project involves construction of a 71-unit residential apartment building with 18 one-bedroom units, 35 two-bedroom units, and 18 three-bedroom units. The proposed Project would cause a slight population increase in the area. As discussed in Section 4.15 Population and Housing impact a) iv), the increase in population would not result in a significant increase of park use.

In addition to parks, the nearest recreational facility to the proposed Project is the Lake Forest Golf and Practice Center located approximately 0.2 mile east from the proposed Project. The population increase would not be substantial enough to contribute to deterioration of recreational facilities. Additionally, the proposed Project incorporates recreational amenities for tenants, including a community center, tot lot, outdoor fireplace with seating areas, and large activity lawn. These features would provide onsite recreational opportunities to the residents of the property. As a result, the proposed Project would not lead to the physical deterioration of other recreational facilities. Impacts would be less than significant.

- b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Less than Significant Impact. As mentioned above, the proposed Project incorporates recreational amenities for tenants, including a community center, tot lot, outdoor fireplace with seating areas, and large activity lawn. The environmental impacts related to the construction of these recreational facilities are addressed throughout this Initial Study. Refer to each resource area for a discussion of the environmental impacts. This impact is less than significant.

5.17 TRANSPORTATION

17.	TRANSPORTATION. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Substantially increase hazards due to a geometric design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

- a) *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?*

Less than Significant Impact. According to the City’s Existing Conditions Report, El Toro Road is an arterial route (City of Lake Forest 2018b). El Toro Road is in the Orange County Master Plan of Arterial Highways and the County of Orange also identifies El Toro Road as a landscape corridor that is designated for special treatment to provide a pleasant driving environment (County of Orange 2005).

The proposed Project does not include any significant roadway improvements, transit modification, or removal of any pedestrian or bicycle facilities. The proposed Project also includes changes in the City’s right-of-way (ROW) outside of the site. These include replacement of the existing sidewalks along Packer Plan and Raymond Way, removal of one tree in the parkway along Raymond Way for fire access, and the addition of a new parkway at the closed driveway. The proposed Project would not involve modifying El Toro Road.

In April 2020, Fehr and Peers prepared a Transportation Assessment to document the trip generation of the proposed Project and address Senate Bill 743 (SB 743) for vehicle miles traveled (VMT) (J). The results of the report indicate that the proposed Project would generate fewer trips as compared to its existing use as an office building.

The proposed Project would not conflict with any plans, programs, or policies relating to the circulation system. The proposed Project would include changes in the City's ROW. However, these changes would not prevent any residents or workers from accessing or leaving the site. In fact, the residential development would provide its tenants access to various commercial businesses within walking distances from the units. Impacts would be less than significant.

- b) *Would the project Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

Less than Significant Impact. SB 743, signed by the California Governor in 2013, changed the way transportation impacts are identified. Specifically, the legislation has directed the Governor's Office of Planning and Research to look at different metrics for identifying transportation as an impact under CEQA. The City has not adopted thresholds of significance related to VMT, so the report was conducted consistent with the Technical Advisory prepared by the Governor's Office of Planning and Research.

According to the Technical Advisory, agencies such as the City may "use 'screening thresholds' to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix I.) This technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing."

There is a presumption of less than significant impact for residential development as "infill locations generally improve jobs-housing match, in turn shortening commutes and reducing VMT. Further, low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available. In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development."

Per the Transportation Assessment, since the proposed Project is 100 percent affordable housing, it is presumed to result in a less than significant transportation impact related to VMT (Appendix I).

Accordingly, because the proposed Project is an affordable residential development, the Project would be consistent with the section 15064.3 of the CEQA Guidelines and impacts would be less than significant.

- c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Less than Significant Impact.

The proposed Project is not providing any roadway improvements other than sidewalk replacement adjacent to the Project site on Raymond Way and Packer Place. Therefore, the

proposed Project would not include any new geometric design features that could result in significant impacts to transportation such as modification of intersections or the addition of sharp turn lanes. Therefore, impacts would be less than significant.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As discussed in Section 4.9. Hazards and Hazardous Materials Impact f), the City is located within the County’s “Operational Area” for emergency preparedness and response programming. The EOC provides aid to communities through the OCSD, OCFA and State of California Office of Emergency Services.

The OCFA will review the proposed Project’s site plan with proposed fire lanes to determine if the plan provides adequate ingress and egress based on the number of units. While the proposed Project may result in temporary traffic and access delay to the proposed Project site because of construction vehicles entering and exiting the area, there are no road closures expected with project construction, and delays would be temporary and will cease once the proposed Project is operational. All roads in the vicinity of the proposed Project would remain open for travel during both operations and construction, with potential temporary, intermittent delays due to construction. Therefore, the proposed Project would not include any significant roadway work; thus, the proposed Project would not impair the implementation of or interfere with decisions made by the County’s OEC or Emergency Management Division. Therefore, impacts related to inadequate emergency access would be less than significant.

5.18 TRIBAL CULTURAL RESOURCES

18.	TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.18.1 Impact Analysis

- a) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

- b) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

Less than Significant Impact with Mitigation Incorporated. As mentioned in Section 4.5: Cultural Resources, no listed historic structures are located on the proposed Project site, nor would the proposed activities involve the removal or disturbance of a historic structure (City of Lake Forest 2018a).

On April 3, 2020, Chambers Group requested that the Native American Heritage Commission (NAHC) conduct a search of its Sacred Lands File to determine if cultural resources significant to Native Americans have been recorded in the proposed Project footprint and/or buffer area. On April 6, 2020, Chambers Group received a response from NAHC stating that the search of its Sacred Lands File was positive for the presence of Native American cultural resources within the proposed Project area or surrounding vicinity. The NAHC provided their list of Native American tribal governments to contact. Tribal contacts were provided for Campo Band of Mission Indians, Ewiiapaayp Tribe, Jamul Indian Village, Juaneno Band of Mission Indians Acjachemen Nation- Romero, Juaneño Band of Mission Indians Acjachemen Nation-Belardes, Juaneño Band of Mission Indians , La Posta Band of Diegueno Mission Indians, Manzanita Band of Kumeyaay Nation, Sycuan Band of the Kumeyaay Nation, Viejas Band of Kumeyaay Indians, Juaneño Band of Mission Indians Acjachemen Nation, Gabrieleno Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/ Tongva Nation, Gabrielino/ Tongva Indians of California Tribal Council, Gabrielino/ Tongva Tribe, La Jolla Band of Luiseno Indians, Mesa Grande Band of Diegueno Mission Indians, Pala Band of Mission Indians, Pauma Band of Luiseno Indians, Rincon Band of Luiseno Indians, San Luis Rey Band of Mission Indians, and Soboba Band of Luiseno Indians.

Assembly Bill 52 (AB 52) mandates early tribal circulation prior to and during CEQA review with a requirement to formally conclude consultation. AB 52 established a new category of tribal cultural resources for which only tribes are experts. The mandate requires CEQA documents to incorporate findings, not just in terms of mitigation measures, but also in terms of which type of CEQA document is appropriate. Senate Bill 19 (SB 18), signed into law in 2004, requires

notification and consult with Native American Tribes on proposed land use decisions for the purpose of protecting potential tribal cultural sites.

AB 52 and SB 18 consultation letters were sent on April 16, 2020, to tribal parties on the list provided by the City and the NAHC. These tribal parties were to the Campo Band of Mission Indians, Ewiiapaayp Tribe, Jamul Indian Village, Juaneno Band of Mission Indians Acjachemen Nation- Romero, Juaneno Band of Mission Indians Acjachemen Nation-Belarades, Juaneno Band of Mission Indians , La Posta Band of Diegueno Mission Indians, Manzanita Band of Kumeyaay Nation, Sycuan Band of the Kumeyaay Nation, Viejas Band of Kumeyaay Indians, Juaneño Band of Mission Indians Acjachemen Nation, Torres Martinez Desert Cahuilla Indians, United Auburn Indian Community of the Auburn Rancheria, Gabrieleno Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/ Tongva Nation, Gabrielino/ Tongva Indians of California Tribal Council, Gabrielino/ Tongva Tribe, La Jolla Band of Luiseno Indians, Mesa Grande Band of Diegueno Mission Indians, Pala Band of Mission Indians, Pauma Band of Luiseno Indians, Rincon Band of Luiseno Indians, San Luis Rey Band of Mission Indians, and Soboba Band of Luiseno Indians. To date, the following responses have been received as part of the consultation.

- A response was received from the Rincon Band of Luiseño Indians stating that the Project site is not within their specific Area of Historic Interest (AHI).
- A response was received by the Juaneno Band of Mission Indians, Acjachemen Nation-Belarades requesting consultation due to the positive search results, and that the Project site is situated in a sensitive area to their tribe. Consultation with the Juaneno Band of Mission Indians was concluded on June 11, 2020

SB 18 consultation is anticipated to be concluded by July 2020. On March 18, 2020, the Orange County Housing and Community Development conducted Section 106 consultation for the proposed Project. Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of federally funded projects on historic properties. A response was received by the Gabrieleño Band of Mission Indians – Kizh Nation requesting consultation with the Orange County Housing and Community Development and an agreement to the mitigation had been made. The agreed upon mitigation would be included and implemented for the proposed Project. Due to the potential for uncovering significant resources during ground-disturbing activities associated with proposed Project construction, MM-TCR-1 will be implemented. This mitigation measure, in combination with ongoing tribal engagement and coordination, is intended to reduce potential impacts to Tribal Cultural Resources from the proposed Project to less than significant.

MM TCR-1: ~~The applicant will be required to retain the services of a qualified Native American Monitor(s) during construction related ground disturbance activities including, but not limited to, pavement removal, potholing, grubbing, weed abatement, boring, grading, excavation, or trenching within the project area. The monitor must be selected by a Tribe culturally affiliated with the project area and will be present on-site during the construction phases that involve ground disturbance activities. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the monitor has~~

~~indicated that the site has a low potential for archaeological resources. If archaeological or cultural resources are encountered, they will be documented by the Native American monitor and collected for preservation.~~

Prior to the commencement of any ground disturbing activity at the project site, the project applicant shall retain a Native American Monitor(s) with traditional ties to the project area. A copy of the executed contract shall be submitted to the City of Lake Forest Planning and Building Department prior to the issuance of any permit necessary to commence a ground-disturbing activity. The Tribal monitor(s) will only be present on-site during the construction phases that involve ground-disturbing activities. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor(s) will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project Site are completed, or when the Tribal Representatives and Tribal Monitor(s) have indicated that all upcoming ground-disturbing activities at the Project Site have little to no potential for impacting Tribal Cultural Resources. Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the qualified archaeologist and Tribal monitor(s) approved by the Consulting Tribes. Due to federal funding for this project, any resources recovered from ground disturbing activities must be prepared and submitted to a federally compliant curation facility as specified in 36 CFR § 79.3.

If human remains and/or grave goods are discovered or recognized at the Project Site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue on other parts of the Project Site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If a non-Native American resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource," time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of

archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Due to federal funding for this project, any resources recovered from ground disturbing activities must be prepared and submitted to a federally compliant curation facility as specified in 36 CFR § 79.3. The exception to this requirement would be the recovery of human remains, associated grave goods, and sacred items, which are subject to NAGPRA regulations (43 CFR Subtitle A,.Part 10).

No other responses have been received. Impacts would be less than significant with mitigation incorporated.

5.19 UTILITIES AND SERVICE SYSTEMS

19.	UTILITIES/SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.19.1 Impact Analysis

- a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or expansion of which could cause significant environmental effects?*

Less than Significant Impact. The proposed Project involves the demolition of an existing office building; and, in its place, a residential building will be constructed. The second office building at the southern portion of the proposed Project site will remain as a multi-tenant office building.

The proposed Project will require the use of water and wastewater, electric, natural gas, and telecommunication infrastructure. Because the proposed Project is occurring within a fully developed area, these utility systems are present on site, and the proposed Project would tie into existing utility lines. The following utility services are currently serving the Project site and vicinity (City of Lake Forest 2020h):

- Water and Sewer Services: El Toro Water District
- Electricity: Southern California Edison
- Gas: Southern California Gas Company
- Residential and Commercial Waste and Recycling: CR&R Incorporated
- Telephone/Television/Internet Service Providers: AT&T, Cox Communication, Frontier Communications, HughesNet, Lake Forest DIRECTV, Planet DISH

Southern California Edison (SCE) and Southern California Gas Company (SoCalGas) provide electricity and gas to the proposed Project area respectively. Electricity is serviced to approximately 15 million people within an approximately 50,000-square-mile area in southern California from various sources. These sources include coal, renewable energy, hydroelectric, nuclear resources, and natural gas. Other independent producers include large power plants to renewable and cogeneration plants.

Natural gas is provided to approximately 21.6 million customers that span approximately 20,000 miles in more than 500 communities. Natural gas mainly comes from out-of-state natural gas basins from the southwest, Canada, and the Rocky Mountains and within the state. The proposed Project is currently being serviced by SCE and SoCalGas, as the area is currently developed. No new infrastructure would be required on the Project site (City of Lake Forest 2018b).

The El Toro Water District (ETWD) provides water services and supplies to sections of Laguna Hills, Laguna Woods, Mission Viejo, Aliso Viejo, and Lake Forest. The proposed Project is located within the service area of ETWD. Its potable water reservoir storage capacity is 12 million gallons for Reservoirs 1 through 5 and 275 million gallons for Reservoir 6. The capacity of this regional reservoir is shared by ETWD, Santa Margarita Water District, and Moulton Niguel Water District. ETWD's distribution system stretches over 170 miles of water lines with 8 booster stations and 12 water pressure zones. Its wastewater treatment plant has a capacity of 6 million gallons per day (mgd), and its recycled water's tertiary treatment plan has a capacity of 3.7 mgd. ETWD is dependent on imported water which is received from a blend of the Colorado River and Sacramento Bay Delta via the State Water Project (ETWD 2020).

ETWD prepared an Urban Water Management Plan (UWMP) that provides the Department of Water Resources a detailed summary of present and future water resources and demands. Approximately 59 percent of the District's water demand is residential, institutional, government, industrial, and dedicated landscaping areas. The District's potable water demand is 8,649 acre-feet (AF) per year. The projected potable water demand in 2020 for a multi-family dwelling is 2,290 AF; and in 2040, the project demand is 2,504 AF (ETWD 2016). An acre-foot is approximately 325,851 gallons.

According to the U.S. Department of Housing and Urban Development (HUD) report on Water Conservation – Overview of Retrofit Strategies, while varying factors are used to estimate the water consumption of multi-family buildings, a typical water use in apartment units is approximately 55.7 gallons per capita per day (gpcd) or per person without any conservation to water consumption. With conservation measures, the typical water use is approximately 33.3 gpcd. The estimated volume of water for outdoor uses would vary depending on the property and amenities being offered. Typical usage averages approximately 14 to 18 percent of total water use (HUD 2002).

The UWMP Act required retail water supplies to include projects for single and multi-family residential housing for lower income and affordable households. This would assist in complying with Government Code Section 65589.7 that grants priority for providing water service to lower income households. The projected multi-family residential demand for low income households is anticipated to be 1,014 AF in 2020, with an approximate 50- to 100-AF increase every five years (ETWD 2016). While the proposed Project would result in an increase in water use, the Project site is currently being serviced by ETWD. In addition, the proposed Project is not a new development that would require new service installations.

The proposed Project would not require relocation or construction of new utility systems for electric, natural gas, or telecommunication because the services are currently available within the proposed Project site. The existing office building in Parcel 2 will remain with no changes to its current utilities. The proposed residential building would result in an increase of water usage with the addition of residents to the site. The residential building would incorporate any applicable HUD retrofit strategies to conserve residential and landscaping water uses. With implementation of these strategies, impacts would be less than significant.

- b) *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal dry and multiple dry years?*

Less than Significant Impact. See previous response to part a). Construction would require the use of water supplies for its activities that include washing aggregates, dust suppression, and washing surfaces. However, these would be limited during the construction phase and would not be significant. Once operational, the proposed Project and its residents would not result in a significant consumption of water supplies. The proposed Project does not include any use of large open spaces and landscaping that would require substantial amounts of water. In addition, ETWD UWMP has accounted for an increase in water demand within the City and has enough water supplies available to serve the proposed Project. Furthermore, the proposed Project would include installation/implementation of water conserving strategies for the residential building. Impacts would be less than significant.

- c) *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less than Significant Impact. Refer to the previous responses in impact a) and b). The proposed Project would not result in a significant increase in population to the site that would affect the capacity of ETWD. ETWD has adequate capacity to serve the proposed Project's projected demand in addition to ETWD's existing commitments. ETWD processes 6 mgd during max month conditions and recycles about 10 percent of the water it treats (City of Lake Forest 2018b). The amount of wastewater generated by the proposed Project during construction and operations is not expected to exceed ETWD's capacity. Impacts would be less than significant.

- d) *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Less than Significant Impact. Construction of the proposed Project will use the Frank Bowerman Landfill (Landfill) located at 1002 Bee Canyon Access Road in the City of Irvine, approximately 10 miles north of the proposed Project. The Landfill's maximum permitted daily refuse is 11,500 tons (23,000,000 pounds) per day, and the Landfill has enough projected capacity to service residents and businesses until 2053 (County of Orange 2020c).

The proposed Project will comply with Chapter 16.12: Construction and Demolition (C&D) Debris Diversion of the City's Municipal Code which states the following:

16.12.010 Minimum construction and demolition debris requirements.

All covered projects shall reuse, recycle, salvage or divert the minimum percentage or amount of C&D debris as required by the then applicable version of the California Building Standards Code. Compliance with this chapter shall be a requirement of any building permit for a covered project. (Ord. 320 § 3, 2019)

The proposed Project would also provide the City a Waste Reduction Recycling Plan (WRRP) as required for all construction and demolition projects. During operations, residential and commercial wastes will be serviced by CR&R Incorporated. Solid waste stations will be provided in enclosed areas that are accessible for all units (City of Lake Forest 2020b).

According to the City's Existing Conditions Report in 2018, average generation rate per resident is approximately 4.2 pounds per person, per day, with approximately 63,663 tons per year. A majority of landfill that is disposed go to the Frank R. Bowerman Landfill. Other landfills that receive wastes from the City include the following landfills:

- Antelope Valley Public Landfill (1 ton);
- Azusa Land Reclamation Co. Landfill (184 tons);
- El Sobrante Landfill (161 tons);

- McKittrick Waste Treatment Site (25 tons);
- Mid-Valley Sanitary Landfill (241 tons);
- Olinda Alpha Sanitary Landfill (223 tons);
- Prima Deshecha Sanitary Landfill (5,408 tons); and
- Simi Valley Landfill & Recycling Center (95 tons);

In 2017, the City disposed approximately 62,887 tons of waste, well below the remaining capacity of the landfill.

The proposed Project's construction and operation of the new residential building and maintenance of the existing office building would not generate solid wastes that would exceed the capacity of local infrastructure. According to CalRecycle, a list of residential sector generation rates was provided that estimated the pounds of waste per dwelling unit per day for various multifamily projects. The estimates ranged from four pounds per dwelling unit per day, up to 8.6 pounds per dwelling unit per day depending on each project. Assuming at 8.6 pounds per day at 71 units, the estimated waste for the building could be approximately 610 pounds per day (approximately 112 tons per year) (CalRecycle 2019). The EPA's Construction and Demolition Materials Amounts report in 2003 analyzed the estimated the amounts of construction and demolition wastes from various projects. The estimated non-residential demolition for a 34,000 square-foot building would result in approximately 292,000 pounds of construction and demolition waste. A construction of a multi-family residential building with 36 units and approximately 50,400 square feet building would result in approximately 204,000 pounds of construction waste. While the comparison does not reference the exact same site or building, the information is used as an example to estimate construction and demolition wastes. Based on this information, estimated construction and demolition waste can be up to 500,000 pounds (or 250 tons), which is less than one percent of the City's disposal estimates in 2017 (EPA 2003).

In addition, the proposed Project would comply with City and State regulations such as the California integrated Waste Management Act, AB 341 California Mandatory Commercial Recycling to reduce the volume of solid waste through recycling and reuse (City of Lake Forest 2018b). The proposed Project will also comply with the following policies as identified in the Recreation and Resources Element of the 2040 General Plan:

RR-6c:

- Encourage recycling, reuse, and appropriate disposal of hazardous materials, including the following:
 - Increased participation in single family and multi-family residential curbside recycling programs;

- Increased participation in commercial and industrial recycling programs for paper, cardboard, and plastics;
- Reduce yard and landscaping waste through methods such as composting, grass recycling, and using resource efficient landscaping techniques; and

RR-6d:

Encourage local businesses to provide electronic waste (e-waste) drop-off services and encourage residents and businesses to properly dispose of, or recycle, e-waste. As such, impacts would be less than significant.

- e) *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Less than Significant Impact. Refer to the previous response in impact d). The proposed Project will comply with City and State regulations related to solid waste. The proposed Project would also comply with the policies identified in the Recreation and Resources Element and the of the City’s General Plan. The proposed Project would not require any alteration to the statutes and regulations related to solid wastes. Impacts would be less than significant.

5.20 WILDFIRE

20.	WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.20.1 Impact Analysis

- a) *Would the project impair an adopted emergency response plan or emergency evacuation plan?*

Less than Significant Impact. The proposed Project site is not located within a fire hazard zone (VHFHSZ) (CALFIRE 2011). Additionally, the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace. Operation of the outdoor fireplace will be in compliance with City's Municipal Code Chapter 8.06, Section R1001.13: Outdoor Fireplaces, Fire Pits, Fire Rings, or similar devices, as well as Chapter 8.24, Section 307: Open Burning, Recreational Fires, Fire Pits, Fire Rings, and Portable Outdoor Fireplaces (City of Lake Forest 2020b). The outdoor fireplace would also not be operated on red flag warning days. This impact is less than significant.

- b) *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Less than Significant Impact. The proposed Project site is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) (CALFIRE 2011). Further, the proposed Project site is in an area with minimal elevation change. As mentioned above in impact a), the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace; the outdoor fireplace will be operated in compliance with the City's Municipal Code and will not be operated on red flag days. This impact is less than significant.

- c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Less than Significant Impact. The proposed Project involves construction of a 71-unit apartment building and recreational facilities in the location of an existing office building on Raymond Way. The current infrastructure on site provides sufficient access to roads and utilities to satisfy the requirements for implementation of the Project. Additionally, the Project site is not located within an identified fire hazard zone (VHFHSZ) (CALFIRE 2011). Impacts would be less than significant.

- d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability or drainage changes?*

Less than Significant Impact. The proposed Project is located within a built-up, urban community that has low/no susceptibility for wildfire and is not located within an identified VHFHSZ (CALFIRE 2011). Additionally, the proposed Project site is not located in an area at risk for flooding or landslide (FEMA 2020). As previously discussed in impact b), the construction activities would not introduce features that exacerbate the risk of wildfires beyond the introduction of an outdoor fireplace; the outdoor fireplace will be operated in compliance with the City's Municipal Code and will not be operated on red flag days. This impact is less than significant.

5.21 MANDATORY FINDINGS OF SIGNIFICANCE

21.	MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b)	Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.21.1 Impact Analysis

- a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Less than Significant Impact with Mitigation Incorporated. As discussed in Section 4.4 Biological Resources, the proposed Project site does not contain suitable habitat for species protected by the federal Endangered Species Act, the California Endangered Species Act, or the Native Plant Protection Act. However, the Project site contains habitat suitable for nesting birds. During the breeding season, large trees on or adjacent to the Project site may be used for nesting by hawks, ravens, or other large birds. Smaller trees, shrubs, and other vegetation may provide nest sites for smaller birds. To minimize impacts to nesting birds, implementation of MM-BIO-1 would minimize potential impacts to nesting birds on site.

The proposed Project site is currently developed. As discussed in Section 4.5 Cultural Resources, no historic resources are identified within the Project site, and the existing office building to be demolished was not identified to have historic significance. The proposed Project will involve minor site grading and excavation. However, because the Project site is within a highly urbanized area and much of the site has been previously disturbed through major grading for

the existing office buildings and parking lots, it is not expected that paleontological or archaeological resources would be discovered. During minor trenching, however, any excavation that would reach native soils would require inspection by a qualified archaeologist/paleontologist should the ground-disturbing activities reach native soils. Implementation of MM CUL-1 would be implemented to minimize potential impacts. Impacts would be less than significant with mitigation incorporated.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)*

Less than Significant Impact. According to the City’s Capital Improvement Projects — Upcoming Projects, no projects are listed to occur within the Project site. The nearest project scheduled to begin on May 2020 is a slurry seal for arterial streets that is proposed along Serrano Road from Toledo Way to El Toro Road, Ridge Route Drive from Trabuco Road to Dead-end, and Toledo Way from Bake Parkway to El Toro Road. Any previous projects are mainly asphalt and restriping on sections of El Toro Road. There are three other residential projects within the City that are under construction and the Nakase Nursery Project’s site development plans are in approval. However, these projects are not located nearby the proposed Project. According to the City’s cumulative project list as of February 2020, there are two projects within a mile radius from the proposed Project. One project is located at 24406 Muirlands Boulevard, approximately 0.4 miles north from the proposed Project, which consists of a restaurant expansion. The other project is located at 25290 Jeronimo Road, approximately 0.7 miles east from the proposed Project, which is the construction of a new self-storage and warehouse facility. No other projects are identified to occur within the immediate area; and, therefore, the proposed Project would not result in cumulative impacts (City of Lake Forest 2020i).

- c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less than Significant Impact with Mitigation Incorporated. Potential environmental effects that may cause indirect or direct impacts to humans include air quality, greenhouse gas, geology and soils, hazards and hazardous materials, noise, transportation, and wildfire. The proposed Project is not located within a VHFHSZ and would not result in direct or indirect exposure to wildfire. No recognized environmental conditions (RECs) are known in connection with the Project site except for the 24601 Raymond Way locations. The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5. . No roadway modifications are proposed that could pose a safety hazard to existing users. While the Project site is in a seismically active area that may experience ground motion, it does not lie within an “Earthquake Fault Zone.” The proposed residential building would be designed and constructed in accordance with the current California Building Code. The proposed Project would also provide additional testing as indicated in MM GEO-1 for soil testing to confirm the existing conditions.

As discussed in Section 4.3 Air Quality and Section 4.8 for Greenhouse Gas Emissions, the proposed Project would result in less than significant impact because the proposed activities

would not exceed regional or localized thresholds, and there are no local CO Hotspots anticipated to be created from the proposed Project. As discussed in Section 4.9 Hazards and Hazardous Materials impact c), the proposed Project would implement MM HAZ-1 to minimize potential impacts related to fugitive dusts and accidental releases of any potentially hazardous chemicals. As discussed in Section 4.13, the proposed Project would not result in a significant impact to noise because operational and construction noise level increases would not be in excess of standards established by the City. Therefore, impacts would be less than significant with mitigation incorporated.

SECTION 6.0 – REFERENCES

The following is a list of references used in the preparation of this document.

California Department of Conservation

2020a Important Farmland Finder. Accessed May 2020. Available online at: <https://maps.conservation.ca.gov/DLRP/CIFF/>.

2020b Mines Online. Accessed May 2020. Available online at: <https://maps.conservation.ca.gov/mol/index.html>.

California Department of Forestry And Fire Protection (CALFIRE)

2011 Very High Fire Hazard Severity Zones in LRA – Orange County. Available online at: <http://www.ocpublicworks.com/civicax/filebank/blobdload.aspx?BlobID=8755>.

California Department of Housing and Community Development (HCD)

2019 HCD Regional Housing Needs Allocation and Housing Elements. Accessed May 2020. Available online at: <https://www.hcd.ca.gov/community-development/housing-element/index.shtml>.

CalRecycle

2019 Estimated Solid Waste Generation Rates. Available online at: <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates>

City of Lake Forest

2009 CEQA Significant Threshold Guide. Available online at: <https://www.lakeforestca.gov/DocumentCenter/View/823/CEQA-Significance-Thresholds-Guide-PDF>.

2018a Paleontological and Cultural Resources Assessment. Accessed May 2020. Available online at: <https://lakeforestca.gov/DocumentCenter/View/9148/Appendix-D-Paleontological-and-Cultural-Resources-Assessment>.

2018b Existing Conditions Report. Accessed May 2020. Available online at: https://static1.squarespace.com/static/5abd4a977e3c3a6cd57d9c48/t/5be097d8c2241bf46b6623ba/1541445626140/LakeForestECR_Complete_110118_WebVersion.pdf.

2020a Zoning Map. Accessed May 2020. Available online at: <https://lakeforestca.maps.arcgis.com/apps/webappviewer/index.html?id=e41ab4d5be98473db858a27a458ea509>.

2020b Municipal Code. Accessed May 2020. Available online at: <https://qcode.us/codes/lakeforest/>.

2020c Best Management Practices. Accessed May 2020. Available online at: <https://www.lakeforestca.gov/313/Best-Management-Practices-BMPs>.

- 2020d Public Safety Element. Available online at:
https://static1.squarespace.com/static/5abd4a977e3c3a6cd57d9c48/t/5dc4ec904a7e293de6b702da/1573186707286/6_LakeForest_GP_PublicSafety_PublicReview_Final.pdf
- 2020e Land Use Element. Available online at:
https://static1.squarespace.com/static/5abd4a977e3c3a6cd57d9c48/t/5dc4ec2ae446601ca99fa8e5/1573186606101/2_LakeForest_GP_LandUse_PublicReview_Final.pdf
- 2020f Public Safety. Accessed May 2020. Available online at:
<https://www.lakeforestca.gov/425/Public-Safety>.
- 2020g Police Services. Accessed May 2020. Available online at:
<https://www.lakeforestca.gov/298/Police-Services>.
- 2020h Utility Services. Accessed May 2020. Available online at:
<https://lakeforestca.gov/429/Utility-Services>.
- 2020i Upcoming Projects. Accessed May 2020. Available online at:
<https://lakeforestca.gov/1028/Upcoming-Projects>.

City of Mission Viejo

- 2009 Public Safety Element. Accessed May 2020. Available online at:
<https://cityofmissionviejo.org/sites/default/files/Public%20Safety%20Element%202009%2C%20Converted.pdf>.

County of Orange

- 2001 Orange County Agricultural Preserves. Accessed May 2020. Available online at:
<https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=8624>.
- 2005 General Plan – Transportation Element. Accessed May 2020. Available online at:
<https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=39478>.
- 2017 Grading Manual. Accessed May 2020. Available online at:
https://www.cityoflapalma.org/DocumentCenter/View/9515/CCSR_A_3_OC-Grading-Manual-2017-Edition.
- 2020a Emergency Operations Center (EOC). Accessed May 2020. Available online at:
<https://www.ocgov.com/about/emergency/eoc>.
- 2020b Emergency Management Division. Accessed May 2020. Available online at:
https://www.ocgov.com/gov/sheriff/divisions/fieldops/emergency_management/.
- 2020c Waste and Recycling Services. Frank R. Bowerman Landfill. Accessed May 2020. Available online at: <http://www.oilandfills.com/landfill/active/bowerman>.

El Toro Water District (ETWD)

2016 Urban Water Management Plan. Accessed May 2020. Available online at: <https://etwd.com/wp-content/uploads/2014/12/FINAL-El-Toro-WD-UWMP-May-2016.pdf>.

2020 History of El Toro Water District. Accessed May 2020. Available online at: <https://etwd.com/about-us/history-of-el-toro-water-district/>.

Environmental Protection Agency (EPA)

2003 Estimating 2003 Building-Related Construction and Demolition Amounts

Fehr & Peers

2019 *23591 El Toro Road Trip Generation Assessment*.

Google Maps

2020 Maps. Accessed May 2020. Available online at: <https://www.google.com/maps>.

Office of Environmental Health Hazard Assessment (OEHHA)

2015 Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. Available online at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>

Orange County Airport Land Use Commission (ALUC)

2008 Airport Environs Land Use Plan – John Wayne Airport. Available online at: https://www.ocair.com/commissions/aluc/docs/JWA_AELUP-April-17-2008.pdf.

Orange County Fire Authority (OCFA)

2006 Standards of Cover. Available online at: https://www.ocfa.org/Uploads/Orange%20County%20Fire%20Authority%20SOC_FINAL.pdf

Orange County Sheriff's Department

2020 Patrol Areas – Lake Forest. Accessed May 2020. Available online at: <https://www.ocsd.org/patrol/lforest/>.

South Coast Air Quality Management District (SCAQMD)

1976 Rule 402 Nuisance. Online at <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf>.

1993 CEQA Air Quality Handbook. South Coast Air Quality Management District. Available online at: <https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook>

2007 Air Quality Data Tables. Historical Data by Year. Available online at: <https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year>

2008 Final Localized Significance Threshold Methodology. South Coast Air Quality Management District

Southern California Association of Governments (SCAG)

2018 City of Lake Forest Profile. Accessed May 2020. Available online at: <https://www.scag.ca.gov/Documents/LakeForest.pdf>.

State of California

2020 Department of Finance City Population Rankings. Access May 2020. Available online at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-1/>.

United States Bureau of the Census (Census Bureau)

2018 Quick Facts. Accessed May 2020. Available online at: <https://www.census.gov/quickfacts/lakeforestcitycalifornia>.

United States Department of Homeland Security, Federal Emergency Management Agency (FEMA)

2020 National Flood Hazard Layer Viewer. Accessed May 2020. Available online at: <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>.

United States Department of Housing and Urban Development (HUD)

2002 Water Conservation – Overview of Retrofit Strategies. Accessed May 2020. Available online at: <https://www.huduser.gov/Publications/PDF/Book1.pdf>.

United States Department of the Interior, National Park Service (NPS)

2020 National Register of Historic Places. Accessed May 2020. Available online at: <https://www.commercialcafe.com/commercial-property/us/ca/lake-forest/mountain-view-business-center/>
https://en.wikipedia.org/wiki/National_Register_of_Historic_Places_listings_in_Orange_County,_California.

APPENDIX A – AIR QUALITY AND GREENHOUSE GAS EMISSIONS



April 16, 2020

Ms. Sarah Walker
National Community Renaissance
1461 Ford Street, Suite 105
Redlands, CA 92373

SUBJECT: MOUNTAIN VIEW AFFORDABLE HOUSING COMMUNITY AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Dear Ms. Sarah Walker:

Urban Crossroads, Inc. is pleased to provide the following Air Quality and Greenhouse Gas Emissions Analysis for the Mountain View Affordable Housing Community Project (“Project”), which is located at 24551 Raymond Way in the City of Lake Forest as shown on Exhibit A.

PROJECT DESCRIPTION

Exhibit B illustrates the site plan for the Project. As indicated on Exhibit B, the Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing approximately 31,000 square feet (SF) office building on 1.96 acres.

SUMMARY OF FINDINGS

Results of the Memo indicate the construction and operations of the Project would result in less than significant impacts associated with air quality and greenhouse gas (GHG) emissions.

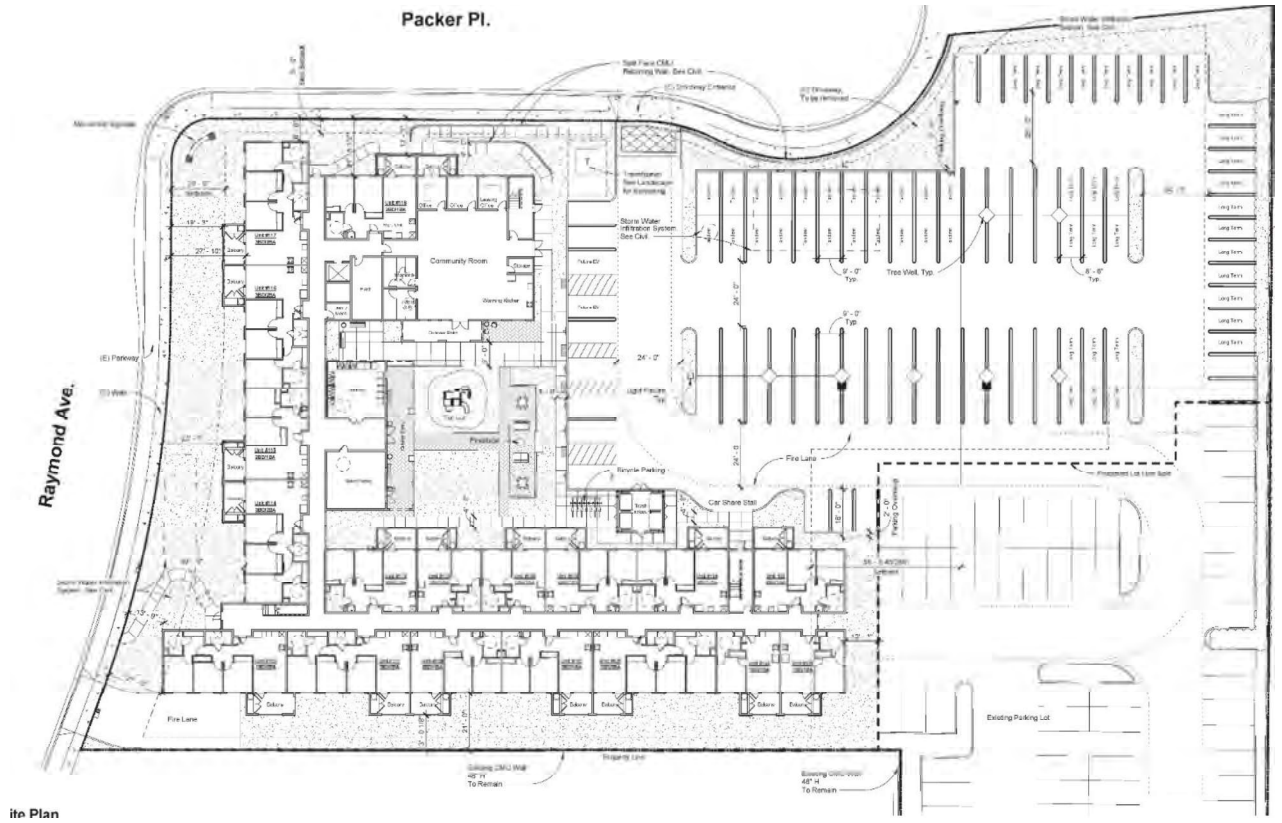
CONSTRUCTION AND OPERATIONAL-SOURCE MITIGATION MEASURES

As shown in the analysis below, the Project would not result in an exceedance of any localized or regional construction-source or operational-source emissions thresholds. As such, the Project would not result in any significant impacts and no mitigation measures are required. Lastly, the Project does not exceed the applicable National Environmental Policy Act (NEPA) de minimis thresholds.

EXHIBIT A: LOCATION MAP



EXHIBIT B: SITE PLAN



ite Plan

STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES (BACMs)

South Coast Air Quality Management District (SCAQMD) Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) (1), Rule 1113 (Architectural Coatings) (2), Rule 445 (Wood Burning Devices), and Rule 1403 (Asbestos Removal). Implementation of these rules are required pursuant to existing law and therefore is considered part of the Project.

BACM AQ-1

All applicable measures included in Rule 403, shall be incorporated into Project plans and specifications as implementation of Rule 403, which include but are not limited to (1):

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are limited to 15 miles per hour or less.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.

BACM AQ-2

The following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 1113 (2):

- Only “Low-Volatile Organic Compounds (VOC)” paints (no more than 50 gram/liter of VOC) consistent with SCAQMD Rule 1113 shall be used.

BACM AQ-3

The following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 445 (3):

- Rule 445 prohibits the use of wood burning stoves and fireplaces in new developments.

BACM AQ-4

If asbestos is found in the existing structure, the following measures shall be incorporated into Project plans and specifications as implementation of SCAQMD Rule 1403 (4):

- Rule 1403 governs asbestos emissions from demolition and renovation activities.

CALIFORNIA EMISSIONS ESTIMATOR MODEL™ EMPLOYED TO ESTIMATE AQ EMISSIONS

On October 17, 2017, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2016.3.2. The purpose of this model is to more accurately calculate construction-source and operational-source criteria pollutant (Nitrogen Oxides (NO_x), VOC, Particulate Matter less than 10 microns (PM₁₀), Particulate Matter less than 2.5 microns (PM_{2.5}), Sulfur Oxides (SO_x), and Carbon Monoxide (CO)) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational impacts related to the Project. Outputs from the model runs are provided in Attachment A.

AIR QUALITY

REGIONAL EMISSIONS

CONSTRUCTION

The duration of construction activity was based on CalEEMod defaults. The number of days of construction are shown on Table 1. Equipment employed for Project construction activities are based on CalEEMod defaults, as shown on Table 2. The Project construction fleet may vary due to specific Project needs at any given time.

Demolition Activities

The Project is anticipated to include demolition of existing structures currently occupying the Project site. It is estimated that the existing approximately 31,000 SF office building will be demolished and hauled off-site. The model default trip length of 20 miles has been utilized accordingly.

Grading Activities

The Project is anticipated to require approximately 500 cubic yards (CY) of fill during grading activities. As such, the soil import function in CalEEMod was enabled and 500 CY of import was modeled accordingly.

REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Impacts without Mitigation

The estimated maximum daily construction emissions without mitigation are summarized on Table 3. Detailed construction model outputs are presented in Attachment A. Under the assumed construction modeling scenario discussed above, emissions resulting from the Project construction would not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant, and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which

the project region is non-attainment under an applicable federal or state ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related construction-source emissions and no mitigation is required.

TABLE 1: CONSTRUCTION DURATION

Phase Name	Days
Demolition	20
Site Preparation	2
Grading	4
Building Construction	200
Paving	10
Architectural Coating	10

TABLE 2: CONSTRUCTION EQUIPMENT

Activity	Equipment	Amount	Hours Per Day
Demolition	Concrete/Industrial Saw	1	8
	Tractor/Loader/Backhoe	3	8
	Rubber Tired Dozer	1	8
Site Preparation	Graders	1	8
	Rubber Tired Dozers	1	7
	Tractor/Loader/Backhoe	1	8
Grading	Graders	1	6
	Rubber Tired Dozer	1	6
	Tractor/Loader/Backhoe	1	7
Building Construction	Cranes	1	6
	Forklifts	1	6
	Generator Sets	1	8
	Tractor/Loader/Backhoe	1	6
	Welders	1	8
Paving	Cement and Mortar Mixers	1	6
	Pavers	1	6
	Paving Equipment	1	8

Activity	Equipment	Amount	Hours Per Day
	Rollers	1	7
	Tractor/Loader/Backhoe	1	8
Architectural Coating	Air Compressors	1	6

TABLE 3: PROJECT CONSTRUCTION EMISSIONS AND REGIONAL THRESHOLDS (WITHOUT MITIGATION)

	Emissions (lbs/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	45.90	22.94	15.86	0.03	3.17	1.93
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

lbs/day = Pounds Per Day

Based on the SCAQMD’s designation status, federal General Conformity de minimis levels would be 10 tons per year for NO_x and VOC and 100 tons per year for CO, PM₁₀, and PM_{2.5}. A conformity determination would be required for each criteria pollutant or precursor exceeding the federal General Conformity de minimis level. Emissions for all criteria pollutants associated with construction activity are below federal General Conformity de minimis levels pursuant to the federal Clean Air Act as shown on Table 4.

TABLE 4: PROJECT CONSTRUCTION EMISSIONS AND NEPA THRESHOLDS (WITHOUT MITIGATION)

	Emissions (tons/year)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Maximum Annual Emissions	0.25	1.89	1.70	3.56E-03	0.19	0.12
General Conformity Threshold	10	10	100	100	100	100
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

OPERATIONS

Operational activities associated with the Project would result in emissions of CO, VOCs, NO_x, SO_x, PM₁₀, and PM_{2.5}. Operational related emissions are expected from the following primary sources: area source emissions, energy source emissions, mobile source emissions, and on-site equipment emissions.

Area Source Emissions

Architectural Coatings – Over a period of time, the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using the CalEEMod.

Consumer Products – Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

Landscape Maintenance Equipment – Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

Energy Source Emissions

Combustion Emissions Associated with Natural Gas and Electricity – Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using CalEEMod.

Title 24 Energy Efficiency Standards – California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020.

Mobile Source Emissions

Project mobile source air quality emissions are primarily dependent on overall daily vehicle trip generation. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project. According to the *Trip Generation Assessment*, the Project would generate 263 two-way trips per day (131 inbound and 132 outbound trips) (4).

REGIONAL OPERATIONAL EMISSIONS SUMMARY

Impacts without Mitigation

Table 5 summarizes the Project’s daily regional emissions from on-going operations. Detailed construction model outputs are presented in Attachment A. During operational activity, the Project will not exceed any of the thresholds of significance, and accordingly will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Thus, a less than significant impact would occur for regional Project-related operation-sources emissions, and no mitigation is required.

TABLE 5: PROJECT OPERATIONAL EMISSIONS AND REGIONAL THRESHOLDS (WITHOUT MITIGATION)

Operational Activities – Summer Scenario	Emissions (lbs/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.42	1.66	5.71	0.02	1.92	0.52
Total Maximum Daily Emissions	2.17	1.99	11.70	0.02	1.98	0.58
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO
Operational Activities – Winter Scenario	Emissions (lbs/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area Source	1.72	0.07	5.88	3.10E-4	0.03	0.03
Energy Source	0.03	0.27	0.11	1.69E-3	0.02	0.02
Mobile	0.41	1.71	5.45	0.02	1.92	0.52
Total Maximum Daily Emissions	2.16	2.04	11.44	0.02	1.98	0.58
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Based on the SCAQMD’s designation status, federal General Conformity de minimis levels would be 10 tons per year for NO_x and VOC and 100 tons per year for CO, PM₁₀, and PM_{2.5}. A conformity determination would be required for each criteria pollutant or precursor exceeding the federal General

Conformity de minimis level. Emissions for all criteria pollutants associated with operational activity are below federal General Conformity de minimis levels pursuant to the federal Clean Air Act as shown on Table 6.

TABLE 6: PROJECT OPERATIONAL EMISSIONS AND NEPA THRESHOLDS (WITHOUT MITIGATION)

	Emissions (tons/year)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	0.38	0.37	1.76	4.15E-03	0.35	0.10
General Conformity Threshold	10	10	100	100	100	100
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

LOCALIZED EMISSIONS

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (5). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). The SCAQMD established LSTs in response to the SCAQMD Governing Board’s Environmental Justice Initiative I-4¹. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses (5).

Sensitive Receptors

Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities. This Memorandum analyzes localized construction and operational emissions impacts at the nearest sensitive receptors.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as “sensitive receptors”; they are also known to be locations where an individual can remain for 24 hours.

¹ The purpose of SCAQMD’s Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as “...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution.”

Project-related Sensitive Receptors

Sensitive receptors in the Project study area include existing residential homes. To assess the potential for localized impacts, sensitive receptor locations as shown on Exhibit A were identified as representative locations for analysis.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual and cumulatively significant impact. As such, the nearest sensitive receptor for evaluation is an existing residential home located approximately 22 feet north of the Project at location R1. The *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters (5).*" As the residential home is located less than 25-meters from the Project site, the 25-meter receptor distance will be used for evaluation of localized impacts.

LOCALIZED CONSTRUCTION EMISSIONS SUMMARY

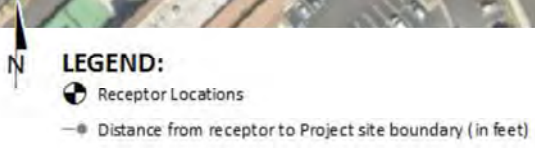
Impacts without Mitigation

Table 7 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Outputs from the model runs for construction LSTs are provided in Attachment A. Under the assumed construction modeling scenario (as previously discussed), emissions resulting from the Project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant, accordingly the Project's construction will not expose sensitive receptors to substantial pollutant concentrations. If asbestos is found in the existing structure, the Project plans and specifications will incorporate the implementation of SCAQMD Rule 1403 which governs asbestos emissions from demolition and renovation activities. Thus, a less than significant impact related to sensitive receptors exposure to pollutants concentrations from Project construction would occur and no mitigation is required.

TABLE 7: LOCALIZED SIGNIFICANCE SUMMARY OF CONSTRUCTION (WITHOUT MITIGATION)

On-Site Demolition Emissions	Emissions (lbs/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	20.95	14.66	1.72	1.17
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	NO	NO	NO	NO
On-Site Site Preparation Emissions	Emissions (lbs/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	18.35	7.71	3.08	1.91
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	NO	NO	NO	NO
On-Site Grading Emissions	Emissions (lbs/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	15.09	6.45	2.60	1.61
SCAQMD Localized Threshold	91	696	4	3
Threshold Exceeded?	NO	NO	NO	NO

EXHIBIT A: RECEPTOR LOCATIONS



CO “HOT SPOT” ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or “hot spots.”

At the time of the 1993 Handbook, the South Coast Air Basin (SCAB) was designated nonattainment under the CAAQS and NAAQS for CO (6).

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO “hot spot” analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This “hot spot” analysis did not predict any violation of CO standards, as shown on Table 8.

TABLE 8: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Blvd./Veteran Ave.	4.6	3.5	3.7
Sunset Blvd./Highland Ave.	4	4.5	3.5
La Cienega Blvd./Century Blvd.	3.7	3.1	5.2
Long Beach Blvd./Imperial Hwy.	3	3.1	8.4

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 9.3 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the “hot spot” analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (7). In contrast, an adverse CO concentration, known as a “hot spot”, would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 4.7 ppm and

3.5 ppm, respectively (data from South Central Los Angeles County Monitoring Station for 2018). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO “hot spot” at any study area intersections. Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph) — or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (8).

Traffic volumes generating the CO concentrations for the “hot spot” analysis, shown on Table 9. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).² At buildout of the Project, the highest daily traffic volumes generated at the roadways within the vicinity of the Project are expected to generate less than the highest daily traffic volumes generated at the busiest intersection in the CO “hot spot” analysis. As such, the Project would not likely exceed the most stringent 1-hour CO standard.

TABLE 9: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Blvd./Veteran Ave.	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Blvd./Highland Ave.	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Blvd./Century Blvd.	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Blvd./Imperial Hwy.	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county

² Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).

transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the AQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as, explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (9). Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act requirements (10). The Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's California Environmental Quality Act (CEQA) Air Quality Handbook (1993) (11). These indicators are discussed below:

Consistency Criterion No. 1: The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. As evaluated, the Project's regional and localized construction-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

Operational Impacts – Consistency Criterion 1

As evaluated, the Project's regional and localized operational-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

On the basis of the preceding discussion, the Project is determined to consistent with the first criterion.

Consistency Criterion No. 2: The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Lake Forest General Plan is considered to be consistent with the AQMP.

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

Operational Impacts – Consistency Criterion 2

Although the Project is not consistent with the current land use zoning designation, the Project would result in fewer trips and consequently fewer vehicular-related emissions than the existing office designation. Additionally, as noted above, the Project would not exceed any regional or localized emissions thresholds. Lastly, the purpose of the Project is to provide affordable housing in the region and supports the goals and objectives of the AQMP by reducing vehicle miles traveled.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP Consistency Conclusion

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. The Project's development intensity is consistent with than the development intensities allowed within the General Plan. Additionally, Project construction and operational-source emissions would not exceed the regional or localized significance thresholds as previously indicated. The Project is therefore considered to be consistent with the AQMP.

ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants

- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (12).

Based on an aerial review of the Proposed Project vicinity none of the uses listed above associated with odor complaints are not located in the immediate vicinity of the Project, therefore future residents of the Project would not be subject to any substantive odor impacts.

CUMULATIVE IMPACTS

The CAAQS designate the Project site as nonattainment for O₃, PM₁₀, and PM_{2.5} while the NAAQS designates the Project site as nonattainment for O₃ and PM_{2.5}.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (13). In this report the AQMD clearly states (Page D-3):

...the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or Environmental Impact Report (EIR). The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same

significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

Operational Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

GREENHOUSE GAS EMISSIONS

There are no established City thresholds applicable to the project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For the proposed project, which is located in the SCAB, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold, which applies to commercial/residential projects (SCAQMD 2008); therefore, for the purposes of this analysis, a significant impact would occur if the proposed project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 MT CO₂e per year.

EMISSIONS SUMMARY

The annual GHG emissions associated with the operation of the proposed Project are estimated to be 602.17 MTCO₂e per year as summarized in Table 10. Direct and indirect operational emissions associated with the Project are compared with the SCAQMD's proposed Tier 3 threshold of significance for non-

industrial projects, which is 3,000 MTCO₂e per year. As shown, the proposed Project would result in a less than significant impact with respect to GHG emissions.

Further, the Project will comply with all applicable regulations intended to reduce GHG-emissions. Finally, the Project is consistent with the general goals and objectives identified in SCAG's Sustainable Community Strategy/ Regional Transportation Plan, which pursuant to SB 375 calls for the integration of transportation, land-use and housing policies to plan for achievement of the GHG-emissions target for the region. Thus, a less than significant impact related to GHG emissions from Project construction and operation would occur and no mitigation is required.

TABLE 10: TOTAL PROJECT GHG EMISSIONS (ANNUAL)

Emission Source	Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Annual construction-related emissions amortized over 30 years	10.87	0.001	0.00	10.91
Area	23.23	0.02	5.10E-4	23.98
Energy	164.20	5.54E-3	1.95E-3	164.92
Mobile Sources	349.65	0.01	0.00	350.02
Waste	6.63	0.39	0	16.42
Water Usage	30.98	0.15	3.81E-3	35.92
Total CO₂e (All Sources)	602.17			
Screening Threshold (CO₂e)	3,000			
Threshold Exceeded?	NO			

MT/yr = Metric Tons per Year

If you have any questions, please contact me directly at (949) 336-5987.

Respectfully submitted,

URBAN CROSSROADS, INC.



Haseeb Qureshi,
 Associate Principal

REFERENCES

1. **South Coast Air Quality Management District.** Rule 403. Fugitive Dust. [Online]
<https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4>.
2. **South Coast Air Quality Management District.** RULE 1113. Architectural Coatings. [Online]
<http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf>.
3. **South Coast Air Quality Management.** Rule 445. Wood Burning Devices. [Online]
<http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-445.pdf>.
4. **Fehr & Peers.** *23591 El Toro Road Trip Generation Assessment.* 2019.
5. **South Coast Air Quality Management District.** *Localized Significance Thresholds Methodology.* s.l. : South Coast Air Quality Management District, 2003.
6. **South coast Air Quality Management District.** *CEQA Air Quality Handbook (1993).* 1993.
7. **South Coast Air Quality Management District.** 2003 Air Quality Management Plan. [Online] 2003. <https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp>.
8. **Bay Area Air Quality Management District.** [Online] <http://www.baaqmd.gov/>.
9. **South Coast Air Quality Management District.** Final 2016 Air Quality Management Plan (AQMP). [Online] March 2017. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=11>.
10. **Southern California Association of Governments.** 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. [Online] April 2016.
<http://scagrtpscscs.net/Documents/2016/final/f2016RTPSCS.pdf>.
11. **South coast Air Quality Management District.** *CEQA Air Quality Handbook (1993).* 1993.
12. **South Coast Air Quality Management District.** RULE 402 NUISANCE. [Online]
<http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf>.
13. **Goss, Tracy A and Kroeger, Amy.** White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. http://www.aqmd.gov/rules/ciwg/final_white_paper.pdf.

ATTACHMENT A:

CALEEMOD EMISSIONS MODEL OUTPUTS

El Toro Road Residential - Orange County, Summer

El Toro Road Residential Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	108.00	Space	0.97	43,200.00	0
Apartments Mid Rise	71.00	Dwelling Unit	0.99	71,000.00	203

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	10			Operational Year	2021

Utility Company Southern California Edison

CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

El Toro Road Residential - Orange County, Summer

Project Characteristics -

Land Use - Total lot acreage approx 1.96 acres

Demolition -

Vehicle Trips - Affordable Housing trip rate per TG Memo

Construction Off-road Equipment Mitigation -

Area Mitigation -

Grading -

Architectural Coating -

Trips and VMT -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	500.00
tblLandUse	LotAcreage	1.87	0.99
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	3.71
tblVehicleTrips	SU_TR	5.86	3.71
tblVehicleTrips	WD_TR	6.65	3.71

2.0 Emissions Summary

El Toro Road Residential - Orange County, Summer

2.2 Overall Operational
Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560	5.4560	5.4560	5.4560	665.0512	1,288.5709	1,963.6221	1.9936	0.0451	2,016.9133
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.0143	0.0143	0.5246		2,189.3870	2,189.3870	0.0886		2,191.6015
Total	20.7762	3.4651	47.8090	0.1157	1.9081	5.4928	7.4009	0.5102	5.4917	6.0020	665.0512	3,816.5170	4,481.5682	2.0887	0.0514	4,549.0858

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324	0.0324	0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.0143	0.0143	0.5246		2,189.3870	2,189.3870	0.0886		2,191.6015
Total	2.1716	1.9920	11.7019	0.0236	1.9081	0.0692	1.9773	0.5102	0.0682	0.5784	0.0000	2,538.5170	2,538.5170	0.1054	6.2100e-003	2,543.0004

El Toro Road Residential - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	89.55	42.51	75.52	79.62	0.00	98.74	73.28	0.00	98.76	90.36	100.00	33.49	43.36	94.96	87.91	44.10

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/27/2020	5	20	
2	Site Preparation	Site Preparation	3/28/2020	3/31/2020	5	2	
3	Grading	Grading	4/1/2020	4/6/2020	5	4	
4	Building Construction	Building Construction	4/7/2020	1/1/2021	5	200	
5	Paving	Paving	1/12/2021	1/25/2021	5	10	
6	Architectural Coating	Architectural Coating	1/26/2021	2/8/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 143,775; Residential Outdoor: 47,925; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,592 (Architectural Coating – sqft)

OffRoad Equipment

El Toro Road Residential - Orange County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

El Toro Road Residential - Orange County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	141.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	69.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					1.5258	0.0000	1.5258	0.2310	0.0000	0.2310			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241	1.1525	1.1525	1.1525	1.0761	1.0761	1.0761		2.322.312	2.322.312	0.5970		2.337.236
Total	2.1262	20.9463	14.6573	0.0241	1.5258	1.1525	2.6782	0.2310	1.0761	1.3072		2.322.312	2.322.312	0.5970		2.337.236

El Toro Road Residential - Orange County, Summer

3.2 Demolition - 2020

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0532	1.9385	0.4898	5.4000e-003	0.1228	6.2800e-003	0.1290	0.0336	6.0000e-003	0.0396		601.4058	601.4058	0.0623		602.9643
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0500	0.0315	0.4255	1.4200e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		141.7057	141.7057	3.2300e-003		141.7864
Total	0.1032	1.9700	0.9153	6.8200e-003	0.2681	7.2400e-003	0.2753	0.0721	6.8800e-003	0.0790		743.1115	743.1115	0.0656		744.7508

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					0.5950	0.0000	0.5950	0.0901	0.0000	0.0901			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525	1.0761	1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	2.1262	20.9463	14.6573	0.0241	0.5950	1.1525	1.7475	0.0901	1.0761	1.1662	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363

El Toro Road Residential - Orange County, Summer

3.2 Demolition - 2020

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0532	1.9385	0.4898	5.4000e-003	0.1228	6.2800e-003	0.1290	0.0336	6.0000e-003	0.0396		601.4058	601.4058	0.0623		602.9643
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0500	0.0315	0.4255	1.4200e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		141.7057	141.7057	3.2300e-003		141.7864
Total	0.1032	1.9700	0.9153	6.8200e-003	0.2681	7.2400e-003	0.2753	0.0721	6.8800e-003	0.0790		743.1115	743.1115	0.0656		744.7508

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172	0.8210	0.8210	0.8210	0.7553		0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	1.6299	18.3464	7.7093	0.0172	5.7996	0.8210	6.6205	2.9537	0.7553	3.7090		1,667.4119	1,667.4119	0.5393		1,680.8937

El Toro Road Residential - Orange County, Summer

3.3 Site Preparation - 2020
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243	87.2035	87.2035	1.9900e-003	1.9900e-003	87.2532	87.2532
Total	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243	87.2035	87.2035	1.9900e-003	1.9900e-003	87.2532	87.2532

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.2618	0.0000	2.2618	1.1519	0.0000	1.1519			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172	0.8210	0.8210	0.8210	0.7553	0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	1.6299	18.3464	7.7093	0.0172	2.2618	0.8210	3.0828	1.1519	0.7553	1.9072	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937

El Toro Road Residential - Orange County, Summer

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243	87.2035	87.2035	87.2035	1.9900e-003		87.2532
Total	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243	87.2035	87.2035	87.2035	1.9900e-003		87.2532

3.4 Grading - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					4.9284	0.0000	4.9284	2.5278	0.0000	2.5278			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141	0.6844	0.6844	0.6844	0.6296	0.6296	0.6296			1,365.7183	0.4417		1,376.7609
Total	1.3498	15.0854	6.4543	0.0141	4.9284	0.6844	5.6128	2.5278	0.6296	3.1574			1,365.7183	0.4417		1,376.7609

El Toro Road Residential - Orange County, Summer

3.4 Grading - 2020

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.1189	4.3308	1.0943	0.0121	0.2742	0.0140	0.2883	0.0751	0.0134	0.0885		1,343.566 2	1,343.566 2	0.1393		1,347.048 0
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	0.1497	4.3501	1.3561	0.0129	0.3637	0.0146	0.3783	0.0988	0.0140	0.1128		1,430.769 7	1,430.769 7	0.1413		1,434.301 1

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					1.9221	0.0000	1.9221	0.9858	0.0000	0.9858			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844	0.6296	0.6296	0.6296	0.0000	1,365.718 3	1,365.718 3	0.4417		1,376.760 9
Total	1.3498	15.0854	6.4543	0.0141	1.9221	0.6844	2.6065	0.9858	0.6296	1.6155	0.0000	1,365.718 3	1,365.718 3	0.4417		1,376.760 9

El Toro Road Residential - Orange County, Summer

3.4 Grading - 2020

Mitigated Construction Off-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.1189	4.3308	1.0943	0.0121	0.2742	0.0140	0.2883	0.0751	0.0134	0.0885		1,343.5662	1,343.5662	0.1393		1,347.0480
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0307	0.0194	0.2619	8.7000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		87.2035	87.2035	1.9900e-003		87.2532
Total	0.1497	4.3501	1.3561	0.0129	0.3637	0.0146	0.3783	0.0988	0.0140	0.1128		1,430.7697	1,430.7697	0.1413		1,434.3011

3.5 Building Construction - 2020

Unmitigated Construction On-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
Total	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467

El Toro Road Residential - Orange County, Summer

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0479	1.3627	0.4125	3.7400e-003	0.0958	8.1500e-003	0.1040	0.0276	7.8000e-003	0.0354		406.6934	406.6934	0.0329		407.5157
Worker	0.2652	0.1671	2.2586	7.5400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092		752.1301	752.1301	0.0172		752.5587
Total	0.3131	1.7297	2.6710	0.0113	0.8671	0.0133	0.8804	0.2321	0.0125	0.2446		1,158.8235	1,158.8235	0.0500		1,160.0745

Mitigated Construction On-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467
Total	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467

El Toro Road Residential - Orange County, Summer

3.5 Building Construction - 2020

Mitigated Construction Off-Site

Category	lb/day																
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0479	1.3627	0.4125	3.7400e-003	0.0958	8.1500e-003	0.1040	0.0276	7.8000e-003	0.0354	406.6934	406.6934	406.6934	0.0329		407.5157	
Worker	0.2652	0.1671	2.2586	7.5400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092	752.1301	752.1301	752.1301	0.0172		752.5587	
Total	0.3131	1.7297	2.6710	0.0113	0.8671	0.0133	0.8804	0.2321	0.0125	0.2446	1,158.8235	1,158.8235	1,158.8235	0.0500		1,160.0745	

3.5 Building Construction - 2021

Unmitigated Construction On-Site

Category	lb/day																
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	2,001.2200	2,001.2200	2,001.2200	0.3573		2,010.1517	
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	2,001.2200	2,001.2200	2,001.2200	0.3573		2,010.1517	

El Toro Road Residential - Orange County, Summer

3.5 Building Construction - 2021
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0400	1.4072	0.3816	3.7000e-003	0.0958	2.9200e-003	0.0988	0.0276	2.8000e-003	0.0304		403.1888	403.1888	0.0316		403.9791
Worker	0.2491	0.1507	2.0957	7.2800e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091		726.0140	726.0140	0.0156		726.4026
Total	0.2891	1.5579	2.4774	0.0110	0.8671	7.9100e-003	0.8750	0.2321	7.4000e-003	0.2395		1,129.2027	1,129.2027	0.0472		1,130.3818

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

El Toro Road Residential - Orange County, Summer

3.5 Building Construction - 2021
Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0400	1.4072	0.3816	3.7000e-003	0.0958	2.9200e-003	0.0988	0.0276	2.8000e-003	0.0304		403.1888	403.1888	0.0316		403.9791
Worker	0.2491	0.1507	2.0957	7.2800e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091		726.0140	726.0140	0.0156		726.4026
Total	0.2891	1.5579	2.4774	0.0110	0.8671	7.9100e-003	0.8750	0.2321	7.4000e-003	0.2395		1,129.2027	1,129.2027	0.0472		1,130.3818

3.6 Paving - 2021

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0280	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442

El Toro Road Residential - Orange County, Summer

3.6 Paving - 2021

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394	136.7852	136.7852	2.9300e-003	2.9300e-003	136.8585	136.8585
Total	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394	136.7852	136.7852	2.9300e-003	2.9300e-003	136.8585	136.8585

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7739	7.7422	8.8569	0.0135	0.4153	0.4153	0.4153	0.3830	0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111	0.4111	1,307.1442
Paving	0.2541				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0280	7.7422	8.8569	0.0135	0.4153	0.4153	0.4153	0.3830	0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111	0.4111	1,307.1442

El Toro Road Residential - Orange County, Summer

3.6 Paving - 2021

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394	136.7852	136.7852	2.9300e-003	2.9300e-003	136.8585	136.8585
Total	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394	136.7852	136.7852	2.9300e-003	2.9300e-003	136.8585	136.8585

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	45.6279					0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003	0.0941	0.0941	0.0941	0.0941	0.0941	0.0941	281.4481	281.4481	0.0193	0.0193	281.9309	281.9309
Total	45.8468	1.5268	1.8176	2.9700e-003	0.0941	0.0941	0.0941	0.0941	0.0941	0.0941	281.4481	281.4481	0.0193	0.0193	281.9309	281.9309

El Toro Road Residential - Orange County, Summer

**3.7 Architectural Coating - 2021
Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0306	0.4252	1.4800e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	147.3072	147.3072	3.1500e-003	3.1500e-003	147.3860	147.3860
Total	0.0505	0.0306	0.4252	1.4800e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	147.3072	147.3072	3.1500e-003	3.1500e-003	147.3860	147.3860

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	45.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003	0.0941	0.0941	0.0941	0.0941	0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	45.8468	1.5268	1.8176	2.9700e-003	0.0941	0.0941	0.0941	0.0941	0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

El Toro Road Residential - Orange County, Summer

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0306	0.4252	1.4800e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	147.3072	147.3072	3.1500e-003	147.3860		
Total	0.0505	0.0306	0.4252	1.4800e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	147.3072	147.3072	3.1500e-003	147.3860		

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

El Toro Road Residential - Orange County, Summer

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.5102	0.0143	0.5246	2,189,387	0	2,189,387	0.0886	0	2,191,601
Unmitigated	0.4156	1.6589	5.7076	0.0216	1.9081	0.0154	1.9235	0.5102	0.0143	0.5246	2,189,387	0	2,189,387	0.0886	0	2,191,601

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Apartments Mid Rise	263.41	263.41	263.41	899,567	899,567
Parking Lot	0.00	0.00	0.00		
Total	263.41	263.41	263.41	899,567	899,567

4.3 Trip Type Information

Land Use	Miles						Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-C	H-W or C-W	H-S or C-C	H-O or C-C	H-W or C-W	H-S or C-C	H-O or C-C	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Parking Lot	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

El Toro Road Residential - Orange County, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
NaturalGas Mitigated	0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	338.5591	338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
NaturalGas Unmitigated	0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	338.5591	338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710

El Toro Road Residential - Orange County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	NaturalGas Use kBTU/yr	lb/day										CO2e						
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total		Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Apartments Mid Rise	2877.75	0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0000	0.0000	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0000	0.0000	338.5591	6.4900e-003	6.2100e-003	340.5710

Mitigated

Land Use	NaturalGas Use kBTU/yr	lb/day										CO2e						
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total		Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	
Apartments Mid Rise	2.87775	0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0000	0.0000	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0000	0.0000	338.5591	6.4900e-003	6.2100e-003	340.5710

6.0 Area Detail

6.1 Mitigation Measures Area

El Toro Road Residential - Orange County, Summer

No Hearths Installed

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Mitigated	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Unmitigated	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Architectural Coating	0.1250					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	18.6046	1.4731	36.1072	0.0921		5.4236	5.4236		5.4236	5.4236	665.0512	1,278.0000	1,943.0512	1.9833	0.0451	2,006.0854
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133

El Toro Road Residential - Orange County, Summer

6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Architectural Coating	0.1250					0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

El Toro Road Residential - Orange County, Summer

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

El Toro Road Residential - Orange County, Winter

El Toro Road Residential
Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	108.00	Space	0.97	43,200.00	0
Apartments Mid Rise	71.00	Dwelling Unit	0.99	71,000.00	203

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	10			Operational Year	2021

Utility Company Southern California Edison

CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

El Toro Road Residential - Orange County, Winter

Project Characteristics -

Land Use - Total lot acreage approx 1.96 acres

Demolition -

Vehicle Trips - Affordable Housing trip rate per TG Memo

Construction Off-road Equipment Mitigation -

Area Mitigation -

Grading -

Architectural Coating -

Trips and VMT -

Area Coating -

Table Name	Column Name	Default Value	New Value
tbiGrading	MaterialImported	0.00	500.00
tbiLandUse	LotAcreage	1.87	0.99
tbiVehicleTrips	HO_TTP	40.60	41.00
tbiVehicleTrips	HS_TTP	19.20	19.00
tbiVehicleTrips	HW_TTP	40.20	40.00
tbiVehicleTrips	ST_TR	6.39	3.71
tbiVehicleTrips	SU_TR	5.86	3.71
tbiVehicleTrips	WD_TR	6.65	3.71

2.0 Emissions Summary

El Toro Road Residential - Orange County, Winter

2.2 Overall Operational
Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560	5.4560	5.4560	5.4560	665.0512	1,288.5709	1,963.6221	1.9936	0.0451	2,016.9133
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077
Total	20.7694	3.5155	47.5505	0.1147	1.9081	5.4929	7.4010	0.5102	5.4918	6.0021	665.0512	3,719.3335	4,384.3847	2.0882	0.0514	4,451.8920

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Energy	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Mobile	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077
Total	2.1648	2.0423	11.4433	0.0226	1.9081	0.0693	1.9774	0.5102	0.0682	0.5785	0.0000	2,441.3335	2,441.3335	0.1049	6.2100e-003	2,445.8066

El Toro Road Residential - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	89.58	41.90	75.93	80.29	0.00	98.74	73.28	0.00	98.76	90.36	100.00	34.36	44.32	94.98	87.91	45.06

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/27/2020	5	20	
2	Site Preparation	Site Preparation	3/28/2020	3/31/2020	5	2	
3	Grading	Grading	4/1/2020	4/6/2020	5	4	
4	Building Construction	Building Construction	4/7/2020	1/1/2021	5	200	
5	Paving	Paving	1/12/2021	1/25/2021	5	10	
6	Architectural Coating	Architectural Coating	1/26/2021	2/8/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 143,775; Residential Outdoor: 47,925; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,592 (Architectural Coating – sqft)

OffRoad Equipment

El Toro Road Residential - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

El Toro Road Residential - Orange County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	141.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	69.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					1.5258	0.0000	1.5258	0.2310	0.0000	0.2310			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241	1.1525	1.1525	1.1525	1.0761	1.0761	1.0761		2.322.312	2.322.312	0.5970		2.337.236
Total	2.1262	20.9463	14.6573	0.0241	1.5258	1.1525	2.6782	0.2310	1.0761	1.3072		2.322.312	2.322.312	0.5970		2.337.236

El Toro Road Residential - Orange County, Winter

3.2 Demolition - 2020

Unmitigated Construction Off-Site

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0546	1.9629	0.5157	5.3100e-003	0.1228	6.3900e-003	0.1291	0.0336	6.1200e-003	0.0397		592.3268	592.3268	0.0638		593.9224
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0565	0.0346	0.3933	1.3400e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		134.1108	134.1108	3.0600e-003		134.1873
Total	0.1110	1.9975	0.9090	6.6500e-003	0.2681	7.3500e-003	0.2754	0.0721	7.0000e-003	0.0791		726.4376	726.4376	0.0669		728.1097

Mitigated Construction On-Site

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					0.5950	0.0000	0.5950	0.0901	0.0000	0.0901			0.0000			0.0000
Off-Road	2.1262	20.9463	14.6573	0.0241		1.1525	1.1525	1.0761	1.0761	1.0761	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363
Total	2.1262	20.9463	14.6573	0.0241	0.5950	1.1525	1.7475	0.0901	1.0761	1.1662	0.0000	2,322.3127	2,322.3127	0.5970		2,337.2363

El Toro Road Residential - Orange County, Winter

3.2 Demolition - 2020

Mitigated Construction Off-Site

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0546	1.9629	0.5157	5.3100e-003	0.1228	6.3900e-003	0.1291	0.0336	6.1200e-003	0.0397		592.3268	592.3268	0.0638		593.9224
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0565	0.0346	0.3933	1.3400e-003	0.1453	9.6000e-004	0.1463	0.0385	8.8000e-004	0.0394		134.1108	134.1108	3.0600e-003		134.1873
Total	0.1110	1.9975	0.9090	6.6500e-003	0.2681	7.3500e-003	0.2754	0.0721	7.0000e-003	0.0791		726.4376	726.4376	0.0669		728.1097

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172	0.8210	0.8210	0.8210	0.7553	0.7553	0.7553		1,667.4119	1,667.4119	0.5393		1,680.8937
Total	1.6299	18.3464	7.7093	0.0172	5.7996	0.8210	6.6205	2.9537	0.7553	3.7090		1,667.4119	1,667.4119	0.5393		1,680.8937

El Toro Road Residential - Orange County, Winter

3.3 Site Preparation - 2020
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243	82.5297	82.5297	82.5297	1.8800e-003		82.5768
Total	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243	82.5297	82.5297	82.5297	1.8800e-003		82.5768

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					2.2618	0.0000	2.2618	1.1519	0.0000	1.1519			0.0000			0.0000
Off-Road	1.6299	18.3464	7.7093	0.0172	0.8210	0.8210	0.8210	0.7553	0.7553	0.7553	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937
Total	1.6299	18.3464	7.7093	0.0172	2.2618	0.8210	3.0828	1.1519	0.7553	1.9072	0.0000	1,667.4119	1,667.4119	0.5393		1,680.8937

El Toro Road Residential - Orange County, Winter

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243	82.5297	82.5297	82.5297	1.8800e-003		82.5768
Total	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768

3.4 Grading - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					4.9284	0.0000	4.9284	2.5278	0.0000	2.5278			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141	0.6844	0.6844	0.6844	0.6296	0.6296	0.6296			1,365.7183	0.4417		1,376.7609
Total	1.3498	15.0854	6.4543	0.0141	4.9284	0.6844	5.6128	2.5278	0.6296	3.1574		1,365.7183	1,365.7183	0.4417		1,376.7609

El Toro Road Residential - Orange County, Winter

3.4 Grading - 2020

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.1219	4.3853	1.1521	0.0119	0.2742	0.0143	0.2885	0.0751	0.0137	0.0887		1,323.2834	1,323.2834	0.1426		1,326.8479
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	0.1566	4.4066	1.3942	0.0127	0.3637	0.0149	0.3785	0.0988	0.0142	0.1130		1,405.8131	1,405.8131	0.1445		1,409.4247

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					1.9221	0.0000	1.9221	0.9858	0.0000	0.9858			0.0000			0.0000
Off-Road	1.3498	15.0854	6.4543	0.0141		0.6844	0.6844	0.6296	0.6296	0.6296	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609
Total	1.3498	15.0854	6.4543	0.0141	1.9221	0.6844	2.6065	0.9858	0.6296	1.6155	0.0000	1,365.7183	1,365.7183	0.4417		1,376.7609

El Toro Road Residential - Orange County, Winter

3.4 Grading - 2020

Mitigated Construction Off-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.1219	4.3853	1.1521	0.0119	0.2742	0.0143	0.2885	0.0751	0.0137	0.0887		1,323.2834	1,323.2834	0.1426		1,326.8479
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0347	0.0213	0.2420	8.3000e-004	0.0894	5.9000e-004	0.0900	0.0237	5.4000e-004	0.0243		82.5297	82.5297	1.8800e-003		82.5768
Total	0.1566	4.4066	1.3942	0.0127	0.3637	0.0149	0.3785	0.0988	0.0142	0.1130		1,405.8131	1,405.8131	0.1445		1,409.4247

3.5 Building Construction - 2020

Unmitigated Construction On-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467
Total	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688		2,001.1595	2,001.1595	0.3715		2,010.4467

El Toro Road Residential - Orange County, Winter

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

lb/day																	
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0500	1.3621	0.4521	3.6500e-003	0.0958	8.2900e-003	0.1041	0.0276	7.9300e-003	0.0355	396.6991	396.6991	396.6991	0.0346		397.5629	
Worker	0.2997	0.1836	2.0875	7.1400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092	711.8186	711.8186	711.8186	0.0162		712.2246	
Total	0.3497	1.7457	2.5396	0.0108	0.8671	0.0134	0.8805	0.2321	0.0126	0.2448		1,108.5177	1,108.5177	0.0508		1,109.7875	

Mitigated Construction On-Site

lb/day																	
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Off-Road	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467	
Total	2.0305	14.7882	13.1881	0.0220		0.7960	0.7960		0.7688	0.7688	0.0000	2,001.1595	2,001.1595	0.3715		2,010.4467	

El Toro Road Residential - Orange County, Winter

3.5 Building Construction - 2020

Mitigated Construction Off-Site

Category	lb/day																
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0500	1.3621	0.4521	3.6500e-003	0.0958	8.2900e-003	0.1041	0.0276	7.9300e-003	0.0355	396.6991	396.6991	396.6991	0.0346		397.5629	
Worker	0.2997	0.1836	2.0875	7.1400e-003	0.7713	5.1000e-003	0.7764	0.2045	4.7000e-003	0.2092	711.8186	711.8186	711.8186	0.0162		712.2246	
Total	0.3497	1.7457	2.5396	0.0108	0.8671	0.0134	0.8805	0.2321	0.0126	0.2448		1,108.5177	1,108.5177	0.0508		1,109.7875	

3.5 Building Construction - 2021

Unmitigated Construction On-Site

Category	lb/day																
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517	
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517	

El Toro Road Residential - Orange County, Winter

3.5 Building Construction - 2021
Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0420	1.4039	0.4187	3.6100e-003	0.0958	3.0300e-003	0.0989	0.0276	2.9000e-003	0.0305		393.2835	393.2835	0.0332		394.1125
Worker	0.2820	0.1656	1.9339	6.8900e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091		687.1242	687.1242	0.0147		687.4921
Total	0.3240	1.5695	2.3525	0.0105	0.8671	8.0200e-003	0.8751	0.2321	7.5000e-003	0.2396		1,080.4077	1,080.4077	0.0479		1,081.6046

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

El Toro Road Residential - Orange County, Winter

3.5 Building Construction - 2021

Mitigated Construction Off-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0420	1.4039	0.4187	3.6100e-003	0.0958	3.0300e-003	0.0989	0.0276	2.9000e-003	0.0305	393.2835	393.2835	393.2835	0.0332		394.1125
Worker	0.2820	0.1656	1.9339	6.8900e-003	0.7713	4.9900e-003	0.7763	0.2045	4.6000e-003	0.2091	687.1242	687.1242	687.1242	0.0147		687.4921
Total	0.3240	1.5695	2.3525	0.0105	0.8671	8.0200e-003	0.8751	0.2321	7.5000e-003	0.2396		1,080.4077	1,080.4077	0.0479		1,081.6046

3.6 Paving - 2021

Unmitigated Construction On-Site

lb/day																
Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0280	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442

El Toro Road Residential - Orange County, Winter

3.6 Paving - 2021

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0280	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442

El Toro Road Residential - Orange County, Winter

3.6 Paving - 2021

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	45.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941	0.0941	0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	45.8468	1.5268	1.8176	2.9700e-003		0.0941	0.0941	0.0941	0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

El Toro Road Residential - Orange County, Winter

**3.7 Architectural Coating - 2021
Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0572	0.0336	0.3924	1.4000e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	139.4165	139.4165	2.9900e-003	139.4911		
Total	0.0572	0.0336	0.3924	1.4000e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	139.4165	139.4165	2.9900e-003	139.4911		

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	45.6279					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003	0.0941	0.0941	0.0941	0.0941	0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	45.8468	1.5268	1.8176	2.9700e-003	0.0941	0.0941	0.0941	0.0941	0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

El Toro Road Residential - Orange County, Winter

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0572	0.0336	0.3924	1.4000e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	139.4165	139.4165	2.9900e-003	139.4911		
Total	0.0572	0.0336	0.3924	1.4000e-003	0.1565	1.0100e-003	0.1575	0.0415	9.3000e-004	0.0424	139.4165	139.4165	2.9900e-003	139.4911		

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

El Toro Road Residential - Orange County, Winter

Category	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077
Unmitigated	0.4088	1.7093	5.4490	0.0206	1.9081	0.0155	1.9236	0.5102	0.0144	0.5246		2,092.2036	2,092.2036	0.0882		2,094.4077

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT		
Apartments Mid Rise	263.41	263.41	263.41	899,567	899,567		
Parking Lot	0.00	0.00	0.00				
Total	263.41	263.41	263.41	899,567	899,567		

4.3 Trip Type Information

Land Use	Miles						Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by			
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3			
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0			

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Parking Lot	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

El Toro Road Residential - Orange County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
NaturalGas Mitigated	0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	338.5591	338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
NaturalGas Unmitigated	0.0310	0.2652	0.1129	1.6900e-003	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	338.5591	338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710

El Toro Road Residential - Orange County, Winter

5.2 Energy by Land Use - Natural Gas

Unmitigated

Land Use	Natural Gas Use kBTU/yr	lb/day										lb/day					
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Apartments Mid Rise	2877.75	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710

Mitigated

Land Use	Natural Gas Use kBTU/yr	lb/day										lb/day					
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Apartments Mid Rise	2.87775	0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0310	0.2652	0.1129	1.6900e-003		0.0214	0.0214	0.0214	0.0214	0.0214		338.5591	338.5591	6.4900e-003	6.2100e-003	340.5710

6.0 Area Detail

6.1 Mitigation Measures Area

El Toro Road Residential - Orange County, Winter

No Hearths Installed

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Mitigated	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280
Unmitigated	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day															
Architectural Coating	0.1250					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	18.6046	1.4731	36.1072	0.0921		5.4236	5.4236		5.4236	5.4236	665.0512	1,278.0000	1,943.0512	1.9833	0.0451	2,006.0854
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	20.3296	1.5410	41.9886	0.0924		5.4560	5.4560		5.4560	5.4560	665.0512	1,288.5709	1,953.6221	1.9936	0.0451	2,016.9133

El Toro Road Residential - Orange County, Winter

6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Architectural Coating	0.1250					0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Consumer Products	1.4211					0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1789	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324		10.5709	10.5709	0.0103		10.8280
Total	1.7250	0.0679	5.8814	3.1000e-004		0.0324	0.0324		0.0324	0.0324	0.0000	10.5709	10.5709	0.0103	0.0000	10.8280

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

El Toro Road Residential - Orange County, Winter

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

El Toro Road Residential - Orange County, Annual

El Toro Road Residential Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	108.00	Space	0.97	43,200.00	0
Apartments Mid Rise	71.00	Dwelling Unit	0.99	71,000.00	203

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	10			Operational Year	2021

Utility Company Southern California Edison

CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

El Toro Road Residential - Orange County, Annual

Project Characteristics -

Land Use - Total lot acreage approx 1.96 acres

Demolition -

Vehicle Trips - Affordable Housing trip rate per TG Memo

Construction Off-road Equipment Mitigation -

Area Mitigation -

Grading -

Architectural Coating -

Trips and VMT -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	500.00
tblLandUse	LotAcreage	1.87	0.99
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	3.71
tblVehicleTrips	SU_TR	5.86	3.71
tblVehicleTrips	WD_TR	6.65	3.71

2.0 Emissions Summary

El Toro Road Residential - Orange County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-2-2020	6-1-2020	0.6845	0.6845
2	6-2-2020	9-1-2020	0.6197	0.6197
3	9-2-2020	12-1-2020	0.6142	0.6142
4	12-2-2020	3-1-2021	0.5524	0.5524
		Highest	0.6845	0.6845

2.2 Overall Operational

Unmitigated Operational

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Area	0.5371	0.0269	1.1865	1.1900e-003	0.0718	0.0718	0.0718	0.0718	0.0718	0.0718	7.5416	15.6910	23.2325	0.0237	5.1000e-004	23.9765
Energy	5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	164.2011	164.2011	5.5400e-003	1.9500e-003	164.9211
Mobile	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164
Waste						0.0000	0.0000		0.0000	0.0000	6.6297	0.0000	6.6297	0.3918	0.0000	16.4248
Water						0.0000	0.0000		0.0000	0.0000	1.4676	29.5155	30.9831	0.1520	3.8100e-003	35.9177
Total	0.6150	0.3918	2.2127	5.3000e-003	0.3412	0.0786	0.4197	0.0914	0.0784	0.1697	15.6388	559.0609	574.6997	0.5875	6.2700e-003	591.2564

El Toro Road Residential - Orange County, Annual

2.2 Overall Operational

Mitigated Operational

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Area	0.3045	8.4800e-003	0.7352	4.0000e-005	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Energy	5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	164.2011	164.2011	5.5400e-003	1.9500e-003	164.9211
Mobile	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164
Waste						0.0000	0.0000	0.0000	0.0000	0.0000	6.6297	0.0000	6.6297	0.3918	0.0000	16.4248
Water						0.0000	0.0000	0.0000	0.0000	0.0000	1.4676	29.5155	30.9831	0.1520	3.8100e-003	35.9177
Total	0.3825	0.3734	1.7613	4.1500e-003	0.3412	0.0108	0.3519	0.0914	0.0106	0.1019	8.0973	544.5686	552.6659	0.5650	5.7600e-003	568.5078

Percent Reduction	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
37.81	4.70	20.40	21.70	0.00	86.30	16.15	0.00	86.51	39.94	48.22	2.59	3.83	3.83	8.13	3.85	

3.0 Construction Detail

Construction Phase

El Toro Road Residential - Orange County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/27/2020	5	20	
2	Site Preparation	Site Preparation	3/28/2020	3/31/2020	5	2	
3	Grading	Grading	4/1/2020	4/6/2020	5	4	
4	Building Construction	Building Construction	4/7/2020	1/11/2021	5	200	
5	Paving	Paving	1/12/2021	1/25/2021	5	10	
6	Architectural Coating	Architectural Coating	1/26/2021	2/8/2021	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.97

Residential Indoor: 143,775; Residential Outdoor: 47,925; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,592 (Architectural Coating – sqft)

OffRoad Equipment

El Toro Road Residential - Orange County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

El Toro Road Residential - Orange County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	141.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	63.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	69.00	15.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Fugitive Dust					0.0153	0.0000	0.0153	2.3100e-003	0.0000	2.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004	0.0115	0.0115	0.0115	0.0108	0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
Total	0.0213	0.2095	0.1466	2.4000e-004	0.0153	0.0115	0.0268	2.3100e-003	0.0108	0.0131	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
MT/yr																

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3.2 Demolition - 2020
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	5.4000e-004	0.0200	5.0100e-003	5.0000e-005	1.2100e-003	6.0000e-005	1.2700e-003	3.3000e-004	6.0000e-005	3.9000e-004	0.0000	5.4213	5.4213	5.7000e-004	0.0000	5.4356
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.5000e-004	4.0300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2352	1.2352	3.0000e-005	0.0000	1.2359
Total	1.0500e-003	0.0204	9.0400e-003	6.0000e-005	2.6400e-003	7.0000e-005	2.7100e-003	7.1000e-004	7.0000e-005	7.8000e-004	0.0000	6.6565	6.6565	6.0000e-004	0.0000	6.6715

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust	0.0213	0.2095	0.1466	2.4000e-004	5.9500e-003	0.0000	5.9500e-003	9.0000e-004	0.0000	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004	0.0115	0.0115	0.0115	0.0108	0.0108	0.0108	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030
Total	0.0213	0.2095	0.1466	2.4000e-004	5.9500e-003	0.0115	0.0175	0.0108	0.0108	0.0117	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030

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3.2 Demolition - 2020

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	5.4000e-004	0.0200	5.0100e-003	5.0000e-005	1.2100e-003	6.0000e-005	1.2700e-003	3.3000e-004	6.0000e-005	3.9000e-004	0.0000	5.4213	5.4213	5.7000e-004	0.0000	5.4356
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.5000e-004	4.0300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2352	1.2352	3.0000e-005	0.0000	1.2359
Total	1.0500e-003	0.0204	9.0400e-003	6.0000e-005	2.6400e-003	7.0000e-005	2.7100e-003	7.1000e-004	7.0000e-005	7.8000e-004	0.0000	6.6565	6.6565	6.0000e-004	0.0000	6.6715

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005	8.2000e-004	8.2000e-004	8.2000e-004	7.6000e-004	7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	1.6300e-003	0.0184	7.7100e-003	2.0000e-005	5.8000e-003	8.2000e-004	6.6200e-003	2.9500e-003	7.6000e-004	3.7100e-003	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249

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3.3 Site Preparation - 2020
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0760	0.0760	0.0000	0.0000	0.0761
Total	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0760	0.0760	0.0000	0.0000	0.0761

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					2.2600e-003	0.0000	2.2600e-003	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005	8.2000e-004	8.2000e-004	8.2000e-004	7.6000e-004	0.0000	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	1.6300e-003	0.0184	7.7100e-003	2.0000e-005	2.2600e-003	8.2000e-004	3.0800e-003	1.1500e-003	7.6000e-004	1.9100e-003	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249

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3.3 Site Preparation - 2020
Mitigated Construction Off-Site

Category	tons/yr											MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	2.0000e-005	0.0000	0.0760	0.0760	0.0000	0.0000	0.0000	0.0761
Total	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	2.0000e-005	0.0000	0.0760	0.0760	0.0000	0.0000	0.0000	0.0761

3.4 Grading - 2020
Unmitigated Construction On-Site

Category	tons/yr											MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Fugitive Dust					9.8600e-003	0.0000	9.8600e-003	0.0000	0.0000	5.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005	1.3700e-003	1.3700e-003	1.2600e-003	1.2600e-003	1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	0.0000	2.4980
Total	2.7000e-003	0.0302	0.0129	3.0000e-005	9.8600e-003	1.3700e-003	5.0600e-003	1.2600e-003	1.2600e-003	6.3200e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	0.0000	2.4980

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3.4 Grading - 2020
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	2.4000e-004	8.9400e-003	2.2400e-003	2.0000e-005	5.4000e-004	3.0000e-005	5.7000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4223	2.4223	2.6000e-004	0.0000	2.4287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	5.0000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1520	0.1520	0.0000	0.0000	0.1521
Total	3.0000e-004	8.9800e-003	2.7400e-003	2.0000e-005	7.2000e-004	3.0000e-005	7.5000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	2.5743	2.5743	2.6000e-004	0.0000	2.5808

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Fugitive Dust					3.8400e-003	0.0000	3.8400e-003	1.9700e-003	0.0000	1.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005	1.3700e-003	1.3700e-003	1.3700e-003	1.2600e-003	1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	2.7000e-003	0.0302	0.0129	3.0000e-005	3.8400e-003	1.3700e-003	5.2100e-003	1.9700e-003	1.2600e-003	3.2300e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980

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3.4 Grading - 2020

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	2.4000e-004	8.9400e-003	2.2400e-003	2.0000e-005	5.4000e-004	3.0000e-005	5.7000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	2.4223	2.4223	2.6000e-004	0.0000	2.4287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	5.0000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1520	0.1520	0.0000	0.0000	0.1521
Total	3.0000e-004	8.9800e-003	2.7400e-003	2.0000e-005	7.2000e-004	3.0000e-005	7.5000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	2.5743	2.5743	2.6000e-004	0.0000	2.5808

3.5 Building Construction - 2020

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.1959	1.4271	1.2727	2.1300e-003		0.0768	0.0768		0.0742	0.0742	0.0000	175.1882	175.1882	0.0325	0.0000	176.0012
Total	0.1959	1.4271	1.2727	2.1300e-003		0.0768	0.0768		0.0742	0.0742	0.0000	175.1882	175.1882	0.0325	0.0000	176.0012

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3.5 Building Construction - 2020
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7100e-003	0.1535	0.0418	3.6000e-004	9.1100e-003	7.9000e-004	9.9100e-003	2.6300e-003	7.6000e-004	3.3900e-003	0.0000	35.2358	35.2358	2.9400e-003	0.0000	35.3094
Worker	0.0260	0.0182	0.2064	7.0000e-004	0.0731	4.9000e-004	0.0736	0.0194	4.5000e-004	0.0199	0.0000	63.2664	63.2664	1.4400e-003	0.0000	63.3025
Total	0.0307	0.1717	0.2482	1.0600e-003	0.0822	1.2800e-003	0.0835	0.0220	1.2100e-003	0.0233	0.0000	98.5023	98.5023	4.3800e-003	0.0000	98.6120

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.1959	1.4271	1.2727	2.1300e-003		0.0768	0.0768		0.0742	0.0742	0.0000	175.1880	175.1880	0.0325	0.0000	176.0010
Total	0.1959	1.4271	1.2727	2.1300e-003		0.0768	0.0768		0.0742	0.0742	0.0000	175.1880	175.1880	0.0325	0.0000	176.0010

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3.5 Building Construction - 2020
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.7100e-003	0.1535	0.0418	3.6000e-004	9.1100e-003	7.9000e-004	9.9100e-003	2.6300e-003	7.6000e-004	3.3900e-003	0.0000	35.2358	35.2358	2.9400e-003	0.0000	35.3094
Worker	0.0260	0.0182	0.2064	7.0000e-004	0.0731	4.9000e-004	0.0736	0.0194	4.5000e-004	0.0199	0.0000	63.2664	63.2664	1.4400e-003	0.0000	63.3025
Total	0.0307	0.1717	0.2482	1.0600e-003	0.0822	1.2800e-003	0.0835	0.0220	1.2100e-003	0.0233	0.0000	98.5023	98.5023	4.3800e-003	0.0000	98.6120

3.5 Building Construction - 2021
Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	6.3400e-003	0.0477	0.0452	8.0000e-005		2.4000e-003	2.4000e-003		2.3100e-003	2.3100e-003	0.0000	6.3542	6.3542	1.1300e-003	0.0000	6.3825
Total	6.3400e-003	0.0477	0.0452	8.0000e-005		2.4000e-003	2.4000e-003		2.3100e-003	2.3100e-003	0.0000	6.3542	6.3542	1.1300e-003	0.0000	6.3825

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3.5 Building Construction - 2021
Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.0000e-003	1.4000e-003	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.2670	1.2670	1.0000e-004	0.0000	1.2695
Worker	8.8000e-004	5.9000e-004	6.9400e-003	2.0000e-005	2.6500e-003	2.0000e-005	2.6700e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.2150	2.2150	5.0000e-005	0.0000	2.2162
Total	1.0200e-003	5.5900e-003	8.3400e-003	3.0000e-005	2.9800e-003	3.0000e-005	3.0100e-003	8.0000e-004	3.0000e-005	8.3000e-004	0.0000	3.4820	3.4820	1.5000e-004	0.0000	3.4857

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	6.3400e-003	0.0477	0.0452	8.0000e-005		2.4000e-003	2.4000e-003		2.3100e-003	2.3100e-003	0.0000	6.3542	6.3542	1.1300e-003	0.0000	6.3825
Total	6.3400e-003	0.0477	0.0452	8.0000e-005		2.4000e-003	2.4000e-003		2.3100e-003	2.3100e-003	0.0000	6.3542	6.3542	1.1300e-003	0.0000	6.3825

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3.5 Building Construction - 2021
Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.0000e-003	1.4000e-003	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.2670	1.2670	1.0000e-004	0.0000	1.2695
Worker	8.8000e-004	5.9000e-004	6.9400e-003	2.0000e-005	2.6500e-003	2.0000e-005	2.6700e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.2150	2.2150	5.0000e-005	0.0000	2.2162
Total	1.0200e-003	5.5900e-003	8.3400e-003	3.0000e-005	2.9800e-003	3.0000e-005	3.0100e-003	8.0000e-004	3.0000e-005	8.3000e-004	0.0000	3.4820	3.4820	1.5000e-004	0.0000	3.4857

3.6 Paving - 2021
Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	3.8700e-003	0.0387	0.0443	7.0000e-005	2.0800e-003	2.0800e-003	2.0800e-003	1.9100e-003	1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	1.2700e-003				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.1400e-003	0.0387	0.0443	7.0000e-005	2.0800e-003	2.0800e-003	2.0800e-003	1.9100e-003	1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291

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3.6 Paving - 2021

Unmitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5962	0.5962	1.0000e-005	0.0000	0.5965
Total	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5962	0.5962	1.0000e-005	0.0000	0.5965

Mitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	3.8700e-003	0.0387	0.0443	7.0000e-005	2.0800e-003	2.0800e-003	2.0800e-003	1.9100e-003	1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291
Paving	1.2700e-003					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.1400e-003	0.0387	0.0443	7.0000e-005	2.0800e-003	2.0800e-003	2.0800e-003	1.9100e-003	1.9100e-003	1.9100e-003	0.0000	5.8825	5.8825	1.8600e-003	0.0000	5.9291

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3.6 Paving - 2021

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5962	0.5962	1.0000e-005	0.0000	0.5965
Total	2.4000e-004	1.6000e-004	1.8700e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5962	0.5962	1.0000e-005	0.0000	0.5965

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Archit. Coating	0.2281					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	0.2292	7.6300e-003	9.0900e-003	1.0000e-005	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788

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**3.7 Architectural Coating - 2021
Unmitigated Construction Off-Site**

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424
Total	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424

Mitigated Construction On-Site

Category	tons/yr											MT/yr				
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Archit. Coating	0.2281					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	7.6300e-003	9.0900e-003	1.0000e-005	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788
Total	0.2292	7.6300e-003	9.0900e-003	1.0000e-005	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	4.7000e-004	0.0000	1.2766	1.2766	9.0000e-005	0.0000	1.2788

El Toro Road Residential - Orange County, Annual

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	0.0000	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424
Total	2.6000e-004	1.7000e-004	2.0100e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	0.0000	0.0000	2.1000e-004	0.0000	0.6420	0.6420	1.0000e-005	0.0000	0.6424

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

El Toro Road Residential - Orange County, Annual

Category	tons/yr													MT/yr			
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Mitigated	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164	
Unmitigated	0.0723	0.3165	1.0056	3.8000e-003	0.3412	2.8000e-003	0.3440	0.0914	2.6100e-003	0.0940	0.0000	349.6533	349.6533	0.0145	0.0000	350.0164	

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Apartments Mid Rise	263.41	263.41	263.41	899,567	899,567	899,567	899,567
Parking Lot	0.00	0.00	0.00				
Total	263.41	263.41	263.41	899,567	899,567	899,567	899,567

4.3 Trip Type Information

Land Use	Miles				Trip %				Trip Purpose %				
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by	Primary	Diverted	Pass-by	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3	86	11	3	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0	0	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966
Parking Lot	0.558976	0.043534	0.209821	0.113949	0.016111	0.005791	0.025447	0.016654	0.001713	0.001553	0.004896	0.000590	0.000966

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	tons/yr										MT/yr						
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.1488	108.1488	4.4600e-003	9.2000e-004		108.5358
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	108.1488	108.1488	4.4600e-003	9.2000e-004		108.5358
NaturalGas Mitigated	5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003		56.3854
NaturalGas Unmitigated	5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003		56.3854

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5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	NaturalGas Use kBTU/yr	tons/yr										MT/yr					
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Apartments Mid Rise	1.05038e+006	5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854

Mitigated

Land Use	NaturalGas Use kBTU/yr	tons/yr										MT/yr					
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Apartments Mid Rise	1.05038e+006	5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854
Parking Lot	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		5.6600e-003	0.0484	0.0206	3.1000e-004	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	3.9100e-003	0.0000	56.0523	56.0523	1.0700e-003	1.0300e-003	56.3854

5.3 Energy by Land Use - Electricity

Unmitigated

Land Use	Electricity Use kWh/yr	Total CO2	CH4	N2O	CO2e
MT/yr					
Apartments Mid Rise	324307	103.3313	4.2700e-003	8.8000e-004	103.7010
Parking Lot	15120	4.8176	2.0000e-004	4.0000e-005	4.8348
Total		108.1489	4.4700e-003	9.2000e-004	108.5358

Mitigated

Land Use	Electricity Use kWh/yr	Total CO2	CH4	N2O	CO2e
MT/yr					
Apartments Mid Rise	324307	103.3313	4.2700e-003	8.8000e-004	103.7010
Parking Lot	15120	4.8176	2.0000e-004	4.0000e-005	4.8348
Total		108.1489	4.4700e-003	9.2000e-004	108.5358

6.0 Area Detail

6.1 Mitigation Measures Area

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No Hearths Installed

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Mitigated	0.3045	8.4800e-003	0.7352	4.0000e-005	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Unmitigated	0.5371	0.0269	1.1865	1.1900e-003	0.0718	0.0718	0.0718	0.0718	0.0718	0.0718	7.5416	15.6910	23.2325	0.0237	5.1000e-004	23.9765

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
MT/yr																
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2594					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2326	0.0184	0.4513	1.1500e-003	0.0678	0.0678	0.0678	0.0678	0.0678	0.0678	7.5416	14.4923	22.0338	0.0225	5.1000e-004	22.7486
Landscaping	0.0224	8.4800e-003	0.7352	4.0000e-005	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Total	0.5371	0.0269	1.1865	1.1900e-003	0.0718	0.0718	0.0718	0.0718	0.0718	0.0718	7.5416	15.6910	23.2325	0.0237	5.1000e-004	23.9765

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6.2 Area by SubCategory

Mitigated

SubCategory	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Architectural Coating	0.0228					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2594					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0224	8.4800e-003	0.7352	4.0000e-005	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279
Total	0.3045	8.4800e-003	0.7352	4.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.0000	1.1987	1.1987	1.1700e-003	0.0000	1.2279

7.0 Water Detail

7.1 Mitigation Measures Water

El Toro Road Residential - Orange County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.9831	0.1520	3.8100e-003	35.9177
Unmitigated	30.9831	0.1520	3.8100e-003	35.9177

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	4.625947 2.91635	30.9831	0.1520	3.8100e-003	35.9177
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		30.9831	0.1520	3.8100e-003	35.9177

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7.2 Water by Land Use

Mitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
Apartments Mid Rise	4.62594 / 2.91635	30.9831	0.1520	3.8100e-003	35.9177
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		30.9831	0.1520	3.8100e-003	35.9177

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

Category/Year	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.6297	0.3918	0.0000	16.4248
Unmitigated	6.6297	0.3918	0.0000	16.4248

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8.2 Waste by Land Use

Unmitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
Apartment's Mid Rise	32.66	6.6297	0.3918	0.0000	16.4248
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		6.6297	0.3918	0.0000	16.4248

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
Apartment's Mid Rise	32.66	6.6297	0.3918	0.0000	16.4248
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		6.6297	0.3918	0.0000	16.4248

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B – BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM





CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: November 21, 2019

TO: City of Lake Forest and National Community Renaissance®

FROM: Claudia Bauer, MS, LSA Biologist

SUBJECT: Biological Resources Technical Memorandum for the Mountain View Affordable Housing Community Project in the City of Lake Forest (LSA Project Number NCO1904)

LSA was retained by National Community Renaissance to provide a biological resources technical memorandum (memo) in support of an Initial Study being prepared by the City of Lake Forest (City) in compliance with the California Environmental Quality Act (CEQA) for the Mountain View Affordable Housing Community Project (project). The proposed project is to build 71 affordable apartments following the demolition of the office building located at 24551 Raymond Way in the City of Lake Forest, Orange County, California. The approximately 3.74-acre project site is located at the northeast corner of Raymond Way and El Toro Road and is associated with Assessor's Parcel Number (APN) 617-441-02.

METHODS

A literature review was conducted to assist in determining the existence or potential occurrence of special-status plant and animal species within the project site and in the project vicinity. A records search of the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base application *Rarefind 5* online edition (CDFW, 2019) and California Native Plant Society's *Online Inventory of Rare and Endangered Plants* (CNPS, v8-03 0.39) for the *San Juan Capistrano, California*, USGS 7.5-minute quadrangle and relevant neighboring quadrangles was conducted on November 7, 2019. Soil information was taken from electronic data provided by Soil Data Mart (Natural Resource Conservation Service [NRCS] 2017). Current and historical aerial photographs were also reviewed in Google Earth (Google Earth 2019) and HistoricAerials.com (NETROnline 2019).

The site assessment was conducted on November 10, 2019, by LSA Biologist Claudia Bauer. Notes were made on general site conditions, the vegetation, potential jurisdictional waters, wildlife

species observed, and the suitability of habitat for various special-status species. Plant and animal species observed during the field survey were recorded.

EXISTING SETTING

The project site is generally flat and currently developed with asphalt parking areas, ornamental landscaping, and two office buildings bordered by residential and commercial development in an urban setting. Due to existing development, the project site is highly disturbed, with paved surfaces covering a majority of the site. A review of historic aerials shows that the project site and surrounding area have been developed since at least 1980.

RESULTS

Vegetation within the project site is not associated with any natural vegetation communities (Holland 1986). Rather, the vegetation consists of ornamental lawn, trees and shrubs associated with the landscaped areas of the project site. Plant species observed onsite include Indian hawthorn (*Rhaphiolepis indica*), English ivy (*Hedera helix*), and turfgrass. Approximately 100 ornamental/non-native trees were noted within the project site, including red ironbark eucalyptus (*Eucalyptus sideroxylon*), blue gum eucalyptus (*Eucalyptus globulus*), ficus (*Ficus* sp.), Brazilian pepper (*Schinus terebinthifolius*), and alder (*Alnus spaethii*). Animal species observed onsite include common raven (*Corvus corax*).

The City's Eucalyptus Tree Conservation Ordinance (Title 6, Chapter 6.20, City of Lake Forest Code of Ordinances; "Ordinance") was established to control infestation of the eucalyptus longhorn borer by regulating the maintenance and removal of eucalyptus trees. Removal of trees on the project site would require compliance with the Ordinance. The Ordinance provides no requirements for mitigating impacts associated with tree removal. Refer to the Ordinance for specific guidelines on eucalyptus tree cutting, pruning and/or removal guidelines.

The project site is not within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), or any other adopted natural community conservation plan, habitat conservation plan, or adopted natural resource protection plan.

No drainage features, ponded areas, or riparian habitat potentially subject to jurisdiction by the CDFW or U.S. Army Corps of Engineers (USACE) were found within the project site.

The project site does not contain suitable habitat for species protected by the federal Endangered Species Act, the California Endangered Species Act, or the Native Plant Protection Act. Additionally, the CDFW, USFWS, local agencies, and special-status groups, such as the CNPS, maintain lists of species that they consider to be in need of monitoring. Legal protection for these special-status species varies widely. No other special-status species are expected to occur within the project site due to lack of suitable habitat.

The project site does not lie within any federally designated critical habitat.

The site contains suitable for habitat for nesting birds. During the bird breeding season (typically February 1 through August 31), large trees on or adjacent to the project site may be used by hawks, ravens, or other large birds for nesting. Smaller trees, shrubs, and other vegetation may provide

nest sites for smaller birds. Nesting bird species, with potential to occur, are protected by California Fish and Game Code Sections 3503, 3503.5, and 3800, and by the Migratory Bird Treaty Act (MBTA) (16 USC 703–711). These laws regulate the take, possession, or destruction of the nest or eggs of any migratory bird or bird of prey. However, the USFWS has recently determined that the MBTA should apply only to “... affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs” and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities.

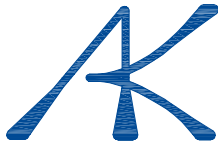
RECOMMENDATIONS

To avoid potential effects to fully protected raptors, special-status bird species, and other nesting birds protected by the California Fish and Game Code, the following measures will be implemented:

A nesting bird pre-construction survey will be conducted by a qualified biologist three days prior to demolition and/or vegetation removal activities. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Nesting bird habitat within the project site will be resurveyed during bird breeding season if there is a lapse in construction activities longer than seven days.

APPENDIX C – PRELIMINARY GEOTECHNICAL INVESTIGATION





ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

April 20, 2020
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, California 91730

Subject: Revised Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development, 24551 Raymond Way, Lake Forest, California.

Dear Mr. Killian,

Pursuant to your request, *Albus-Keefe & Associates, Inc.* is pleased to present to you our preliminary geotechnical investigation report for the subject development. This report presents the results of our field investigation, laboratory testing, engineering analyses, as well as our preliminary geotechnical recommendations for design and construction of the subject development.

We appreciate this opportunity to be of service to you. If you have any questions regarding the contents of this report, please do not hesitate to call this office.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.

Paul Kim
Associate Engineer

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APPENDIX A – Exploration Logs

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APPENDIX B – Laboratory Test Program

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Plate B-7 – Direct Shear Test Plot

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The purposes of our preliminary geotechnical investigation were to evaluate geotechnical conditions within the project area and to provide conclusions and recommendations relevant to the design and construction of the proposed improvements at the subject site. The scope of this investigation included the following:

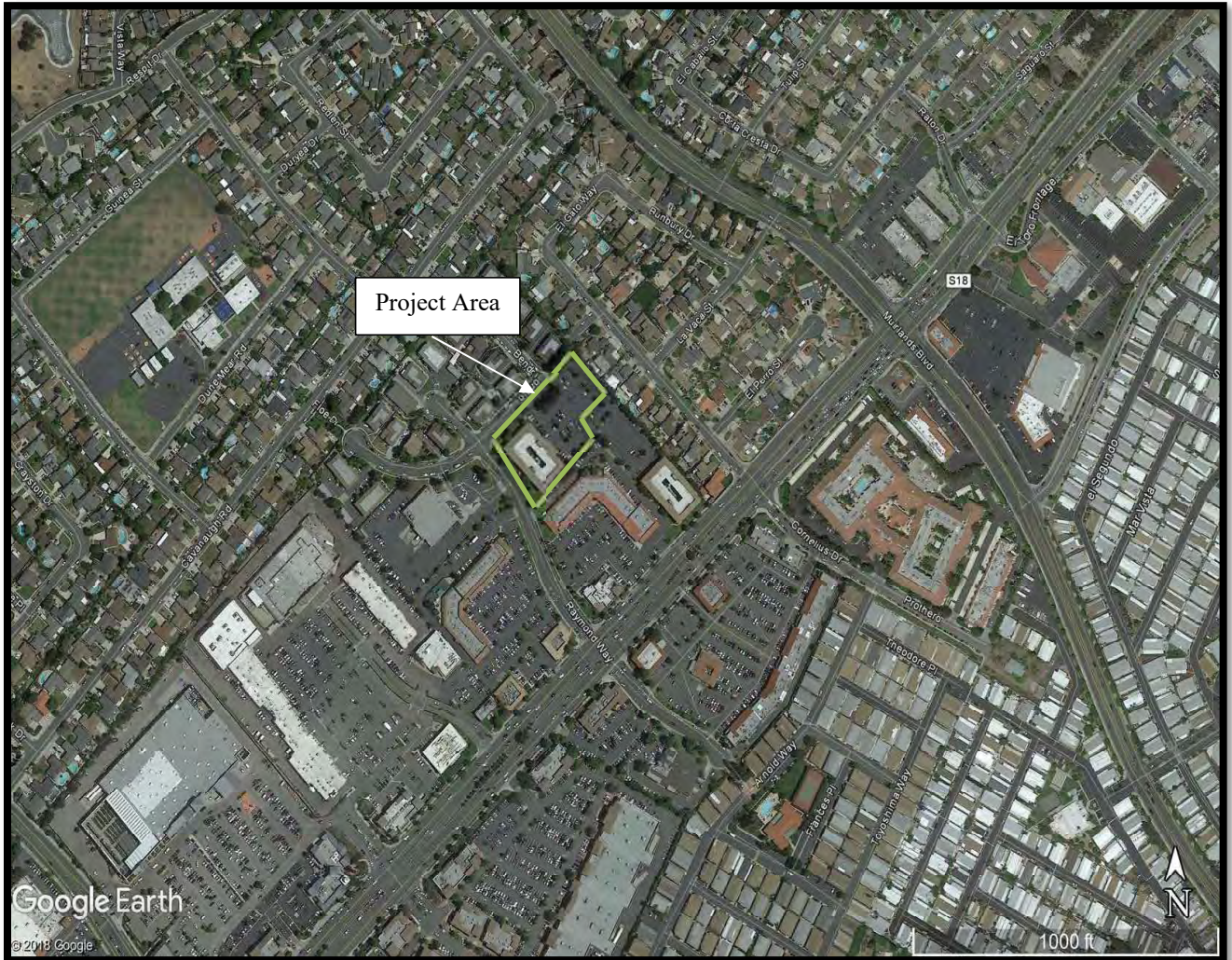
- Review of the referenced conceptual site plan
- Review of published geologic and seismic data for the site and surrounding area
- Review of historical aerial photographs
- Exploratory drilling and soil sampling
- Laboratory testing of selected soil samples
- Engineering analyses of data obtained from our review, exploration, and laboratory testing
- Evaluation of site seismicity, liquefaction, and settlement potential
- Preparation of this report

1.2 SITE LOCATION AND DESCRIPTION

The site is located at 24551 Raymond Way (APN 617-441-02), within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas is shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property containing approximately 1.96 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth) descending to the west. Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass cover adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



© 2019 Google Earth



SITE LOCATION MAP
Lake Forest
Proposed Multi-Family Residential Development
24551 Raymond Way,
Lake Forest, California

NOT TO SCALE
FIGURE 1

1.3 PROPOSED DEVELOPMENT

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparing of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

2.0 INVESTIGATION

2.1 RESEARCH

We have reviewed the referenced geologic publications and maps (see references). Data from these sources were utilized to develop some of the findings and conclusions presented herein.

We have also reviewed available historical aerial photographs. The aerial photos indicate that as early as 1938, the site was vacant land. In the vicinity of the site, some areas of land were used for agricultural purposes. By 1967, the adjacent single-family residential properties to the northeast were developed. By 1980, the property was developed with the present-day commercial building and parking lot. The site has remained unchanged since then.

2.2 SUBSURFACE EXPLORATION

Subsurface exploration for this investigation was conducted on October 2nd, 2019, and consisted of the drilling of five (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and Standard Penetration Test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

2.3 LABORATORY TESTING

Selected samples of representative earth materials from our borings were tested in our laboratory. Tests consisted of USCS classification, in-situ moisture content and dry density, maximum dry density and optimum moisture content, consolidation/collapse, direct shear strength, grain size analysis, soluble sulfate content, and corrosivity testing (pH, chloride, and resistivity). Descriptions of laboratory testing and the test results are presented in Appendix B and on the Exploration Logs in Appendix A.

3.0 GEOLOGIC CONDITIONS

3.1 SOIL CONDITIONS

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are comprised of reddish-brown clayey sand/sandy clay. A layer of clay and silty sand was observed below a depth of 6 feet. Deeper portions of the very old alluvium fan consist of clayey sand and silty sand with variable some inner layers of clay and silt. The surficial very old alluvial fan materials are typically very dense and hard.

3.2 GROUNDWATER

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet.

3.3 FAULTING

Geologic literature and field exploration do not indicate the presence of active faulting within the site. The site does not lie within an "Earthquake Fault Zone" as defined by the State of California in the Earthquake Fault Zoning Act. Table 3.1 presents a summary of all the known seismically active faults within 10 miles of the site.

TABLE 3.1
Summary of Active Faults

Name	Distance (miles)	Slip Rate (mm/yr.)	Preferred Dip (degrees)	Slip Sense	Rupture Top (km)	Fault Length (km)
San Joaquin Hills	0.18	0.5	23	thrust	2	27
Newport Inglewood Connected alt 1	9.66	1.3	89	strike slip	0	208
Newport Inglewood (Offshore)	9.66	1.5	90	strike slip	0	66
Newport Inglewood Connected alt 2	9.66	1.3	90	strike slip	0	208

4.0 ANALYSES

4.1 SEISMICITY

We have performed probabilistic seismic analyses utilizing the U.S. Seismic Design Maps web application by the U.S. Geological Survey (USGS). From our analyses, we obtain a PGA of 0.598g in accordance with Figure 22-7 of ASCE 7-10. The F_{PGA} factor for site class D with a PGA of 0.598g is 1.0. Therefore, the $PGA_M = 1.0 \times 0.598 = 0.598g$. The mean event associated with a probability of exceedance equal to 2% over 50 years has a moment magnitude of 6.65 with a mean distance to the seismic source of 6.76 miles.

4.2 STATIC SETTLEMENT

Analyses were performed to evaluate potential for static settlement of the underlying very old alluvial fan deposits. Our analyses were based on the results of consolidation tests performed on selected samples from our borings as well as the recorded blow counts during the exploration. Results of our testing indicate the site materials have low compressibility. Based on the data from field exploration and laboratory testing, settlement is estimated to be less than 1.0 inch in the site.

5.0 CONCLUSIONS

5.1 FEASIBILITY OF PROPOSED DEVELOPMENT

From a geotechnical point of view, the proposed site development is considered feasible provided the recommendations presented in this report are incorporated into the design and construction of the project. Furthermore, it is also our opinion that the proposed development will not adversely impact the stability of adjoining properties if the recommendations presented in this report are incorporated into site development. Key issues that could have significant fiscal impacts on the geotechnical aspects of the proposed site development are discussed in the following sections of this report.

5.2 GEOLOGIC HAZARDS

5.2.1 Ground Rupture

No active faults are known to project through the site nor does the site lie within the bounds of an "Earthquake Fault Zone" as defined by the State of California in the Alquis-Priolo Earthquake Fault Zoning Act. As such, the potential for ground rupture due to fault displacement beneath the site is considered very low.

5.2.2 Ground Shaking

The site is located in a seismically active area that has historically been affected by moderate to occasionally high levels of ground motion. The site lies in relatively close proximity to several seismically active faults; therefore, during the life of the proposed development, the property will probably experience moderate to occasionally high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the southern California region. Design of proposed structures in accordance with the current CBC is anticipated to adequately mitigate concerns with ground shaking.

5.2.3 Landsliding

Geologic hazards associated with landsliding are not anticipated at the site due to not being located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability.

5.2.4 Liquefaction

Engineering research of soil liquefaction potential (Youd, et al., 2001) indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The liquefaction susceptibility of the onsite soils was evaluated by analyzing the potential of concurrent occurrence of the above-mentioned three basic factors. The liquefaction evaluation for the site was completed under the guidance of Special Publication 117A: Guidelines for Evaluating and Mitigating Seismic Hazards in California (CDMG, 2008).

Based on the fine-grained nature of subsurface materials, the potential for liquefaction at the site is considered to be low. Additionally, the site is underlain by Pleistocene aged deposits, typically not susceptible to liquefaction. Furthermore, the site is not located within a San Diego Seismic Study liquefaction zone.

5.3 STATIC SETTLEMENT

The existing artificial fills consist of variable materials that are inadequately compacted for support of the proposed development in its current condition. Therefore, excavation and recompaction of the existing surficial soils to provide a uniform compacted blanket will be necessary. Provided grading and construction are performed in accordance with the recommendations provided herein, estimated total and differential settlement of proposed site improvements are anticipated to be less than 1 inch and ½ inch over 30 feet, respectively. These magnitudes of settlement are considered within tolerable limits of proposed site development.

5.4 EARTHWORK AND MATERIAL CHARACTERISTICS

Subsurface soils are anticipated to be relatively easy to excavate with conventional heavy earthmoving equipment. Most of these materials are below optimum moisture content with a few localized layers above optimum moisture content. Blending and the addition of water will be required to achieve proper compaction. Various debris is anticipated within the artificial fill and will likely require of hand picking to remove deleterious materials.

Off-site improvements exist near the property lines. The presence of the existing improvements may limit removals of unsuitable materials adjacent the property lines. Special grading techniques, such as slot cutting, underpinning, or other acceptable criteria may be required when grading adjacent the property lines.

Onsite disposal systems, clarifiers and other underground improvements may be present beneath the site. If encountered during future rough grading, these improvements will require proper abandonment or removal.

5.5 SHRINKAGE AND SUBSIDENCE

Volumetric changes in earth quantities will occur when excavated onsite soil materials are replaced as properly compacted fill. We estimate that the existing artificial fill soils will shrink less than 5 percent to negligible. Subsidence due to reprocessing of removal bottoms is anticipated to be negligible. The estimates of shrinkage and subsidence are intended as an aid for project engineers in determining earthwork quantities. However, these estimates should be used with some caution since they are not absolute values. Contingencies should be made for balancing earthwork quantities based on actual shrinkage and subsidence that occurs during the grading process.

5.6 SOIL EXPANSION

Based on our laboratory test results and USCS visual manual classification, the near-surface soils within the site are generally anticipated to possess a **Low** expansion potential. Additional testing for soil expansion will be required subsequent to rough grading and prior to construction of foundations and other concrete flatwork to confirm these conditions.

6.0 RECOMMENDATIONS

6.1 EARTHWORK

6.1.1 General Earthwork and Grading Specifications

All earthwork and grading should be performed in accordance with all applicable requirements of the grading codes of the City of Lake Forest, California and CAL OSHA, in addition to recommendations presented herein.

6.1.2 Pre-Grade Meeting and Geotechnical Observation

Prior to commencement of earthwork operations and foundation installation, we recommend a meeting be held between the City Inspector, general contractor, civil engineer, and geotechnical consultant to discuss proposed earthwork and logistics.

We also recommend that a geotechnical consultant be retained to provide soil engineering and engineering geologic services during site development. This is to observe compliance with the design specifications and recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated. If conditions are encountered during construction that appears to be different than those indicated in this report, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

6.1.3 Site Clearing

All existing site improvements, including asphaltic concrete paving, structural foundations and underground utilities, should be removed from the areas to be developed prior to any grading activities. Existing underground utility lines within the project area that will be protected in place and that fall within a 1 to 1 (H:V) plane projected down from the edges of footings may be subject to surcharge loads. Under such conditions, this office should be made aware of these conditions for evaluation of potential surcharging. Supplemental recommendations may be required to protect such improvements in place.

The project geotechnical consultant should be notified at the appropriate times to provide observation services during clearing operations to verify compliance with the above recommendations. Voids created by clearing and excavation should be left open for observation by the geotechnical consultant. Should any unusual soil conditions or subsurface structures be encountered during site clearing or grading that are not described or anticipated herein, these conditions should be brought to the immediate attention of the project geotechnical consultant for corrective recommendations as needed.

Temporary construction equipment (office trailers, power poles, etc.) should be positioned to allow adequate room for clearing and recommended ground preparation to be performed for proposed structures, pavements, and hardscapes.

6.1.4 Site Preparation (Removals and Overexcavations)

In general, the upper 5 to 6 feet of earth materials are inadequately compacted for support of the proposed development in its current condition. These materials as well as any additional artificial fill soils, should be excavated from proposed building pads and site improvements, and recompacted as engineered compacted fill. Within the limits of pavement and free-standing/retaining walls, the existing artificial fill soils should be removed to a minimum depth of 2 foot below subgrade or footing,

whichever is deeper. The actual depth of removal should be determined by the geotechnical consultant during grading.

The removals should extend laterally a distance of at least 5 feet beyond the limits of the proposed structures or a 1:1 projection down and away from the bottom of the footings, whichever is greater. Removals for roadways, retaining walls less than 3 feet in height and screen walls may be limited to the edge of the foundations or pavement. Upon review of more detailed site development plans, the depth of removals for roadways, short retaining walls, and screen walls may be lessened from the general removals described above.

Where removals are limited by existing structures, protected trees or property lines, special considerations may be required in the construction of affected improvements. Under such conditions, specific recommendations should be provided by this firm based on review of site-specific development plans.

Following removals/overexcavation, the exposed grade should first be scarified to a depth of 6 inches, brought to at least 110 percent of the optimum moisture content, and then compacted to at least 90 percent of the laboratory standard (ASTM D 1557).

6.1.5 Fill Placement

Materials excavated from the site may be reused as fill provided, they are free of deleterious materials and particles greater than 6 inches in maximum dimension (oversized materials). Asphaltic and concrete debris generated during site demolition or encountered within the existing fill can be incorporated within new fill soils during earthwork operations provided they are reduced to no more than 6 inches in maximum dimension. Such materials should be mixed thoroughly with fill soils to prevent nesting. All fill should be placed in lifts no greater than 8 inches in loose thickness, moisture conditioned to at least 110 percent of the optimum moisture content, then compacted in place to at least 90 percent of the laboratory standard. Each lift should be treated in a similar manner. Subsequent lifts should not be placed until the project geotechnical consultant has approved the preceding lift.

6.1.6 Import Materials

If import materials are required to achieve the proposed finish grades, the proposed import soils should have an Expansion Index (EI, ASTM D 4829) less than 30 and possess negligible soluble sulfate concentrations. Import sources should be indicated to the geotechnical consultant prior to hauling the materials to the site so that appropriate testing and evaluation of the fill materials can be performed in advance.

6.1.7 Temporary Excavations

Temporary construction slopes or trench excavations in site materials may be cut vertically up to a height of 4 feet provided that no surcharging of the excavations is present. Temporary slopes over 4 feet in height should be laid back to 1:1 (H:V) or flatter and evaluated by the geotechnical consultant.

Excavations should not be left open for prolonged periods of time. The project geotechnical consultant should observe all temporary cuts to confirm anticipated conditions and to provide alternate recommendations if conditions dictate. All excavations should conform to the requirements of CAL OSHA.

Where temporary excavations cannot accommodate a 1:1 layback or where surcharging occurs, shoring, slot cutting, underpinning, or other methods should be used. Specific recommendations for other options if considered should be provided by the geotechnical consultant based on review of the final design plans.

6.2 SEISMIC DESIGN PARAMETERS

For design of the project in accordance with Chapter 16 of the 2016 CBC, the table below presents the seismic design factors.

TABLE 6.1
CBC 2016 SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class	D
Mapped MCE Spectral Response Acceleration, short periods, S_s	1.466
Mapped MCE Spectral Response Acceleration, at 1-sec. period, S_1	0.546
Site Coefficient, F_a	1.0
Site Coefficient, F_v	1.5
Adjusted MCE Spectral Response Acceleration, short periods, S_{MS}	1.466
Adjusted MCE Spectral Response Acceleration, at 1-sec. period, S_{M1}	0.82
Design Spectral Response Acceleration, short periods, S_{DS}	0.977
Design Spectral Response Acceleration, at 1-sec. period, S_{D1}	0.546
MCE = Maximum Considered Earthquake	

6.3 FOUNDATION DESIGN

6.3.1 General

The following recommendations are provided for preliminary design purposes. These recommendations have been based on the site materials exposed during our investigation, our understanding of the proposed development, and the assumption that the recommendations presented herein are incorporated into the design and construction of the project. Final recommendations should be provided by the project geotechnical consultant following review of final foundation plans as well as observation and testing of site materials during grading. Depending upon the design plans and actual site conditions, the recommendations provided herein may require modification.

6.3.2 Soil Expansion

The recommendations presented herein are based on soils with a **Low** expansion potential ($EI \leq 40$, $PI \leq 18$). Following site grading, additional testing of site soils should be performed by the project geotechnical consultant to confirm the basis of these recommendations. If site soils with higher

expansion potentials are encountered or imported to the site, the recommendations contained herein may require modification.

6.3.3 Settlement

Under normal static conditions, the foundation system should be designed to tolerate a total settlement of 1 inch and a differential settlement of 1/2-inch over 30 feet. These estimated magnitudes of settlement should be considered by the structural engineer in design of the proposed structures at the site.

6.3.4 Allowable Bearing Value

Provided foundations are bearing into engineered fill, a bearing value of 2,700 pounds per square foot (psf) may be used for continuous and pad footings a minimum width of 12 inches and founded at a minimum depth of 12 inches below the lowest adjacent grade. This value may be increased by 200 psf and 500 psf for each additional foot in width and depth, respectively, up to a maximum value of 4,000 psf. Recommended allowable bearing values include both dead and live loads, and may be increased by one-third for wind and seismic forces.

6.3.5 Lateral Resistance

Provided site grading is performed and that foundations are founded in engineered fill, a passive earth pressure of 250 pounds per square foot per foot of depth (psf/ft) up to a maximum value of 2,200 pounds per square foot (psf) may be used to determine lateral bearing for footings. This value may be increased by one-third when designing for wind and seismic forces. A coefficient of friction of 0.37 times the dead load forces may also be used between concrete and the supporting soils to determine lateral sliding resistance. No increase in the coefficient of friction should be used when designing for wind and seismic forces.

The above values are based on footings placed directly against compacted fill or competent native soils. In the case where footing sides are formed, all backfill against the footings should be compacted to at least 90 percent of the laboratory standard.

6.3.6 Conventional Spread Foundations and Slabs on Grade

All exterior and interior continuous footings should have a minimum width of 12 inches and minimum embedment of 12 inches below lowest adjacent grade. All continuous footings for habitable structures should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom.

All spread footings used to support columns should have a minimum width of 18 inches and minimum embedment of 12 inches below lowest adjacent grade. All spread footings in habitable structures should be tied in both directions with a grade beam having a minimum depth and width of 12 inches. The grade beams should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom. Reinforcing of the grade beams should hook into the footings.

Slabs on grade should have a minimum thickness of 4 inches and be reinforced with a minimum of No. 3 bars spaced at 18 inches center to center. Slabs on grade in habitable structures should be hooked to the underlying grade beams on a minimum spacing of 24 inches or poured monolithically with the grade beams.

Interior grade beams as required by the WRI method should be provided in both directions at a maximum spacing of 22 feet. Design of the slab in accordance with the WRI method may use an effective PI of 20. This value already accounts for the factors for ground slope and over-consolidation. All slabs on grade that may have moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. A minimum of four (4) inches of clean sand having a sand equivalent (SE) of at least 30 should be placed under the membrane. An additional one inch of the sand (SE>30) may be placed over the vapor barrier to aid in the uniform curing of the slab if preferred. This vapor barrier system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, the subgrade below all floor slab areas should be moisture-conditioned to achieve a moisture content that is at least 110 percent of the optimum moisture content. This moisture content should be maintained a minimum depth of 12 inches below the bottoms of the slabs.

6.3.7 Post-Tensioned Slab/Mat on grade

Alternatively, a post-tension slab may be utilized. Perimeter edge beams for the post-tensioned slabs should have a minimum effective width of 12 inches and be founded at a minimum depth of 18 inches below the lowest adjacent final ground surface. Interior beams may be founded at a minimum depth of 12 inches below the tops of the finish floor slabs. Where a post-tensioned mat is utilized, the exterior edge of the mat should be embedded at least 8 inches below the lowest adjacent grade. The thickness of the floor slab/mat should be determined by the project structural engineer; however, we recommend a minimum slab thickness of 5.0 inches.

Design of the mat may be based on a modulus of subgrade reaction (K_v) of 100 pounds per cubic inch (pci). The modulus is based on an effective loading area of 1 foot by 1 foot. The modulus may be adjusted for other effective loading areas using the equation provided below.

$$k_b(\text{pci}) = 100 \left\{ \frac{b + 1}{2b} \right\}^2$$

where “b” is the effective width of loading (minimum dimension) in feet.

Concrete floor slabs in areas to receive carpet, tile, or other moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. The membrane should be properly lapped, sealed, and underlain within a layer of sand at least 4 inches thick. Where a mat is used and has a thickness of at least 8 inches, the sand may be limited to 2 inches. One inch of sand may be placed over the membrane to aid in the curing of the concrete. The sand should have a SE no less than 30. This vapor retarder system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, subgrade soils below slab-on-grade/mat areas should be thoroughly moistened to provide moisture contents at least 110 percent of the optimum moisture content to a depth of 12 inches.

Based on the guidelines provided in the “Design of Post-Tensioned Slabs-on-Ground” 3rd Edition by Post-Tensioning Institute, the e_m and y_m values are summarized in Table 6.2.

TABLE 6.2
PTI Design Parameters

Parameter	Value
Edge Lift Moisture Variation Distance, e_m	8.0 feet
Edge Lift, y_m	0.754 inches
Center Lift Moisture Variation Distance, e_m	4.2 feet
Center Lift, y_m	1.182 inches

6.3.8 Foundation Observations

Foundation excavation should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended above. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4 RETAINING AND SCREENING WALLS

6.4.1 General

The following preliminary design and construction recommendations are provided for general retaining and screen walls supported by engineered compacted fill or competent native soils. Final wall designs specific to the site development should be provided for review once completed. The structural engineer and architect should provide appropriate recommendations for sealing at all joints and applying moisture-proofing material on the back of the walls.

6.4.2 Allowable Bearing Value and Lateral Resistance

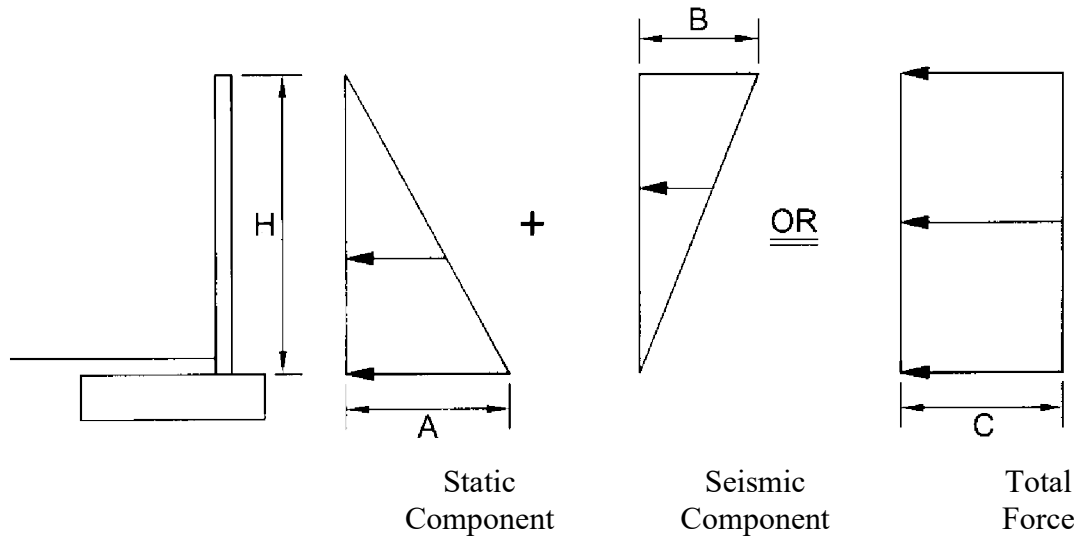
Design of retaining and screen walls may utilize the bearing and lateral resistance values provided in Section 6.3.4 and 6.3.5. Lateral resistance for walls along property lines, where lateral removals are restricted should be reduced by 50%.

6.4.3 Active Earth Pressures

Static and seismic active earth pressures for level backfill and 2:1 (H:V) backfill conditions are provided in Table 6.3. Based on the 2016 CBC, walls that retain less than 6 feet need not be designed for seismic earth pressures. Seismic earth pressures provided herein are based on the method provided by Seed & Whitman (1970) using a peak ground acceleration (PGA) of 0.35 g, for 10% probability of exceedance in 50 years. The values provided in Table 6.4 are based on drained backfill conditions and do not consider hydrostatic pressure. Furthermore, retaining walls should be designed to support adjacent surcharge loads imposed by other nearby footings or traffic loads in addition to the earth pressure.

TABLE 6.3

**SEISMIC EARTH PRESSURES
Pressure Diagram**



**Pressure Values
Walls Up To 10 Feet High**

Value	Backfill Condition	
	Level	2H:1V Slope
A	40H	68H
B	11H	11H
C	26H	40H

Note:
H is in feet and resulting pressure is in psf. Design may utilize either the sum of the static component and the seismic component force diagrams or the total force diagram above. SEAOSC has suggested using a load factor of 1.7 for the static component and 1.0 for the seismic component. The actual load factors should be determined by the structural engineer.

6.4.4 Drainage and Moisture-Proofing

Retaining walls should be constructed with a perforated pipe and gravel subdrain to prevent entrapment of water in the backfill. The perforated pipe should consist of 4-inch-diameter, ABS SDR-35 or PVC Schedule 40 with the perforations laid down. The pipe should be embedded in 3/4- to 1 1/2-inch open-graded gravel wrapped in filter fabric. The gravel should be at least one foot wide and extend at least one foot up the wall above the footing and drainage outlet. Drainage gravel and piping should not be placed below outlets and weepholes. Filter fabric should consist of Mirafi 140N, or equal. Outlet pipes should be directed to positive drainage devices.

The use of weepholes may be considered in locations where aesthetic issues from potential nuisance water are not a concern. Weepholes should be 2 inches in diameter and provided at least every 6 feet on center. Where weepholes are used, perforated pipe may be omitted from the gravel subdrain.

Retaining walls supporting backfill should also be coated with a moisture-proofing compound or covered with such material to inhibit infiltration of moisture through the walls. Moisture-proofing material should cover any portion of the back of wall that will be in contact with soil and should lap over and onto the top of footing. A drainage panel should be provided between the soil backfill and water proofing. The panel should extend from the top of the backdrain gravel up to within 12 inches of finish grade. The top of footing should be finished smooth with a trowel to inhibit the infiltration of water through the wall. The project structural engineer should provide specific recommendations for moisture-proofing, water stops, and joint details.

6.4.5 Footing Reinforcement and Wall Jointing

All continuous footings should be reinforced with a minimum of two No. 4 bars, one top and one bottom. Walls should be provided with cold joints spaced no more than 40 feet apart. Wall finishes and capping materials should not extend across the cold joint. The structural engineer may require different reinforcement or jointing and should dictate if greater than the recommendations provided herein. Where recommended removals are limited due to space restrictions, greater reinforcement and closer jointing may be recommended. Specific recommendations should be provided by the geotechnical consultant during grading based on as-built conditions exposed in the field.

6.4.6 Footing Observations

Footing excavations should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended herein. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4.7 Retaining Wall Backfill

Onsite soils may generally be used for backfill of retaining walls. The project geotechnical consultant should approve all backfill used for retaining walls. Wall backfill should be moisture-conditioned to slightly over the optimum moisture content; placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. Hand-operated compaction equipment should be used to compact the backfill placed immediately adjacent the wall to avoid damage to the wall. Flooding or jetting of backfill material is not recommended.

6.5 EXTERIOR FLATWORK

Exterior flatwork should be a minimum 4 inches thick. Cold joints or saw cuts should be provided at least every 7 feet in each direction. Flatwork having a minimum dimension more than 7 feet should be reinforced with No. 3 bars spaced 18 inches center to center each way or 6-inch by 6-inch, W4 by W4 welded wire mesh. Special jointing detail should be provided in areas of block-outs, notches, or other irregularities to avoid cracking at points of high stress. Subgrade soils below flatwork should be thoroughly moistened to at least 110 percent of the optimum moisture content to a depth of 12 inches. Moistening should be accomplished by lightly spraying the area over a period of a few days just prior to pouring concrete. The geotechnical consultant should observe and verify the density and moisture content of subgrade soils prior to pouring concrete to ensure that the required compaction and pre-moistening recommendations have been met.

Drainage from flatwork areas should be directed to local area drains and/or other appropriate collection devices designed to carry runoff water to the street or other approved drainage structures. The concrete flatwork should also be sloped at a minimum gradient of 1 percent away from building foundations and retaining walls.

6.6 CONCRETE MIX DESIGN

Laboratory testing of onsite soil indicates **negligible** soluble sulfate content. Concrete designed to follow the procedures provided in ACI 318, Section 4.3, Table 4.3.1 for **negligible** sulfate exposure are anticipated to be adequate for mitigation of sulfate attack on concrete. Upon completion of rough grading, an evaluation of as-graded conditions and further laboratory testing will be required for the site to confirm or modify the conclusions provided in this section.

6.7 CORROSION

Results of preliminary testing of soils for pH, chloride, and minimum resistivity indicate the site is potentially **Corrosive** to metals that are in contact or close proximity to onsite soils. As such, specific recommendations should be obtained from a corrosion specialist if construction will include metals that will be near or in direct contact with site soils.

6.8 PRELIMINARY PAVEMENT DESIGN

6.8.1 Preliminary Pavement Structural Sections

Based on the soil conditions present at the site and estimated traffic index, preliminary pavement structural sections are recommended in the table below. An assumed “R-value” of 20 utilized for the near-surface soil in this preliminary pavement design. The sections provided in Table 6.4 are for planning purposes only and should be re-evaluated subsequent to site grading. Final pavement sections should be based on actual R-value testing of in-place soils and analysis of anticipated traffic.

6.8.2 Subgrade Preparation

Prior to placement of pavement elements, subgrade soils should be moisture-conditioned to at least 110 percent of the optimum moisture content then compacted to at least 90 percent of the laboratory determined maximum dry density. Areas observed to pump or yield under vehicle traffic should be removed and replaced with firm and unyielding compacted soil or aggregate base materials.

**TABLE 6.4
PRELIMINARY PAVEMENT STRUCTURAL SECTIONS**

Location	Traffic Index	AC (inches)	PCC (inches)	Concrete Pavers (mm)	AB (inches)
Entry and Main Driveway	5	3.0	--	--	8.0
		4.0	--	--	6.0
		--	6.5	--	--
		--	--	80.0	9.0
Parking Stalls	--	3.0	--	--	5.0

AC - Asphaltic Concrete

AB - Aggregate Base

6.8.3 Aggregate Base

Aggregate base should be moisture conditioned to slightly over the optimum moisture content, placed in lifts no greater than 6 inches in thickness, then compacted to at least 95 percent of the laboratory standard (ASTM D 1557). Aggregate base materials should be Class 2 Aggregate Base conforming to Section 26-1 of the latest edition of the Caltrans Standard Specifications, Crushed Aggregate Base conforming to Section 200-2.2 of the latest edition of the Standard Specifications for Public Works Construction (Greenbook) or Crushed Miscellaneous Base conforming to Section 200-2.4 of the Greenbook.

6.8.4 Asphaltic Concrete

Paving asphalt should be PG 64-10. Asphaltic concrete materials should conform to Section 203-6 of the Greenbook and construction should conform to Section 302 of the Greenbook.

6.8.5 Concrete Pavers

Concrete pavers should conform to the requirements of ASTM C 936. Construction of the pavers, including bedding sand, should follow manufacturer's specifications. Typical thickness of bedding sand is about 1 inch. The gradation of bedding sand should meet the requirement in Table 6.5.

Construction of edge restraints should also follow manufacturer's specifications. As a minimum, restraints should be provided along the perimeter of concrete pavers and where there is a change in the paving materials.

TABLE 6.5
Gradation of Bedding for Pavers

Sieve Size	Percent Passing
$\frac{3}{8}$ "	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	5 - 30
No. 100	0 - 10
No. 200	0 - 1

6.8.6 Portland Cement Concrete

Portland cement concrete used to construct concrete paving should conform to Section 201 of the Greenbook and should have a minimum compressive strength of 3,250 pounds per square inch (psi) at 28 days. Reinforcement and jointing of concrete pavement sections should be designed according to the minimum recommendations provided by the Portland Cement Association (PCA). For rigid pavement, transverse and longitudinal contraction joints should be provided at spacing no greater than 15 feet. Score joints may be constructed by saw cutting to a depth of $\frac{1}{4}$ of the slab thickness. Expansion/cold joints may be used in lieu of score joints. Such joints should be properly sealed and provided with a key or dowels. Where traffic will traverse over edges of concrete paving (not including joints), the edges should be thickened by 20% of the design thickness toward the edge over a horizontal distance of 5 feet.

Trash pickup areas should be provided with a concrete slab where the bins will be picked up and extend at least 3 feet past the front wheel landing areas. The slab should be at least 8 inches thick and be reinforced with No. 4 bars spaced at 24 inches on centers, both ways. The slabs should be provided transverse and longitudinal joints spacing as specified above. Dowels or a keyway should be provided at all cold joints.

6.9 POST GRADING CONSIDERATIONS

6.9.1 Site Drainage and Irrigation

The ground immediately adjacent to foundations should be provided with positive drainage away from the structures in accordance with 2016 CBC, Section 1804.3. No rain or excess water should be allowed to pond against structures such as walls, foundations, flatwork, etc.

Excessive irrigation water can be detrimental to the performance of the proposed site development. Water applied in excess of the needs of vegetation will tend to percolate into the ground. Such percolation can lead to nuisance seepage and shallow perched groundwater. Seepage can form on slope faces, on the faces of retaining walls, in streets, or other low-lying areas. These conditions could lead to adverse effects such as the formation of stagnant water that breeds insects, distress or damage of trees, surface erosion, slope instability, discoloration and salt buildup on wall faces, and premature

failure of pavement. Excessive watering can also lead to elevated vapor emissions within buildings that can damage flooring finishes or lead to mold growth inside the home.

Key factors that can help mitigate the potential for adverse effects of overwatering include the judicious use of water for irrigation, use of irrigation systems that are appropriate for the type of vegetation and geometric configuration of the planted area, the use of soil amendments to enhance moisture retention, use of low-water demand vegetation, regular use of appropriate fertilizers, and seasonal adjustments of irrigation systems to match the water requirements of vegetation. Specific recommendations should be provided by a landscape architect or other knowledgeable professional.

6.9.2 Utility Trenches

Trench excavations should be constructed in accordance with the recommendations contained in Section 6.1.7 of this report. Trench excavations must also conform to the requirements of Cal/OSHA.

Trench backfill materials and compaction criteria should conform to the requirements of the local municipalities. As a minimum, utility trench backfill should be compacted to at least 90 percent of the laboratory standard. Materials placed within the pipe zone (6 inches below and 12 inches above the pipe) should consist of particles no greater than $\frac{3}{4}$ inches and have a SE of at least 30. The materials within the pipe zone should be moisture-conditioned and compacted by hand-operated compaction equipment. Above the pipe zone (>1 foot above pipe), the backfill may consist of general fill materials. Trench backfill should be moisture-conditioned to slightly over the optimum moisture content, placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. For trenches with sloped walls, backfill material should be placed in lifts no greater than 8 inches in loose thickness, and then compacted by rolling with a sheepsfoot roller or similar equipment. The project geotechnical consultant should perform density testing along with probing to verify that adequate compaction has been achieved.

Within shallow trenches (less than 18 inches deep) where pipes may be damaged by heavy compaction equipment, imported clean sand having a SE of 30 or greater may be utilized. The sand should be placed in the trench, thoroughly watered, and then compacted with a vibratory compactor. For utility trenches located below a 1:1 (H:V) plane projecting downward from the outside edge of the adjacent footing base or crossing footing trenches, concrete or slurry should be used as trench backfill.

6.10 PLAN REVIEW AND CONSTRUCTION SERVICES

We recommend *Albus-Keefe & Associates, Inc.* be engaged to review any future development plans, including foundation plans prior to construction. This is to verify that the assumptions of this report are valid and that the preliminary conclusions and recommendations contained in this report have been properly interpreted and are incorporated into the project plans and specifications. If we are not provided the opportunity to review these documents, we take no responsibility for misinterpretation of our preliminary conclusions and recommendations.

We recommend that a geotechnical consultant be retained to provide soil engineering services during construction of the project. These services are to observe compliance with the design, specifications or recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

If the project plans change significantly from the assumed development described herein, the project geotechnical consultant should review our preliminary design recommendations and their applicability to the revised construction. If conditions are encountered during construction that appear to be different than those indicated in this report or subsequent design reports, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

7.0 LIMITATIONS

This report is based on the proposed development and geotechnical data as described herein. The materials encountered on the project site, described in other literature, and utilized in our laboratory testing for this investigation are believed representative of the total project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observation and testing by a geotechnical consultant during the grading and construction phases of the project are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty. This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

This report has been prepared for the exclusive use of **National Community Renaissance** and their project consultants in the planning and design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes. This report is subject to review by the controlling governmental agency.

Respectfully submitted,

ALBUS-KEEFE & ASSOCIATES, INC



Paul Hyun Jin Kim
Associate Engineer
G.E. 3106



8.0 REFERENCES

Publications

- California Geologic Survey, Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California, 2008.
- CDMG, “Seismic Hazard Zone Report for the Lake Forest 7.5-Minute Quadrangles, Orange County, California,” Seismic Hazard Zone Report 047, 2000.
- Ishihara, K., and Yoshimine, M., “Evaluation of Settlements in Sand Deposits Following Liquefaction During Earthquakes”, Soils and Foundations, Vol. 32, No. 1, 1992.
- NCEER, “Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils”, Technical Report NCEER-97-0022, December 31, 1997.
- Seed, HB, and Whitman, RV. "Design of Earth Retaining Structures for Dynamic Loads," ASCE Specialty Conference, Lateral Stresses in the Ground and Design of Earth Retaining Structures, Cornell Univ., Ithaca, New York, 103-147, 1970.
- Southern California Earthquake Center (SCEC), University of Southern California, “Recommended Procedures for Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating Liquefaction Hazards in California”, March 1999.
- U.S. Geologic Survey. Seismic Hazard Curve Application:
<http://geohazards.usgs.gov/hazardtool/application.php>
- U.S. Geologic Survey. 2008 Interactive Deaggregations, <http://geohazards.usgs.gov/deaggint/2008/>
- U.S. Geologic Survey. U.S. Seismic Design Maps,
<http://earthquake.usgs.gov/hazards/designmaps/usdesign.php>
- Tokimatsu, K. & Seed, H.B., “Evaluation of Settlement in Sands Due to Earthquake Shaking,” Journal of Geotechnical Engineering, Vol. 113, No. 8, August, 1987.
- Youd, T.L., Idriss, I.M., Andrus, R.D., Arango, I., Castro, G., Christian, J., Dobry, R., Finn, W.D.L., Harder, L.F., Hynes, M.E., Ishihara, K., Koester, J.P., Liao, S.S.C., Marcuson, W.F., Martin, G.R., Mitchell, J.K., Moriwaki, Y., Power, M.S., Robertson, P.K., Seed, R.B., and Stokoe, K.H., “Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils”, Journal of Geotechnical and Geoenvironmental Engineering, October, 2001.



0 20 40 80
APPROX SCALE : 1" = 40'

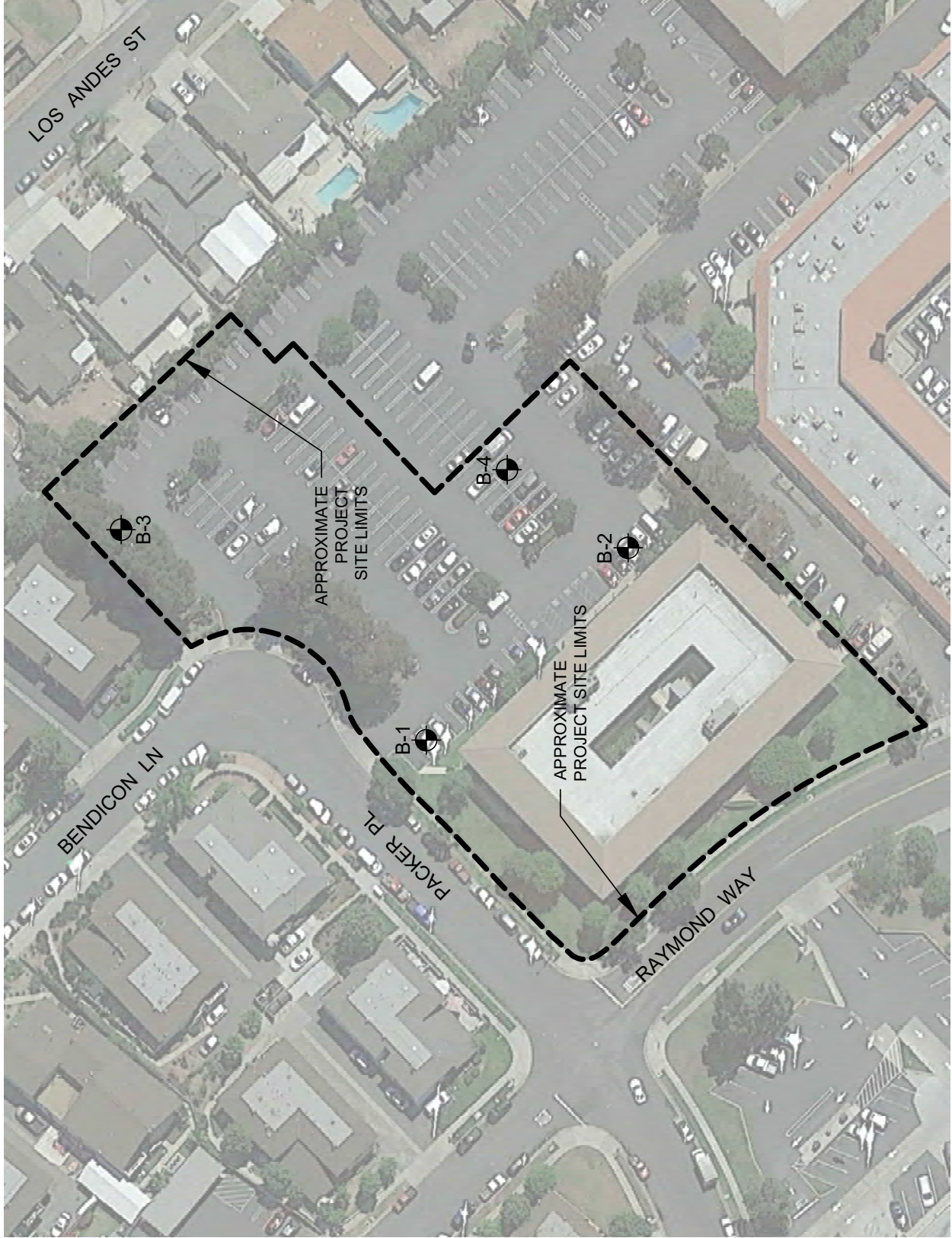
EXPLANATION
(Locations Approximate)



ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOTECHNICAL MAP

Job No.: 2841.00 | Date: 04/20/20 | Plate: 1



APPENDIX A
EXPLORATION BORING LOGS

EXPLORATION LOG

Project:		Location:	
Address:		Elevation:	
Job Number:	Client:	Date:	
Drill Method:	Driving Weight:	Logged By:	

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>EXPLANATION</u>							
		Solid lines separate geologic units and/or material types.							
5		Dashed lines indicate unknown depth of geologic unit change or material type change.							
		Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).			■				
		Double triangle in core column represents SPT sampler.			▲▼				
10		Vertical Lines in core column represents Shelby sampler.							
		Solid black rectangle in Bulk column represents large bag sample.				■			
15		<u>Other Laboratory Tests:</u> Max = Maximum Dry Density/Optimum Moisture Content EI = Expansion Index SO4 = Soluble Sulfate Content DSR = Direct Shear, Remolded DS = Direct Shear, Undisturbed SA = Sieve Analysis (1" through #200 sieve) Hydro = Particle Size Analysis (SA with Hydrometer) 200 = Percent Passing #200 Sieve Consol = Consolidation SE = Sand Equivalent Rval = R-Value ATT = Atterberg Limits							
20									

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC):</u> Black ARTIFICIAL FILL (Af) <u>Silty Sand (SM):</u> Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros @ 4 ft, light gray increased clay content		80/ 10"			11.1	116	SO4 DS pH Resist Ch
5		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) <u>Sandy Clay (CL):</u> Gray, moist, hard, fine grained sand <u>Clayey Sand (SC):</u> Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche		76/ 8"			10.2	111.2	Consol
		<u>Clayey Sand (SC):</u> Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche <u>Clayey Sand/ Sandy Clay (SC/CL):</u> yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings <u>Clayey Sand (SC):</u> Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings		72/ 11"			12.8	118.2	
10		@ 15 ft, reddish brown, moist		73/ 8"			11		
15		<u>Clayey Sand :</u> Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay		29	▼	▼			SA Hydro
20				36	▼	▼			SA Hydro

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
30	@ 25 ft, caliche			43	▲▼				
35	@ 35 ft, , moist to very moist			45	▲▼				SA Hydro
35	@ 35 ft, , moist to very moist			56	▲▼				
40	@ 35 ft, , moist to very moist	<u>Silty Clay/ Clayey Silt (CL/ ML-CL):</u> Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide	▽	31	▲▼				
45	@ 35 ft, , moist to very moist			37	▲▼				

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC)</u> : Black							
		<u>Gravel wth Silt and Sand (CAB)</u> : Dark brown							
		ARTIFICIAL FILL (Af)							
		<u>Silty Sand (SM)</u> : Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▲		12.8	109.1	
5		Very Old Alluvium fan Deposits (Qovf)							
		<u>Clay (CL)</u> : Reddish brown, slightly moist, hard		79	▲		11.2	111.3	
		<u>Clayey Sand/ Sandy Clay (SC/CL)</u> : Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▲		6.4	124.4	
		<u>Silty Clay with Sand (CL-ML)</u> : Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche							
10		<u>Sandy Silt (ML)</u> : Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand		81	▲		13.5	105.6	
		End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
	••••	<u>Asphalt (AC):</u> Black							
	/ / / /	<u>Gravel with Silt and Sand (CAB):</u> Dark brown							
	/ / / /	Very Old Alluvium fan Deposits (Qovf) <u>Clayey Sand/ Sandy Clay (SC/CL):</u> mottled brown, dark brown, reddish brown and gray, slightly moist to mosit, very dense/hard, fine to coarse grained sand, caliche, brick			72/ 8"	█		11.2	119.6
5	••••	<u>Silty Sand (SM):</u> Light reddish brown, slightly moist to mosit, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments			76/ 11"	█		7	113
	••••	@ 6 ft, dense			57	█		9.9	120.1
	/ / / /	<u>Clayey Sand (SC):</u> Gray, slightly moist to mosi, very dense, fine to medium sand, caliche, rock fragments			75/ 8"	█		12.1	113.6
10	••••	<u>Sand (SP):</u> Light brown, moist, dense, trace clay, clay nodules							
15	••••				31	▼			
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings.				▼			

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC):</u> Black							
		<u>Gravel with Silt and Sand (CAB):</u> Dark brown							
		Very Old Alluvium fan Deposits (Qovf)							
		<u>Clayey Sand with Gravel (SC):</u> Dark gray, moist, dense, fine to coarse grained sand		62			11.9	118.9	
5		<u>Silty Sand (SM):</u> Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79			7.8	127.9	Consol
		@ 6 ft, medium dense		25			15.8	114.9	Consol
		<u>Silty Sand with Clay (SM):</u> Dark gray, moist, medium dense, trace gravel, caliche							
10		@ 11 ft, Light reddish brown decreased in clay content		36			13.8	117	
15		@ 15 ft, Light brown no gravel		20					
20				20					
		End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

APPENDIX B

LABORATORY TEST PROGRAM

LABORATORY TESTING PROGRAM

Soil Classification

Soils encountered within the exploratory borings were initially classified in the field in general accordance with the visual-manual procedures of the Unified Soil Classification System (ASTM D2488). The samples were re-examined in the laboratory and classifications reviewed and then revised where appropriate. The assigned group symbols are presented in the Boring Logs provided in Appendix A.

In Situ Moisture and Density

Moisture content and dry density of in-place soil materials were determined in representative strata. Test data are summarized on the Boring Logs provided in Appendix A.

Maximum Dry Density and Optimum Moisture Content

Maximum dry density and optimum moisture content of onsite soils were determined for one selected sample in general accordance with Method A of ASTM D1557. Pertinent test values are given on Table B.

Grain-Size Analyses

Grain size analyses were performed on selected samples of site materials. These tests were performed in accordance with ASTM D 422. Results are graphically presented on Plate B.

Consolidation

Consolidation tests were performed for selected soil samples in general conformance with ASTM D 2435. Axial loads were applied in several increments to a laterally restrained 1-inch-high sample. Loads were applied in geometric progression by doubling the previous load, and the resulting deformations were recorded at selected time intervals. The test samples were inundated at selected loads to evaluate the effects of a sudden increase in moisture content (hydro-consolidation potential). Results of the tests are graphically presented on Plates B-2 to B-5.

Direct Shear

The Coulomb shear strength parameters, angle of internal friction and cohesion, were determined for a bulk sample obtained from one of our borings. The tests were performed in general conformance with Test Method ASTM D 3080. The sample was remolded to 90 percent of maximum dry density and at the optimum moisture content. Three specimens were prepared for each test, artificially saturated, and then sheared under varied loads at an appropriate constant rate of strain. Results are graphically presented on Plate B-6.

Expansion Potential

An Expansion Index test was performed on a selected sample in accordance with ASTM D 4829. The test result and expansion potential are presented on Table B.

Corrosion

Select samples were tested for minimum resistivity, chloride, and pH in accordance with California Test Method 643. Results of these tests are provided in Table B.

Soluble Sulfate Content

A chemical analysis was performed on a selected soil sample to determine soluble sulfate content. The test was performed in accordance with California Test Method (CTM) 417. The test result is included in Table B.

Percent Passing No. 200 Sieve

Percent of material passing the No. 200 sieve was determined on selected samples to verify visual classifications performed in the field. These tests were performed in accordance with ASTM D 1140. Test results are presented on Table B.

**TABLE B
SUMMARY OF LABORATORY TEST RESULTS**

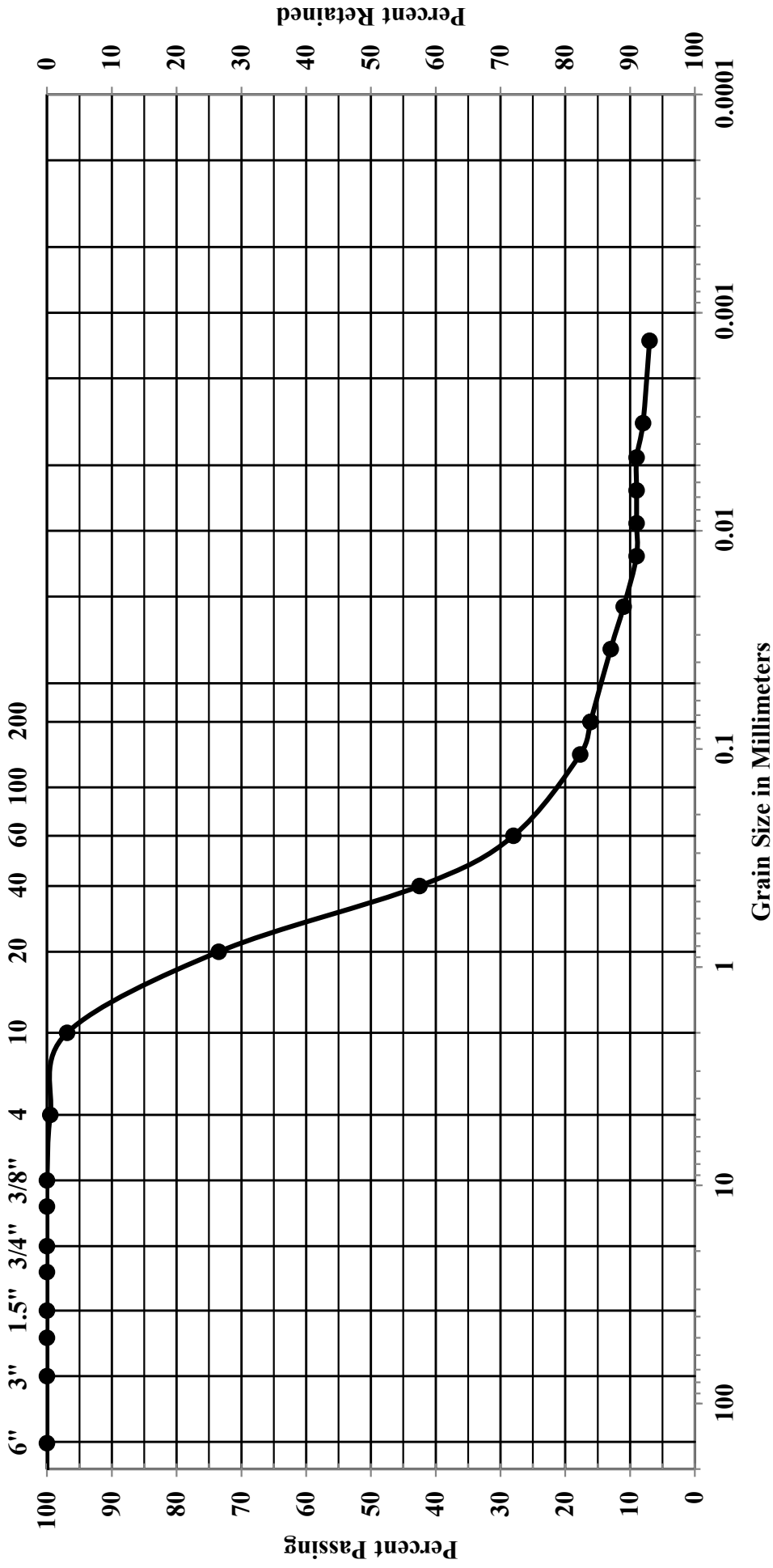
Boring Number	Depth (feet)	Soil Type	Test Results	
B-1	0-5	Silty Sand (SM)	Maximum Dry Density (pcf):	124.5
			Optimum Moisture Content (%):	11.0
			Soluble Sulfate Content (%):	0.000
			Sulfate Exposure:	Negligible
			pH:	7.22
			Minimum Resistivity:	1700 Ohm-cm
			Chloride:	10.0 ppm
			Expansion Index:	30
			Expansion Potential:	Low
B-1	15	Clayey Sand (SC)	Percent Passing #200 Sieve:	16.3 %
B-1	20	Clayey Sand (SC)	Percent Passing #200 Sieve:	28.3%
B-1	30	Clayey Sand (SC)	Percent Passing #200 Sieve:	22.2%

Additional laboratory test results are provided on the boring logs provided in Appendix A and on the Plates that follow.

GRAIN SIZE DISTRIBUTION

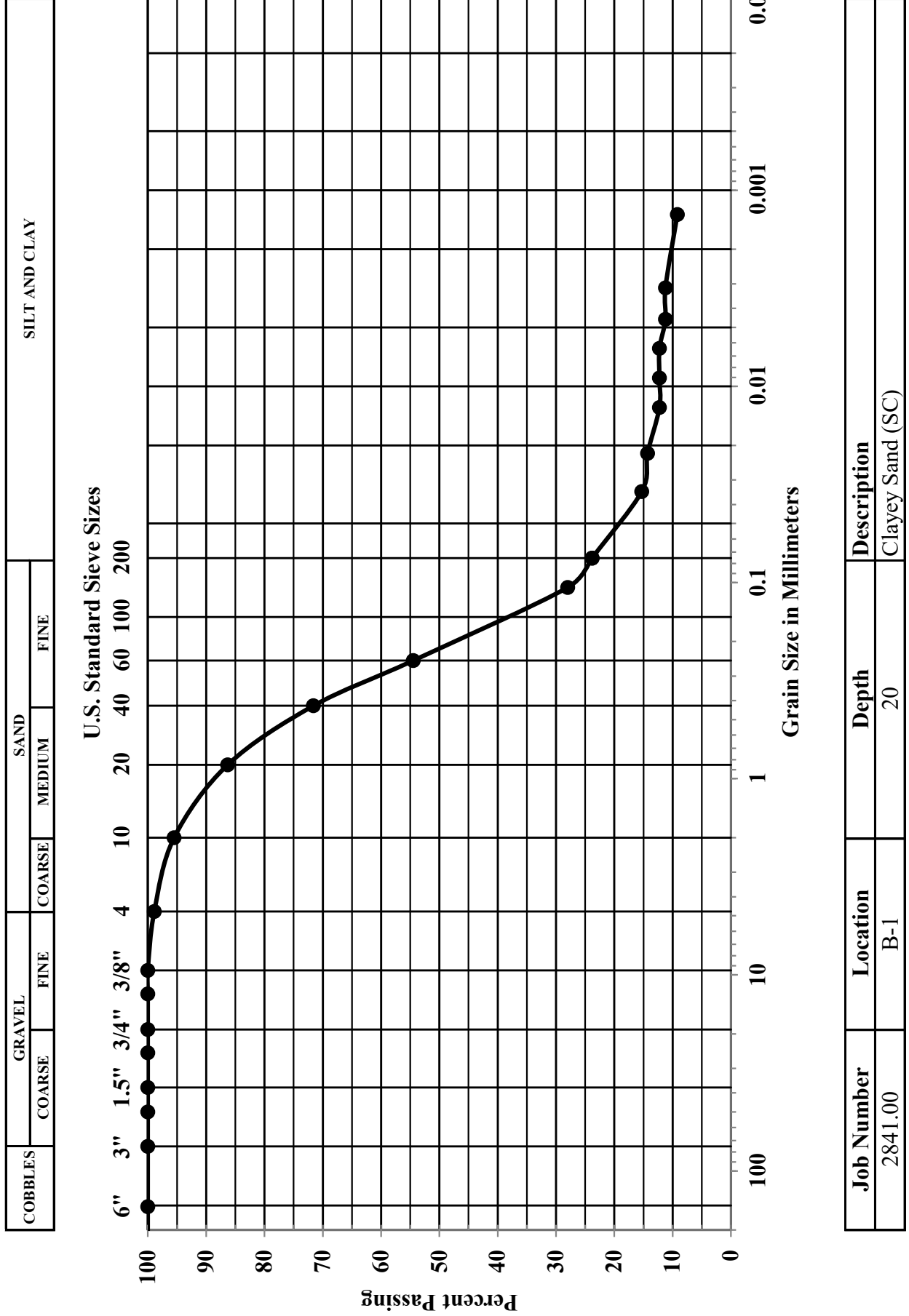
COBBLES	GRAVEL		SAND			SILT AND CLAY		
	COARSE	FINE	COARSE	MEDIUM	FINE			

U.S. Standard Sieve Sizes

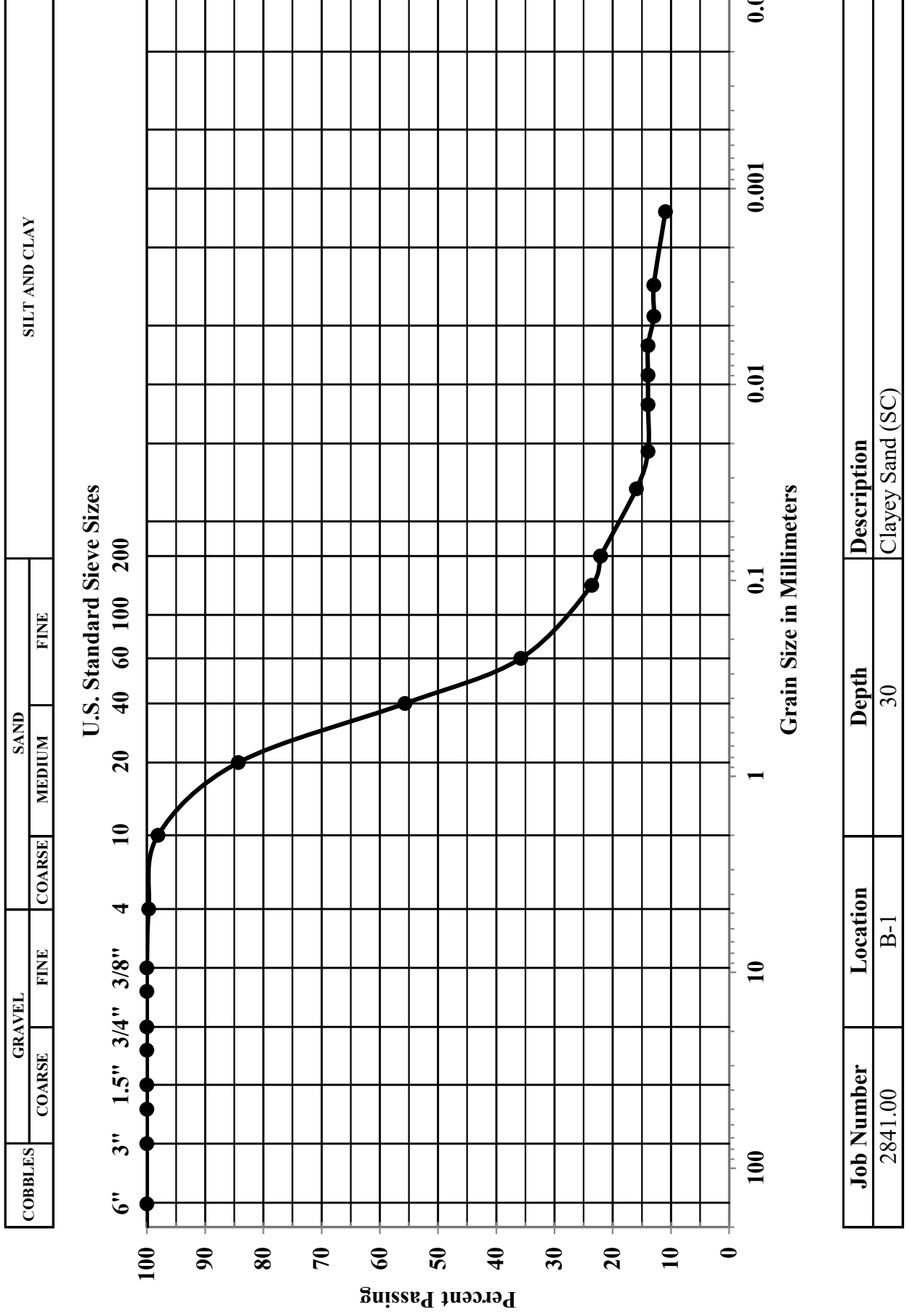


Job Number	2841.00	Location	B-1
Depth	15	Description	Clayey Sand (SC)

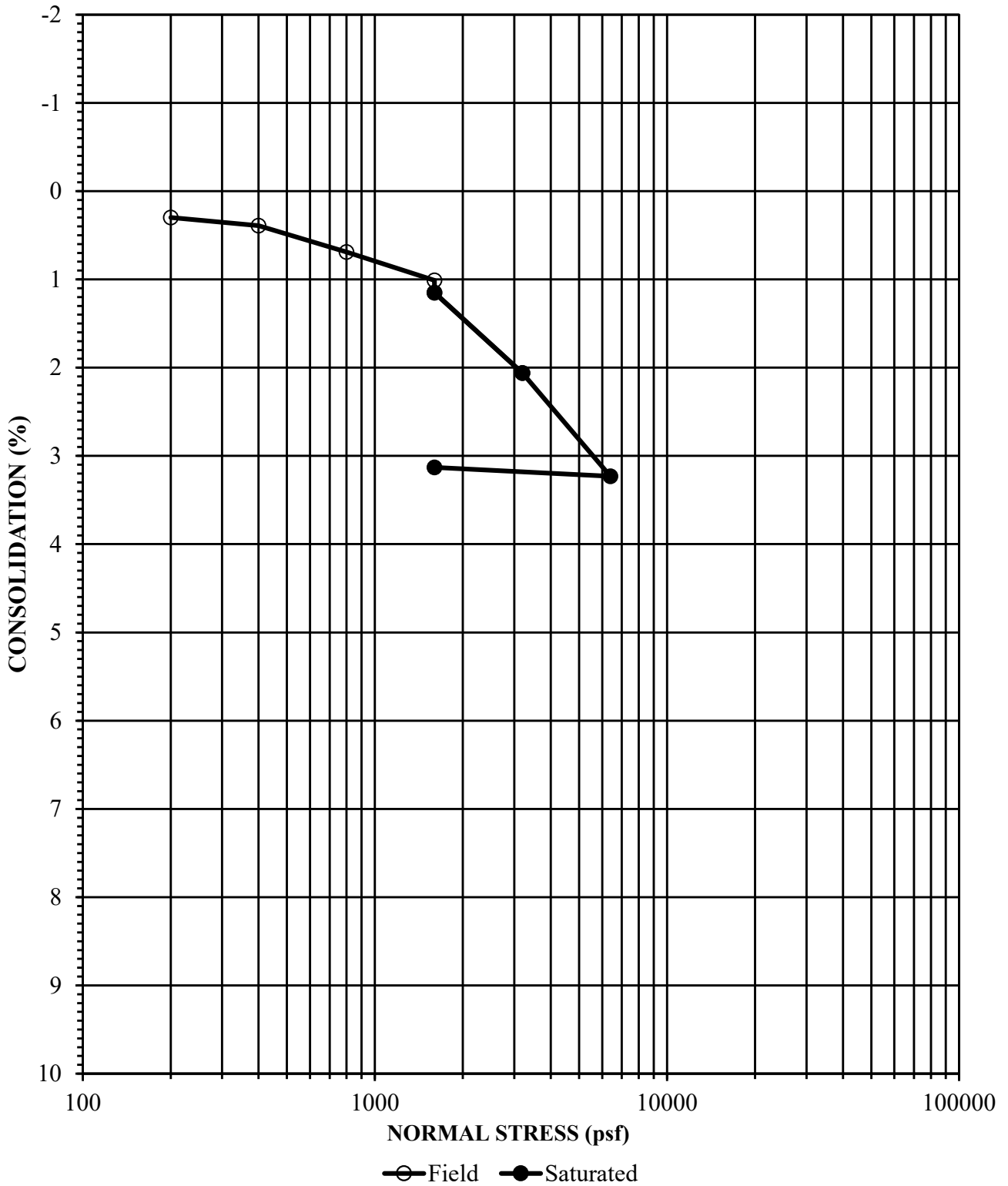
GRAIN SIZE DISTRIBUTION



GRAIN SIZE DISTRIBUTION



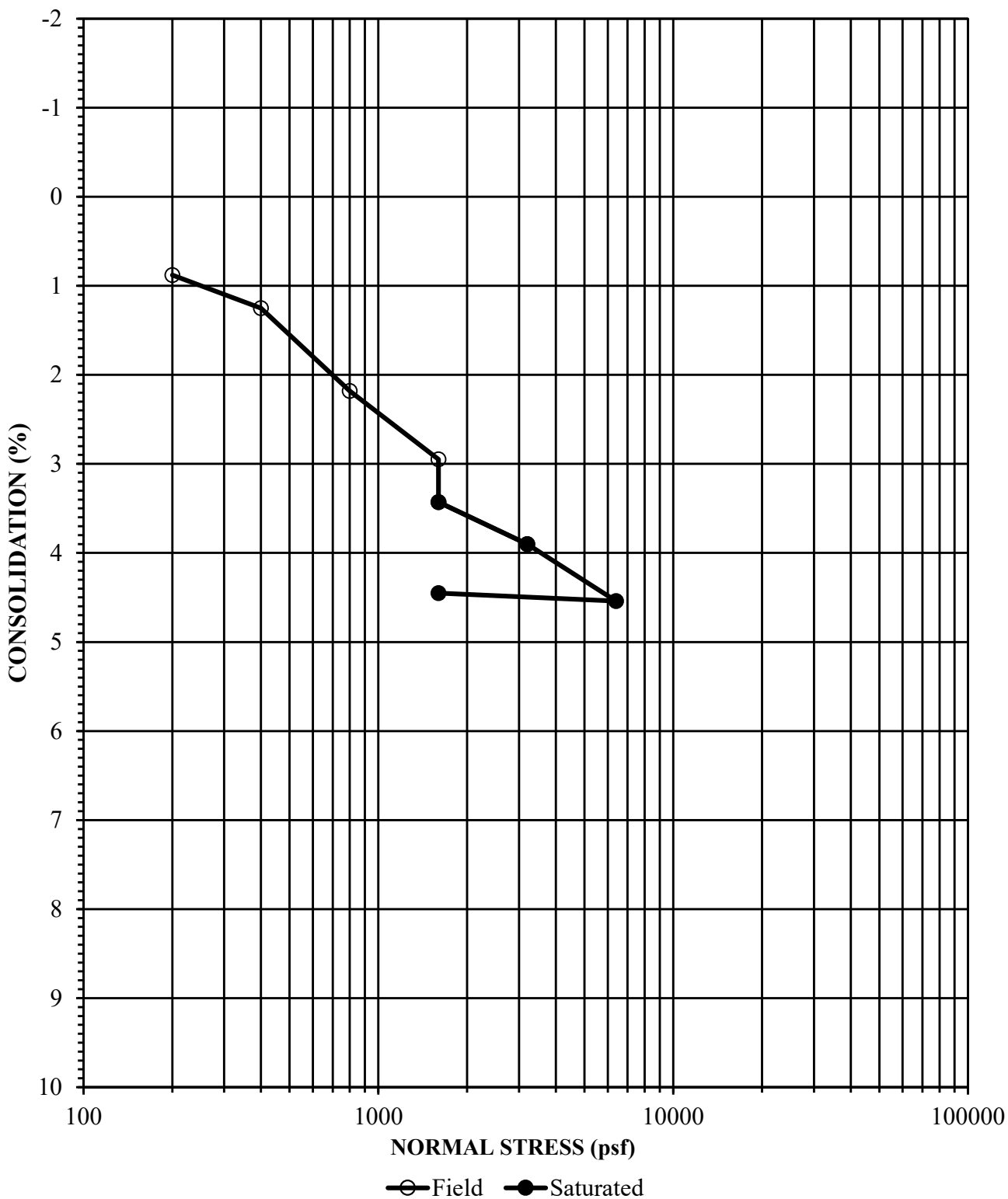
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-1	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
117.9	10.5	12.4

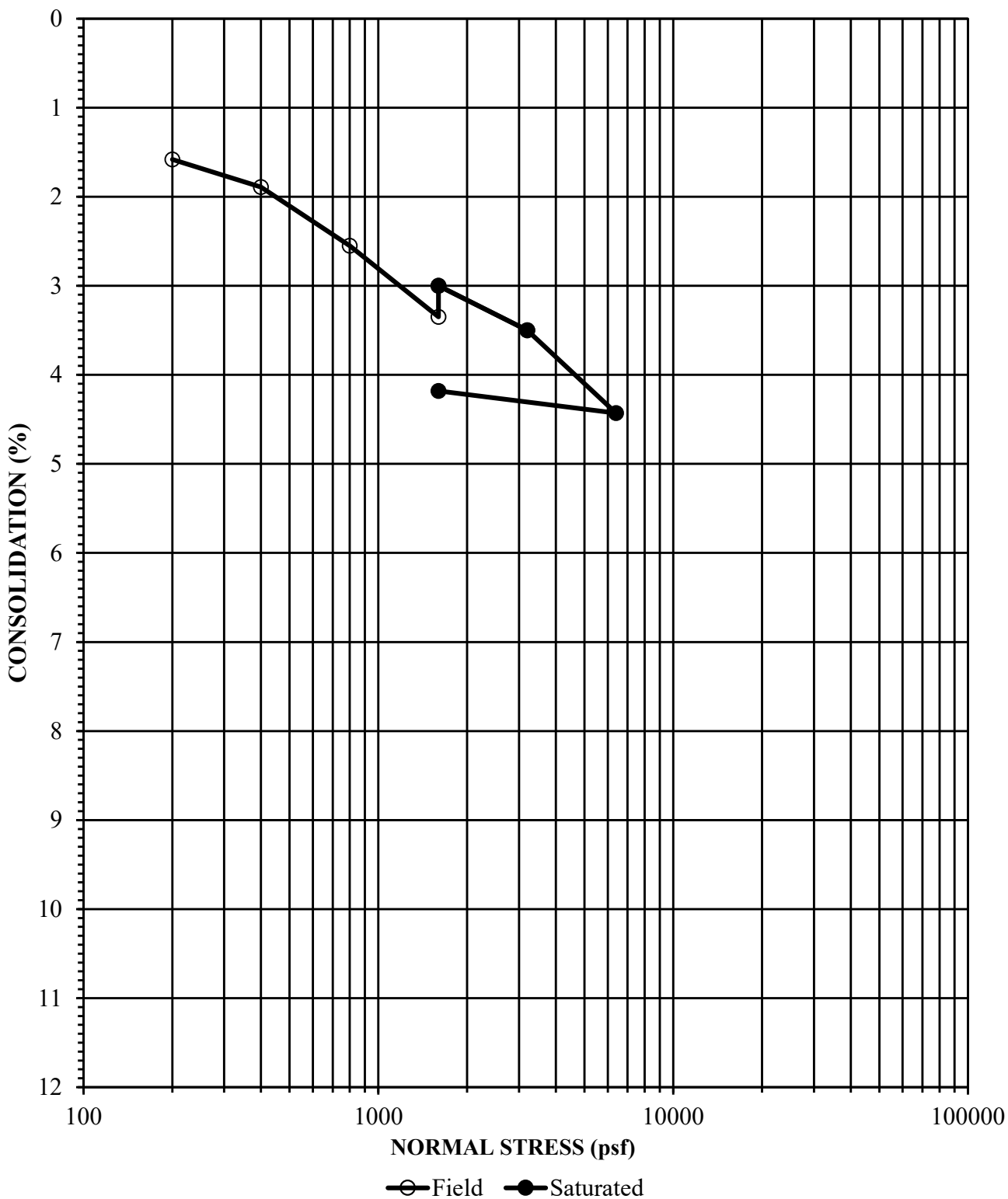
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-4	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
123.8	9.5	9.2

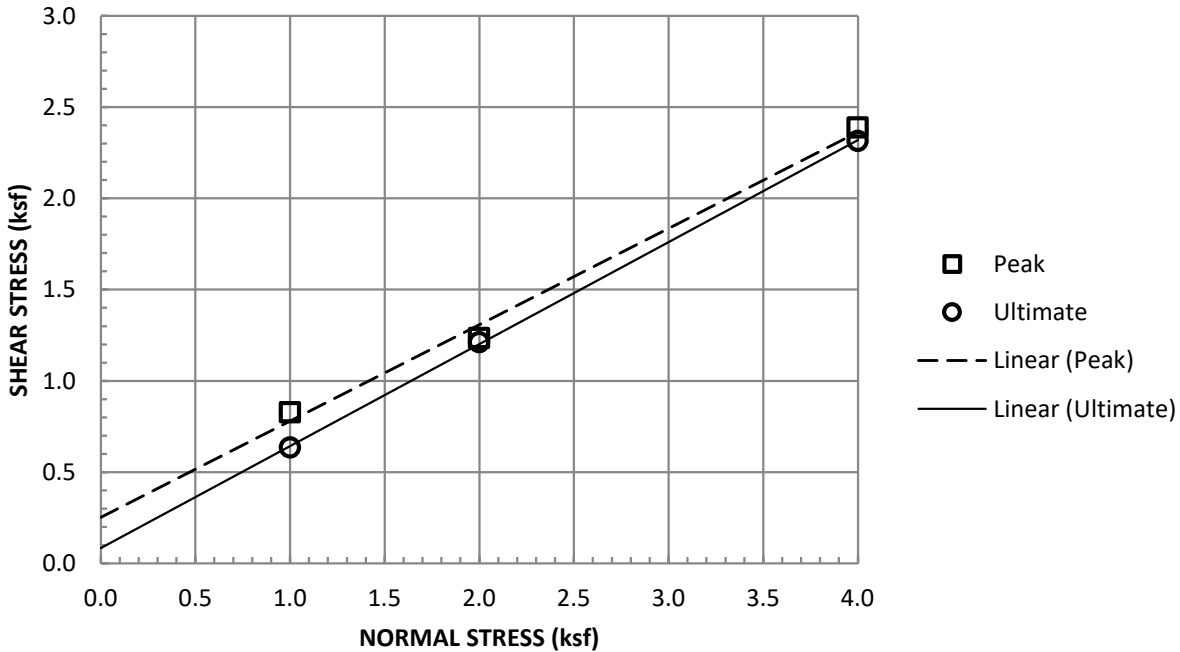
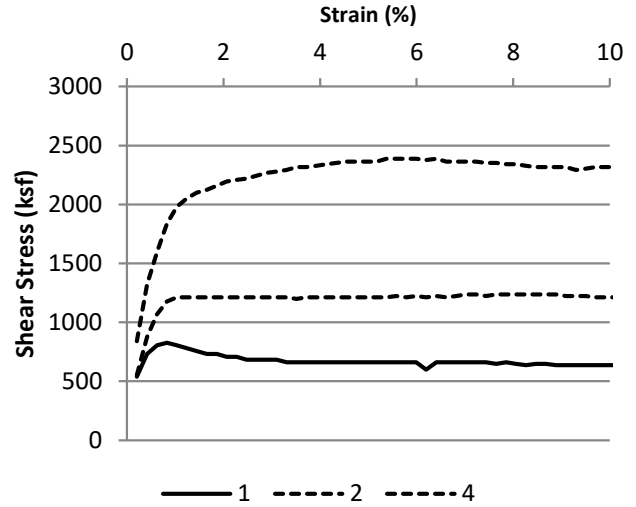
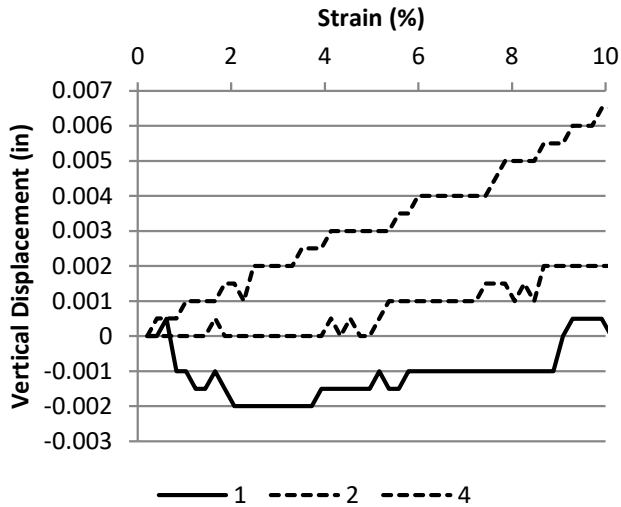
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-4	6	Silty Sand with Clay (SM)

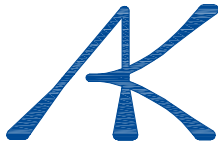
Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
111.2	17.3	17.2

DIRECT SHEAR



Sample Type:	Remolded 90% of 124.5 @ 11%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.828	1.236	2.388
Peak Displacement (in)	0.002	0.002	0.007
Ultimate Shear Stress (ksf)	0.636	1.212	2.316
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	112.1	112.1	112.1
Initial Moisture Content (%)	11	11	11
Final Moisture Content (%)	14.8	15.1	15.2
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2841.00	B-1	0-5	Silty Sand (SM)



April 20, 2020
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, CA 91730

Subject: Revised Preliminary Percolation Study, Proposed Multi-Family Residential Development, 24551 Raymond Way, Lake Forest, California.

Dear Mr. Killan,

Albus-Keefe & Associates, Inc. has completed a geotechnical investigation of the site for evaluation of the percolation characteristics of the site soils. The scope of this investigation consisted of the following:

- Exploratory drilling, soil sampling and test well installation
- Field percolation testing
- Laboratory testing of selected soil samples
- Engineering analysis of the data
- Preparation of this report

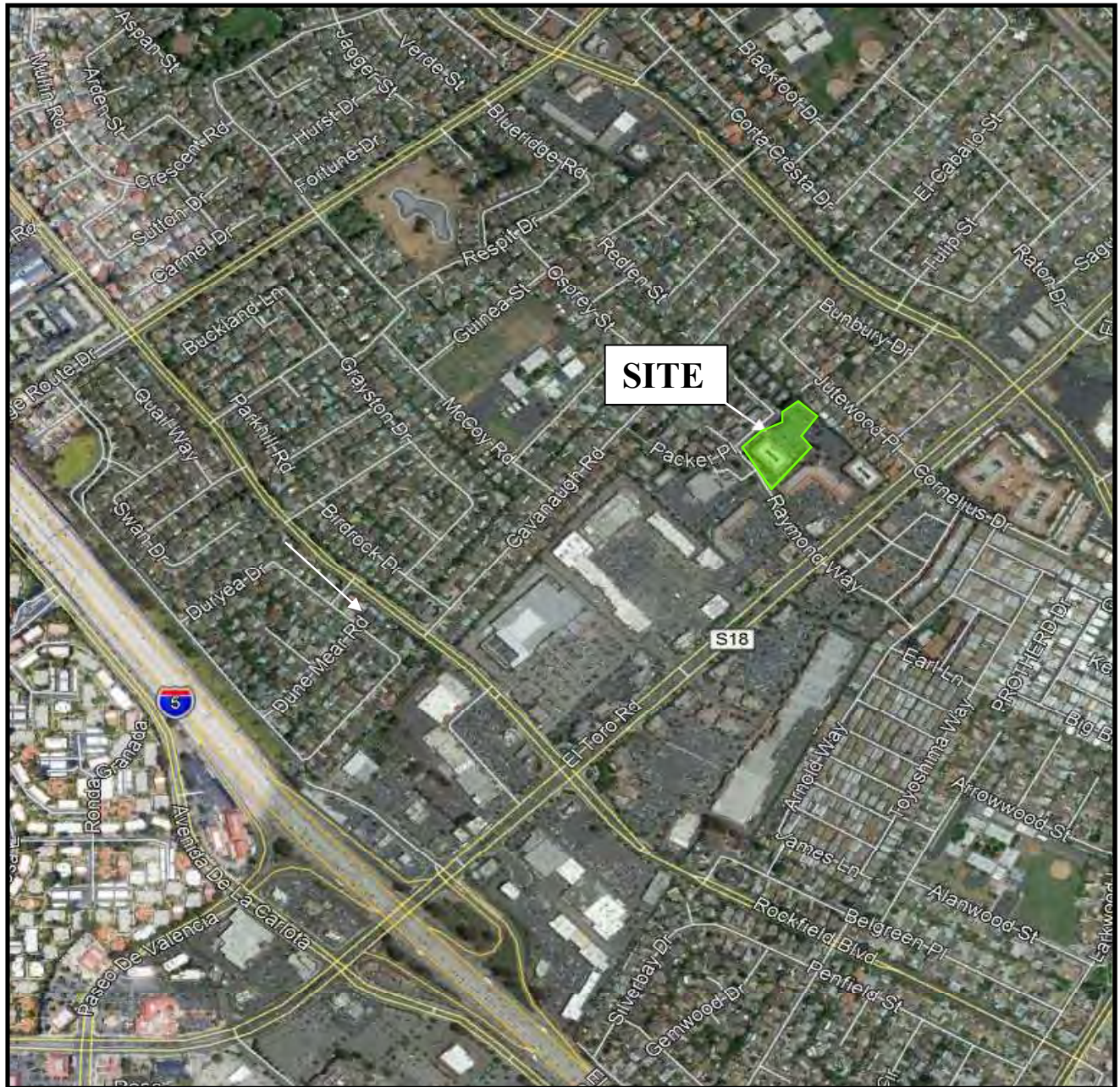
SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Site Location and Description

The site is located at 24551 Raymond Way, within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single-family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas are shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property comprising approximately 1.96 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth). Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass turf adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



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SITE LOCATION MAP

**National Community Renaissance
Proposed Multi-Family Residential Development
24551 Raymond Way
Lake Forest, California**

NOT TO SCALE

FIGURE 1

Proposed Development

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparation of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

SUMMARY OF FIELD AND LABORATORY WORK

Subsurface Investigation

Subsurface exploration for this investigation was conducted on October 2, 2019, and consisted of drilling four (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. Two additional borings were drilled near boring B-1 for use in percolation testing. These borings were not logged or sampled. Approximately 5 feet of well screening was installed at the bottom of each percolation well with solid pipe extending the remainder of the distance to the ground surface. The annular space of the well screen sections was filled with gravel. At the completion of all work, piping for the test wells were removed and the borings were backfilled with auger cuttings. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and standard penetration test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

Percolation Testing

Percolation testing was performed on October 2, 2019, in general conformance with the constant-head test procedures outlined in the referenced Well Permeameter Method (USBR 7300-89). A water hose attached to a water source on site was connected to an inline flowmeter to measure the water flow. The flowmeter is capable of measuring flow rates up to 10 gallons per minute and as low as 0.06 gallons per minute. A valve was connected in line with the flowmeter to control the flow rate. A filling hose was used to connect the flowmeter and the test wells. Water was introduced by the filling

hose near the bottom of the test wells. A water level meter with 1/100-foot divisions was used to measure the depths to water surface from the top of well casings.

Flow to the wells was terminated upon either completion of testing of all the pre-determined water levels or the flow rate exceeded the maximum capacity of the flowmeter. Measurements obtained during the percolation testing are provided in Appendix C on Plates C-1 and C-2.

Laboratory Testing

Selected soil samples of representative earth materials were tested to assist in the formulation of conclusions and recommendations presented in this report. Tests consisted of in-situ moisture contents and dry densities, and sieve analyses. Results of laboratory testing relevant to percolation characteristics are presented in Appendix B and on the Exploration Logs in Appendix A.

ANALYSIS OF DATA

Subsurface Conditions

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are primarily comprised of reddish-brown clayey sand to a depth of approximately 35 feet. Below this depth, the very old alluvium becomes a silty clay/clayey silt that is slightly moist to moist and hard.

Groundwater

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet. The shallower occurrences of ground water in other locations in the vicinity are likely due to localized perched conditions upon finer-grained soil layers within the granular zone. The finer-grained layers are likely lenticular and appear absent from the subject site within the upper 35 feet.

Percolation Data

Analyses were performed to evaluate permeability using the flow rate obtained at the end of the constant-head stage of field percolation testing. These analyses were performed in accordance with the procedures provided in the referenced USBR 7300-89. The procedure essentially uses a closed-form solution to the percolation out of a small-diameter well.

Using the USBR method, we calculated a composite permeability value for the head condition maintained in each well. The results are summarized in Table 1 below and the supporting analyses are included in Appendix C, Plates C-3 and C-4.

TABLE 1
Summary of Back-Calculated Permeability Coefficient

	Total Depth of Well (ft)	Depth to Water in Well (ft)	Height of Water in Well (ft)	Static Flow Rate (gal./min.)	Estimated Permeability, k_s (in/hr.)
P-1	20.0	15.0	5.0	1.5	2.27
P-2	25.0	20.0	5.0	0.75	1.13

Design of Dry Well

The *infiltration rate* in a dry well is dependent upon several factors including the soil permeabilities of the various soil layers throughout the soil mass, hydraulic gradient of water pressure head in the soil mass, and depth to groundwater. The infiltration rate is related to the permeability by Darcy's equation:

$$V = ki$$

Where:

V= water velocity (infiltration rate)

k= permeability

i=hydraulic gradient

The presence of differing soil layers with differing permeabilities, the variable head condition in the well shaft, and presence of ground water are factors that make determining the effective infiltration rate of the dry well somewhat complicated. We have performed the Well Permeameter tests in accordance with the test method. This test provides a means to estimate the *Permeability Rate* of the soils influencing the dry well, not the infiltration rate. Therefore, the effective infiltration rate must be determined using the relationship between permeability and infiltration rate as expressed by Darcy's equation. Solution of the Darcy equation essentially requires solving a differential mass balance equation. Due to these complications, the infiltration characteristics of the proposed dry well were modeled using a computer program.

Infiltration in a dry well was modeled using the software Seep/W, version 2007, by Geo-Slope International. The program allows for modeling of both partially-saturated and saturated porous medium using a finite element approach to solve Darcy's Law. The program can evaluate both steady-state and transient flow in planar and axisymmetric cases. Boundaries of the model can be identified with various conditions including fix total head, fix pressure head, fix flow rate, and head as a function of flow. Soil conductivity properties can be modeled with either Fredlund et al (1994), Green and

Corey (1971), Van Genuchten (1980), or Saxton et al. (1986). The parameters suggested by Van Genuchten (1980) were selected for use in our model and were based on test results of particle-size analyses and estimated in-place densities.

A Seep/W model was setup with the bottom of the dry well at a depth of 30 feet below ground surface. The top 20 feet of the dry well assumed a shaft that is 6 feet in diameter and contains a settling chamber having an inside diameter of 4 feet, outside diameter of 4.5 feet, and length of 18 feet. Below 20 feet, the shaft diameter was 4 feet in diameter. The annular space around the chamber between the depths of 0 and 13 feet was assumed to consist of a cement slurry. Below a depth of 13 feet, the annular space around the chamber and below the chamber is assumed to consist of gravel. A more detailed model of the dry well design can be found on Plate 2.

The model consisted of three zones of material to represent the general soil profile. The upper zone (depth 0 to 10 feet) was represented by a set of input parameters to practically make it impermeable due to the fine-grained nature of the material. For the second layer (depth 10 to 35 feet), the saturated conductivity was modeled to represent the clayey sand observed predominantly in this depth range. The properties of this layer were selected based on the coefficient of permeability estimated from percolation tests as well as laboratory gradation test results (Plates B-1 through B-3). The third layer (below depth 35 feet) was estimated from laboratory gradation test results. The soil parameters are summarized in Table 2.

Groundwater was set at a depth of 40 feet using a fix-head boundary which was set on the outside boundary of the problem. Water in the well was assumed to be at a depth of 7 feet below the ground surface so a fix-head boundary was set with a total head elevation of 93 feet around the edge of the well.

TABLE 2
Summary of Characteristic Curve Parameters

Material No.	Material Type	Depth (ft)	Sat. Perm., Ks (in/hr)	Van Genuchten Parameters				
				a (psf)	n	m	Sat. Water Content	Residual Water Content
1	Imperm.	0 – 10	0.001	196	1.21	0.17	0.40	0.010
2	SC/SP	10 – 35	1.0	28	1.17	0.14	0.42	0.010
3	ML/CL	>35	0.05	32	1.32	0.24	0.36	0.025

A steady state analysis was performed to estimate the maximum inflow that the well can accommodate. Using a well as described above, we obtain a static total flow of 0.018 ft³/sec. A plot depicting the resulting pressure head contours and flow vectors for the model is provided on Plate C-5. The average infiltration rate can be determined by taking the flow rate divided by the wetted surface area. The surface area is equal to 258 square feet which includes the side and bottom area. Based on the above flow rate and surface area, the average “measured” infiltration rate across the wetted surface area is 3.0 in/hr.

To evaluate the time required to empty the well once no more water is introduced, the model was reanalyzed with a variable head condition that was dependent upon the volume of water leaving the well. As water infiltrates into the surrounding soil, the volume of water remaining in the well is reduced as well as the resulting water head. A graph of the well head versus exit volume is provided in Figure 2. The function assumes a void ratio of 0.4 within the zones occupied by gravel. If some other well configuration is used, then the analyses will require updating.

The analysis was performed as a transient case over a total time of 13 hours. The conditions in the model were evaluated in 12 increments of time over the total duration. From our analyses, the water is evacuated from the chamber in approximately 8.5 hours. Plots depicting the resulting pressure head contours and flow vectors at selected times are provided in Appendix C on Plates C-6 through C-10. A plot of time versus water height in the well is shown on Figure 3.

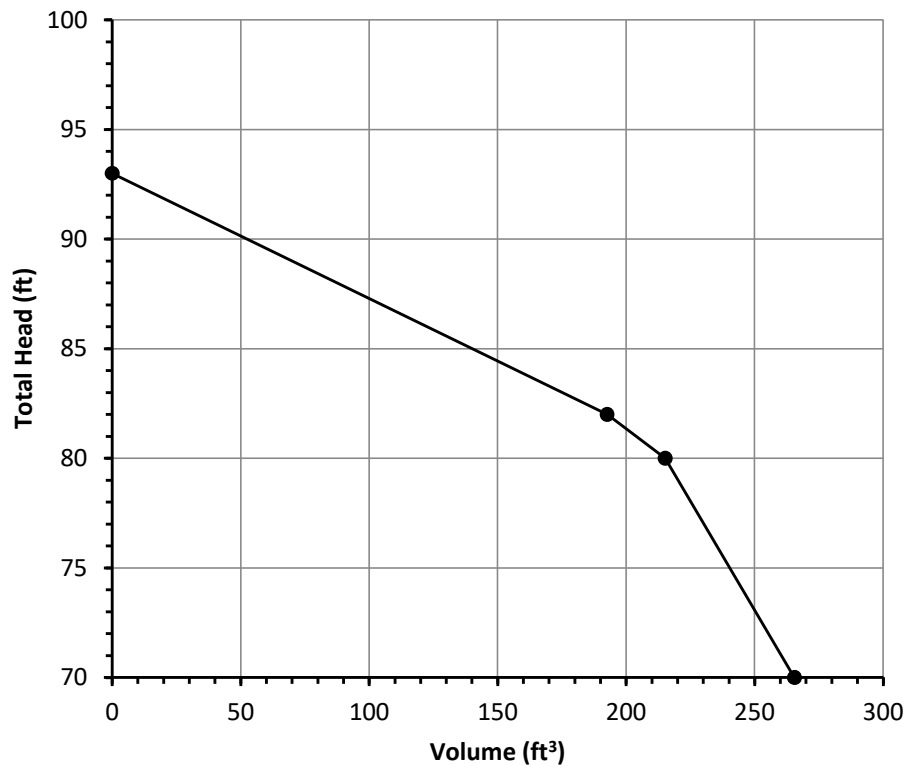


FIGURE 2- Well Head versus Exit Volume

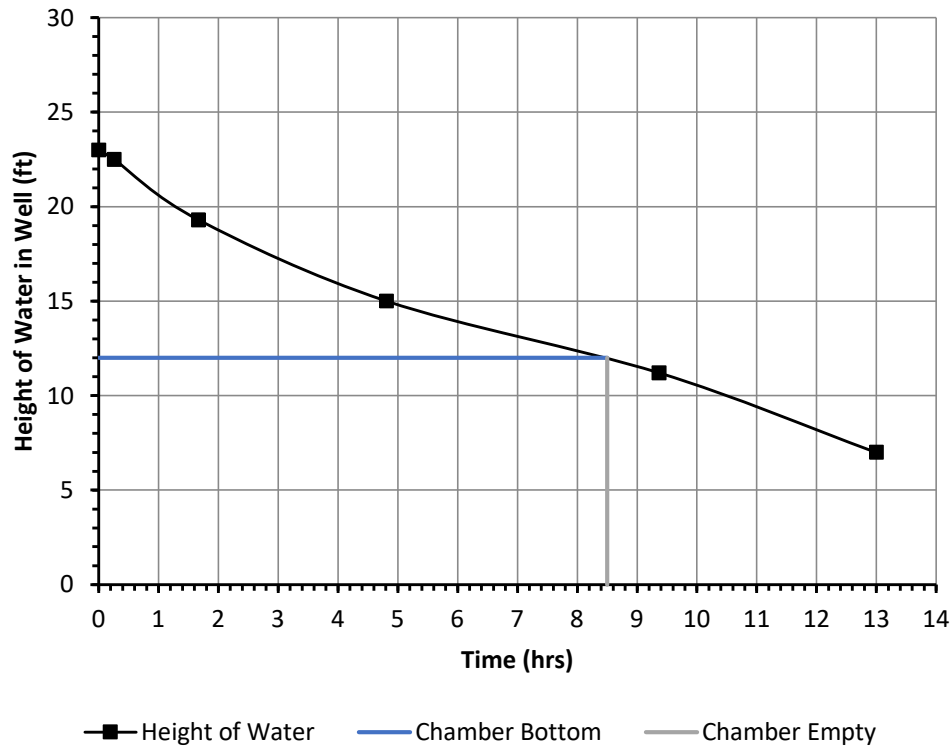


FIGURE 3- Water Head Versus Time

CONCLUSIONS AND RECOMMENDATIONS

Results of our work indicate a storm water disposal system consisting of a dry well is feasible at the site. The use of a dry well is not anticipated to result in worsening any adverse conditions or hazards that may be present for the proposed site development or adjacent properties including subsidence, landsliding, or liquefaction. As discussed above, the groundwater level in this area is approximately 41 feet below ground surface. Therefore, a dry well having a total depth of 30 will maintain a clearance above groundwater greater than the minimum required clearance of 10 feet.

Based on the results of percolation testing and analyses, the well configuration as depicted on Plate 2 may utilize a “measured” peak flow rate of 0.018 ft³/sec. This flow rate corresponds to an average peak infiltration rate of 3.0 in./hr. This flow rate and infiltration rate only apply to the well configuration evaluated and will differ for other configurations. These values are “measured” values and as such, an appropriate factor of safety should be applied to determine the “design” rates.

The “measured” infiltration rates reported above should be adjusted by applying an appropriate factor of safety. Table 3 includes the details of estimating this factor of safety for Factor Category A per requirements of the Santa Ana Regional Water Quality Control Board. The civil engineer should assign appropriate factor values for Factor Category B to obtain the overall factor of safety.

TABLE 3
Factor Values for Factor Category A

Infiltration Facility Safety Factor Determination Worksheet					
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) $p = w * v$
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	3	0.75
		Suitability Assessment Safety Factor, $S_A = \sum p$			

Once water flow to the well has ceased, it is estimated to require approximately 8.5 hours to empty the chamber. As such, the time to empty for the dry well should be considered in the overall draw down time of the storm system.

Should you require multiple dry wells across the site, the wells should be spaced at least 120 feet, center to center, to avoid cross influence. The wells should be located at least 10 feet horizontally from any habitable structure or property line.

The actual flow capacity of the dry well could be less or more than the estimated value. As such, provisions should be made to accommodate excess flow quantities in the event the dry well does not infiltrate the anticipated amount. The design also assumes that sediments will be removed from the inflowing water through an upper chamber or other device. Sediments that are allowed to enter the dry well will tend to degrade the flow capacity by plugging up the infiltration surfaces.

In general, the dry well shaft is anticipated to be adequately stable under temporary construction conditions for uncased drilling. However, layers or lenses of granular materials are present and may be prone to sloughing and caving. In the event of caving, casing will be required to install the well. Workers should not enter the shaft unless the excavation is laid back or shored in accordance with OSHA requirements. The placement and compaction of backfill materials, including the gravel and slurry, should be observed by the project geotechnical consultant.

LIMITATIONS

This report is based on the geotechnical data as described herein. The materials encountered in our boring excavations and utilized in our laboratory testing for this investigation are believed representative of the project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observations by a geotechnical consultant during the construction phase of the storm water infiltration systems are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty.

This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

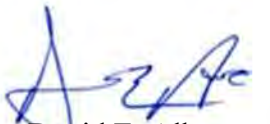
This report has been prepared for the exclusive use of **National Community Renaissance** to assist the project consultants in the design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

This report is subject to review by the controlling governmental agency.

We appreciate this opportunity to be of service to you. If you should have any questions regarding the contents of this report, please do not hesitate to call.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.


David E. Albus
Principal Engineer
GE 2455



Enclosures: Plate 1- Geotechnical Map
Plate 2- Dry Well Diagram
Appendix A - Exploratory Logs
Appendix B – Laboratory Testing
Appendix C - Percolation Testing and Analyses

REFERENCES

Publications and Reports

CDMG, "Seismic Hazard Zone Report for the Lake Forest 7.5-Minute Quadrangles, Orange County, California," Seismic Hazard Zone Report 047, 2000.

Californian Department of Water Resources Water Data Library (accessed 2019):
<http://wdl.water.ca.gov/waterdatalibrary/>

Procedure for Performing Field Permeability Testing by the Well Permeameter Method, by United States Department of The Interior, Bureau of Reclamation (USBR 7300-89).

Saxton, K.E., W.J. Rawls, J.S. Romberger, and R.I. Papendick. 1986. Estimating generalized soil-water characteristics from texture. *Soil Sci. Soc. Am. J.* 50(4):1031-103

Department of The Navy, (1982), *Soil Mechanics, Design Manual 7.1*, Naval Facilities Engineering Command (NAVFAC)



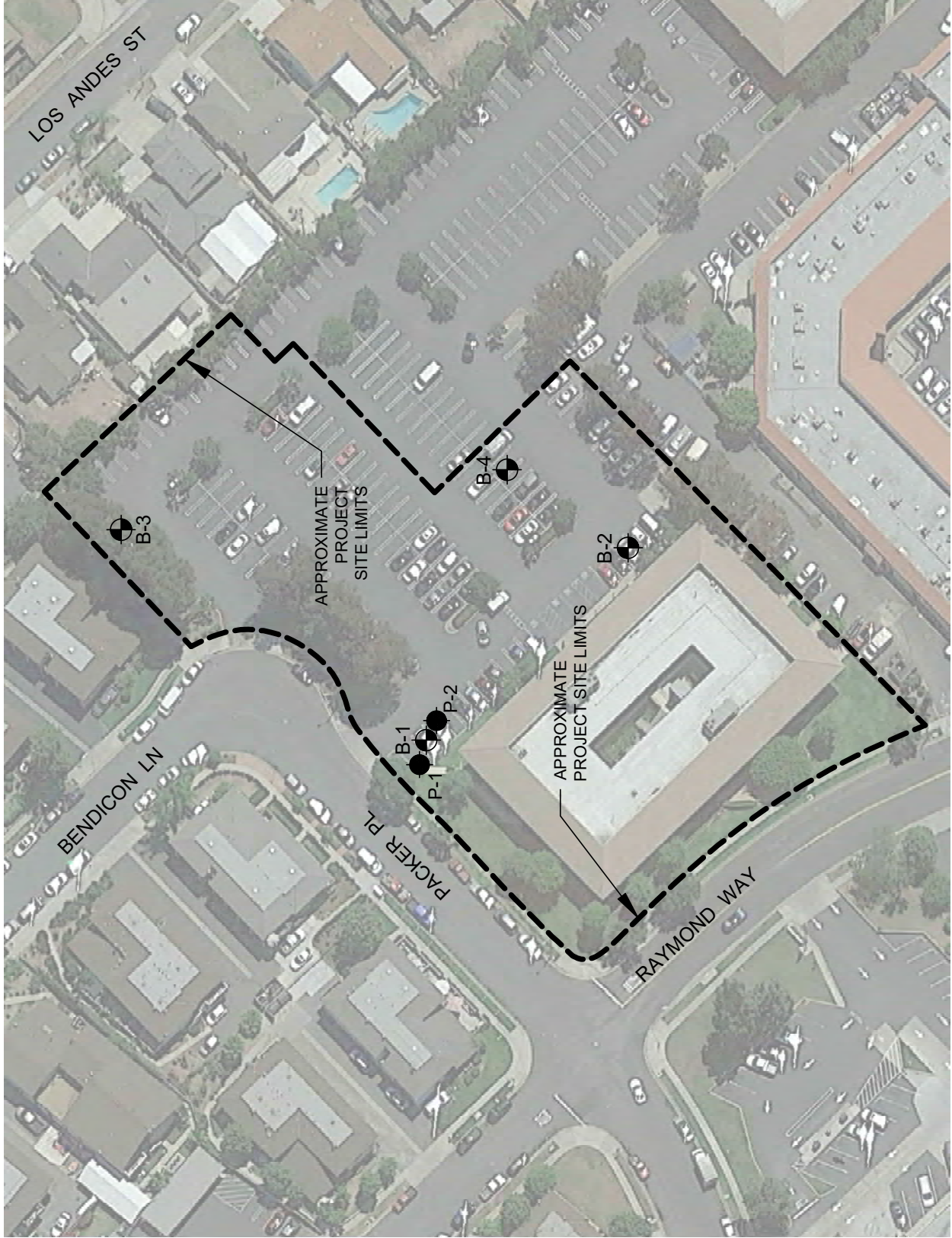
EXPLANATION
(Locations Approximate)



ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOTECHNICAL MAP

Job No.: 2841.00 | Date: 04/20/20 | Plate: 1



MAXWELL® IV DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

ITEM NUMBERS

1. Manhole Cone – Modified Flat Bottom.
2. Moisture Membrane – 6 Mil. Plastic. Applies only when native material is used for backfill. Place membrane securely against eccentric cone and hole sidewall.
3. Bolted Ring & Grate – Diameter as shown. Clean cast iron with wording "Storm Water Only" in raised letters. Bolted in 2 locations and secured to cone with mortar. Rim elevation $\pm 0.02'$ of plans.
4. Graded Basin or Paving (by Others).
5. Compacted Base Material – 1-Sack Slurry except in landscaped installations with no pipe connections.
6. PureFlo® Debris Shield – Rolled 16 ga. steel X 24" length with vented anti-siphon and Internal .265" Max. SWO flattened expanded steel screen X 12" length. Fusion bonded epoxy coated.
7. Pre-cast Liner – 4000 PSI concrete 48" ID. X 54" OD. Center in hole and align sections to maximize bearing surface.
8. Min. 6" \emptyset Drilled Shaft.
9. Support Bracket – Formed 12 Ga. steel. Fusion bonded epoxy coated.
10. Overflow Pipe – Sch. 40 PVC mated to drainage pipe at base seal.
11. Drainage Pipe – ADS highway grade with TRI-A coupler. Suspend pipe during backfill operations to prevent buckling or breakage. Diameter as noted.
12. Base Seal – Geotextile or concrete slurry.
13. Rock – Washed, sized between 3/8" and 1-1/2" to best complement soil conditions.
14. FloFast® Drainage Screen – Sch. 40 PVC 0.120" slotted well screen with 32 slots per row/ft. Diameter varies 120" overall length with TRI-B coupler.
15. Min. 4' \emptyset Shaft – Drilled to maintain permeability of drainage soils.
16. Fabric Seal – U.V. resistant geotextile – to be removed by customer at project completion.
17. Absorbent – Hydrophobic Petrochemical Sponge. Min. to 128 oz. capacity.
18. Freeboard Depth Varies with inlet pipe elevation. Increase settling chamber depth as needed to maintain all inlet pipe elevations above overflow pipe inlet.
19. Optional Inlet Pipe (Maximum 4", by Others). Extend moisture membrane and compacted base material or 1 sack slurry backfill below pipe invert.

The referenced drawing and specifications are available on CAD either through our office or web site. This detail is copyrighted (2004) but may be used as is in construction plans without further release. For information on product application, individual project specifications or site evaluation, contact our Design Staff for no-charge assistance in any phase of your planning.

CALCULATING MAXWELL IV REQUIREMENTS

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of Maxwell Systems. For general applications draining retained stormwater, use one standard **MaxWell IV** per the instructions below for up to 3 acres of landscaped contributory area, and up to 1 acre of paved surface. For larger paved surfaces, subdivision drainage, nuisance water drainage, connecting pipes larger than 4" \emptyset from catch basins or underground storage, or other demanding applications, refer to our **MaxWell® Plus** System. For industrial drainage, including gasoline service stations, our **Envibro® System** may be recommended. For additional considerations, please refer to "Design Suggestions For Retention And Drainage Systems" or consult our Design Staff.

COMPLETING THE MAXWELL IV DRAWING

To apply the **MaxWell IV** drawing to your specific project, simply fill in the blue boxes per instructions below. For assistance, please consult our Design Staff.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate depth required to achieve 10 continuous feet of penetration into permeable soils. Torrent utilizes specialized "crowd" equipped drill rigs to penetrate difficult, cemented soils and to reach permeable materials at depths up to **180 feet**. Our extensive database of drilling logs and soils information is available for use as a reference. Please contact our Design Staff for site-specific information on your project.

SETTLING CHAMBER DEPTH

On MaxWell IV Systems of over 30 feet overall depth and up to 0.25cfs design rate, the **standard** Settling Chamber Depth is **18 feet**. For systems exposed to greater contributory area than noted above, extreme service conditions, or that require higher design rates, chamber depths up to 25 feet are recommended.

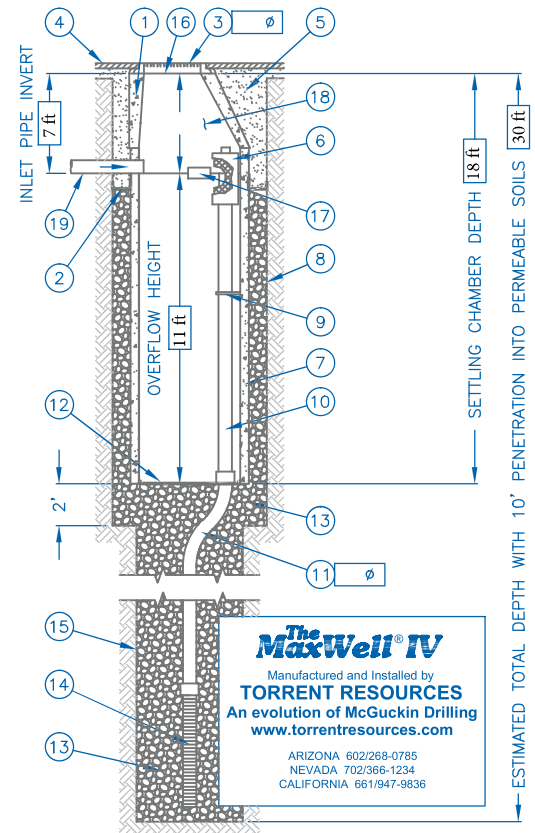
OVERFLOW HEIGHT

The Overflow Height and Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. For normal drainage applications, an overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet**. Sites with higher design rates than noted above, heavy debris loading or unusual service conditions require greater settling capacities

TORRENT RESOURCES INCORPORATED

1509 East Elwood Street, Phoenix Arizona 85040-1391
phone 602-268-0785 fax 602-268-0820
Nevada 702-366-1234

AZ Lic. ROC070465 A, ROC047067 B-4; ADWR 363
CA Lic. 528080 A, C-42, HAZ - NV Lic. 0035350 A - NM Lic. 90504 GF04



AZ Lic. ROC070465 A, ROC047067 B-4, ADWR 363
CA Lic. 528080, C-42, HAZ
NV Lic. 0035350 A - NM Lic. 90504 GF04
U.S. Patent No. 4,923,330 - TM Trademark 1974, 1990, 2004

The MaxWell® IV
Manufactured and Installed by
TORRENT RESOURCES
An evolution of McGuckin Drilling
www.torrentresources.com
ARIZONA 602/268-0785
NEVADA 702/366-1234
CALIFORNIA 661/947-9836

DRAINAGE PIPE

This dimension also applies to the **PureFlo®** Debris Shield, the **FloFast®** Drainage Screen, and fittings. The size selected is based upon system design rates, soil conditions, and the need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to "Design Suggestions for Retention and Drainage Systems" for recommendations on which size best matches your application.

BOLTED RING & GRATE

Standard models are quality cast iron and available to fit 24" \emptyset or 30" \emptyset manhole openings. All units are bolted in two locations with wording "Storm Water Only" in raised letters. For other surface treatments, please refer to "Design Suggestions for Retention and Drainage Systems."

INLET PIPE INVERT

Pipes up to 4" in diameter from catch basins, underground storage, etc. may be connected into the settling chamber. Inverts deeper than 5 feet will require additional settling chamber depth to maintain effective overflow height.

TORRENT RESOURCES (CA) INCORPORATED

phone 661-947-9836
CA Lic. 886759 A, C-42

www.TorrentResources.com

An evolution of McGuckin Drilling

The watermark for drainage solutions.®

Plate 2



APPENDIX A
EXPLORATORY LOGS

EXPLORATION LOG

Project:		Location:	
Address:		Elevation:	
Job Number:	Client:	Date:	
Drill Method:	Driving Weight:	Logged By:	

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<p><u>EXPLANATION</u></p> <p>Solid lines separate geologic units and/or material types.</p> <p>Dashed lines indicate unknown depth of geologic unit change or material type change.</p> <p>Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).</p> <p>Double triangle in core column represents SPT sampler.</p> <p>Vertical Lines in core column represents Shelby sampler.</p> <p>Solid black rectangle in Bulk column represents large bag sample.</p> <p>Other Laboratory Tests: Max = Maximum Dry Density/Optimum Moisture Content EI = Expansion Index SO4 = Soluble Sulfate Content DSR = Direct Shear, Remolded DS = Direct Shear, Undisturbed SA = Sieve Analysis (1" through #200 sieve) Hydro = Particle Size Analysis (SA with Hydrometer) 200 = Percent Passing #200 Sieve Consol = Consolidation SE = Sand Equivalent Rval = R-Value ATT = Atterberg Limits</p>							
5									
10									
15									
20									

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC):</u> Black ARTIFICIAL FILL (Af) <u>Silty Sand (SM):</u> Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros @ 4 ft, light gray increased clay content		80/ 10"			11.1	116	SO4 DS pH Resist Ch
5		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) <u>Sandy Clay (CL):</u> Gray, moist, hard, fine grained sand <u>Clayey Sand (SC):</u> Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche		76/ 8"			10.2	111.2	Consol
		<u>Clayey Sand (SC):</u> Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche <u>Clayey Sand/ Sandy Clay (SC/CL):</u> yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings <u>Clayey Sand (SC):</u> Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings		72/ 11"			12.8	118.2	
10		@ 15 ft, reddish brown, moist		73/ 8"			11		
15		<u>Clayey Sand :</u> Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay		29	▼	▼			SA Hydro
20				36	▼	▼			SA Hydro



EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
30	@ 25 ft, caliche			43	▲▼				
35	@ 35 ft, , moist to very moist			45	▲▼				SA Hydro
35	@ 35 ft, , moist to very moist			56	▲▼				
40	@ 35 ft, , moist to very moist	<u>Silty Clay/ Clayey Silt (CL/ ML-CL):</u> Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide	▽	31	▲▼				
45	@ 35 ft, , moist to very moist			37	▲▼				

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
35		End of boring at depth of 51.5 ft. Groundwater encountered at depth of 41 ft. Backfilled with soil cuttings and patched with asphalt.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC):</u> Black							
		<u>Gravel wth Silt and Sand (CAB):</u> Dark brown							
		ARTIFICIAL FILL (Af)							
		<u>Silty Sand (SM):</u> Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▲		12.8	109.1	
5		Very Old Alluvium fan Deposits (Qovf)							
		<u>Clay (CL):</u> Reddish brown, slightly moist, hard		79	▲		11.2	111.3	
		<u>Clayey Sand/ Sandy Clay (SC/CL):</u> Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▲		6.4	124.4	
		<u>Silty Clay with Sand (CL-ML):</u> Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche							
10		<u>Sandy Silt (ML):</u> Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand		81	▲		13.5	105.6	
		End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
	••••	<u>Asphalt (AC):</u> Black							
	/ / / /	<u>Gravel with Silt and Sand (CAB):</u> Dark brown							
	••••	Very Old Alluvium fan Deposits (Qovf) <u>Clayey Sand/ Sandy Clay (SC/CL):</u> mottled brown, dark brown, reddish brown and gray, slightly moist to mosit, very dense/hard, fine to coarse grained sand, caliche, brick			72/ 8"	█		11.2	119.6
5	••••	<u>Silty Sand (SM):</u> Light reddish brown, slightly moist to mosit, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments			76/ 11"	█		7	113
		@ 6 ft, dense			57	█		9.9	120.1
	/ / / /	<u>Clayey Sand (SC):</u> Gray, slightly moist to mosi, very dense, fine to medium sand, caliche, rock fragments			75/ 8"	█		12.1	113.6
10	••••	<u>Sand (SP):</u> Light brown, moist, dense, trace clay, clay nodules							
15	••••				31	▼			
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings.				▼			

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC):</u> Black							
		<u>Gravel with Silt and Sand (CAB):</u> Dark brown							
		Very Old Alluvium fan Deposits (Qovf)							
		<u>Clayey Sand with Gravel (SC):</u> Dark gray, moist, dense, fine to coarse grained sand		62			11.9	118.9	
5		<u>Silty Sand (SM):</u> Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79			7.8	127.9	Consol
		@ 6 ft, medium dense		25			15.8	114.9	Consol
		<u>Silty Sand with Clay (SM):</u> Dark gray, moist, medium dense, trace gravel, caliche							
10		@ 11 ft, Light reddish brown decreased in clay content		36			13.8	117	
15		@ 15 ft, Light brown no gravel		20					
20				20					
		End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

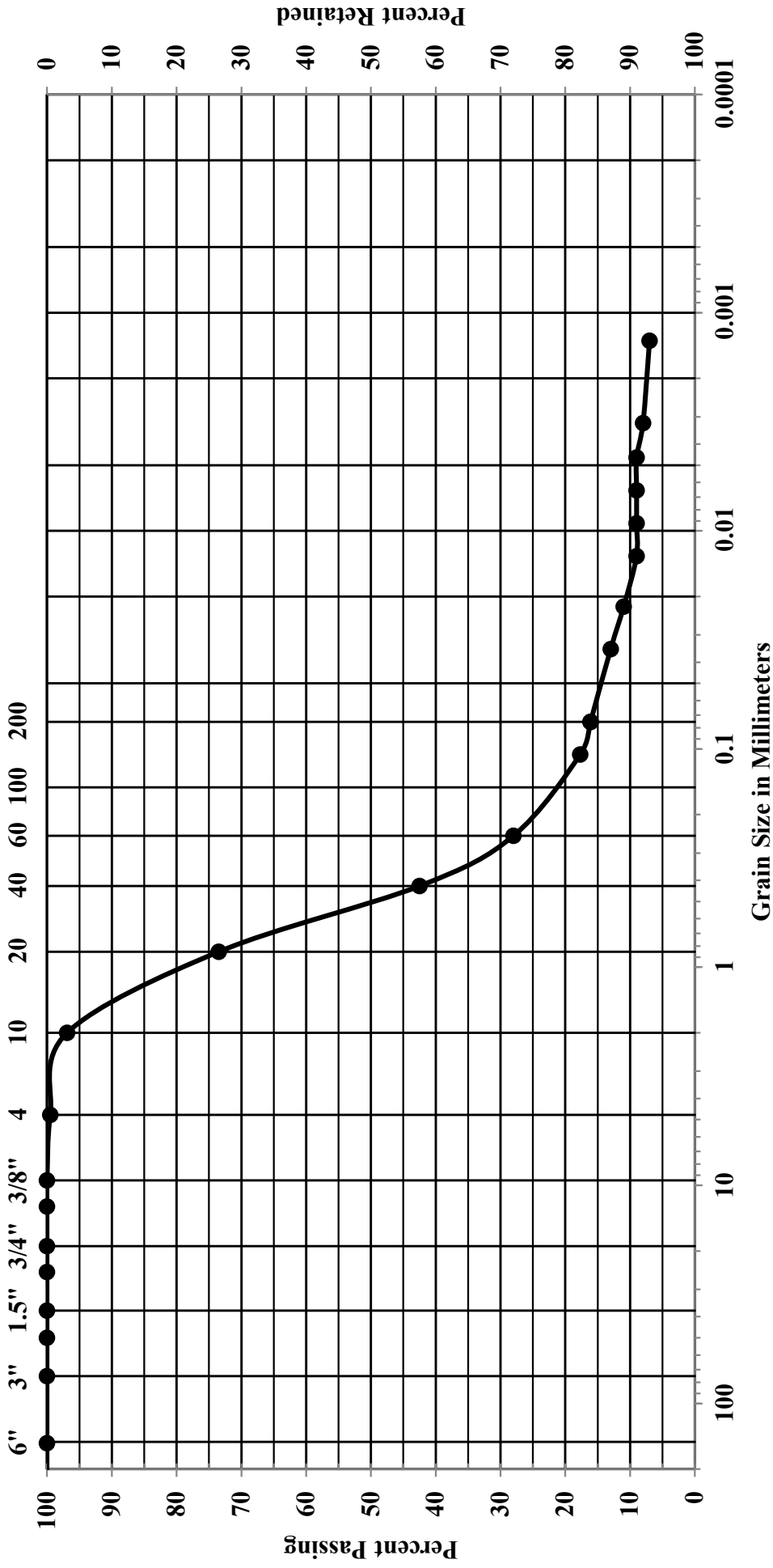
APPENDIX B

LABORATORY TEST PROGRAM

GRAIN SIZE DISTRIBUTION

COBBLES		GRAVEL		SAND			SILT AND CLAY		
		COARSE	FINE	COARSE	MEDIUM	FINE			

U.S. Standard Sieve Sizes



Job Number	Location	Depth	Description
2841.00	B-1	15	Clayey Sand (SC)

APPENDIX C
PERCOLATION TESTING AND ANALYSES

Field Percolation Testing - Constant Head

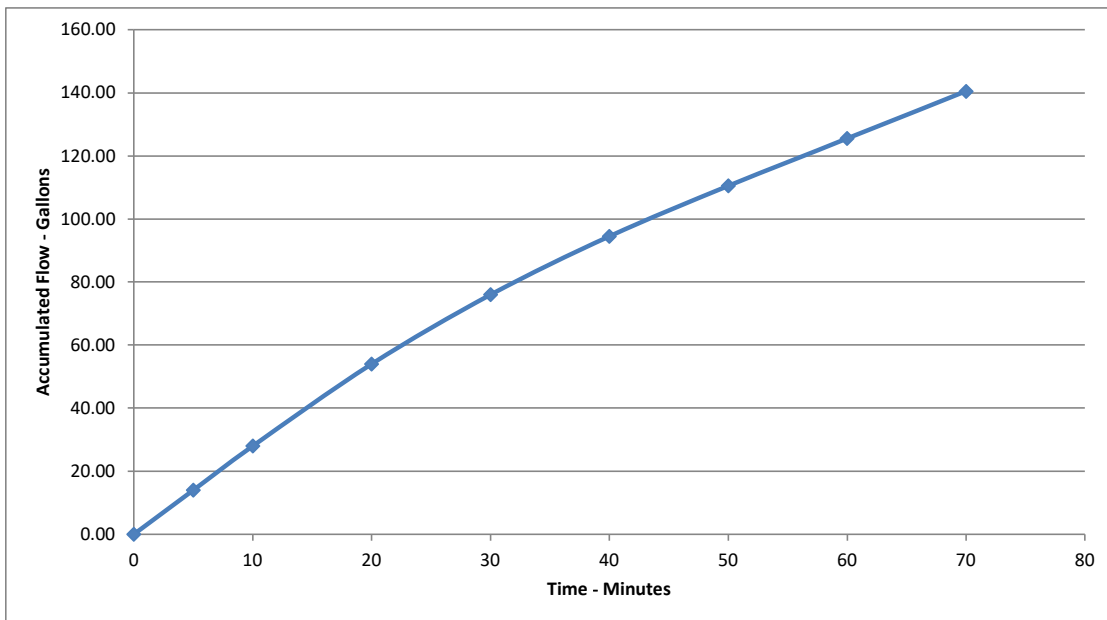
Client: National Core
 Date Tested: 10/2/2019
 Location: P-1

Job. No.: 2841.00
 Test by: SD

Top of Casing to Bottom of Well (ft): 20.3
 Elev. of Ground Surface (ft): _____
 Diam. of Test Hole (in): 8
 Diam. of Casing (in): 3
 Ht. to Top of Casing (ft): 0.3
 Water Temperature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H ₂ O used (gal)
0	14:40	15.3		0.00
5	14:45	15.3	2.80	14.00
10	14:50	15.3	2.40	28.00
20	15:00	15.3	2.00	54.00
30	15:10	15.3	1.70	76.00
40	15:20	15.3	1.50	94.50
50	15:30	15.3	1.50	110.50
60	15:40	15.3	1.50	125.50
70	15:50	15.3	1.50	140.50



Field Percolation Testing - Constant Head

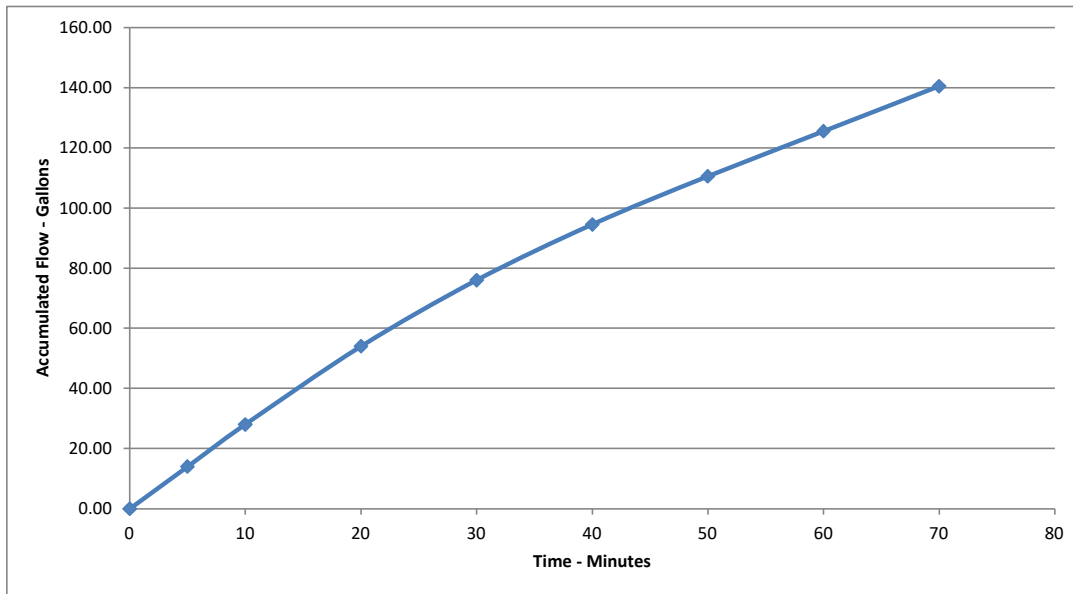
Client: National Core
 Date Tested: 10/2/2019
 Location: P-2

Job. No.: 2841.00
 Test by: SD

Top of Casing to Bottom of Well (ft): 25.4
 Elev. of Ground Surface (ft): _____
 Diam. of Test Hole (in): 8
 Diam. of Casing (in): 3
 Ht. to Top of Casing (ft): 0.4
 Water Temperature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H ₂ O used (gal)
0	16:00	20.4		0.00
5	16:05	20.4	2.40	12.00
10	16:10	20.4	1.80	24.00
20	16:20	20.4	1.40	45.00
30	16:30	20.4	1.10	61.00
40	16:40	20.4	0.90	73.50
50	16:50	20.4	0.75	83.50
60	17:00	20.4	0.75	91.75
70	17:10	20.4	0.75	99.25
80	17:20	20.4	0.75	106.75



INFILTRATION WELL DESIGN

Constant Head

USBR 7300-89 Method

J.N.: 2841.00

Client: National Core

Well No.: P-1

	Low Water Table	Condition 1	
	High Water Table & Water Below Bottom of Well	Condition 2	
	High water Table with Water Above the Well Bottom	Condition 3	
			Units:
Enter Condition (1, 2 or 3):		1	
Ground Surface to Bottom of Well (h_1):		20	feet
Depth to Water (h_2):		15	feet
Height of Water in the Well ($h_1-h_2=h$):		5	feet
Radius of Well (r):		4.0	Inches
Minimum Volume Required:		1473.4	Gal.
Discharge Rate of Water Into Well for Steady-State Condition (q):		1.5	Gal/min.
Temperature (T):		20	Celsius
(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (V):		0.9889	ft ³ /min.
Unsaturated Distance Between the Water Surface in the Well and the Water table (T_u):			Ignore T_u
Factor of Safety:		1	
Coefficient of Permeability @ 20° C (k_{20}):		3.15E-03	ft/min.
Design k_{20}:		2.27	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condition III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test puposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

INFILTRATION WELL DESIGN

Constant Head

USBR 7300-89 Method

J.N.: 2841.00

Client: National Core

Well No.: P-2

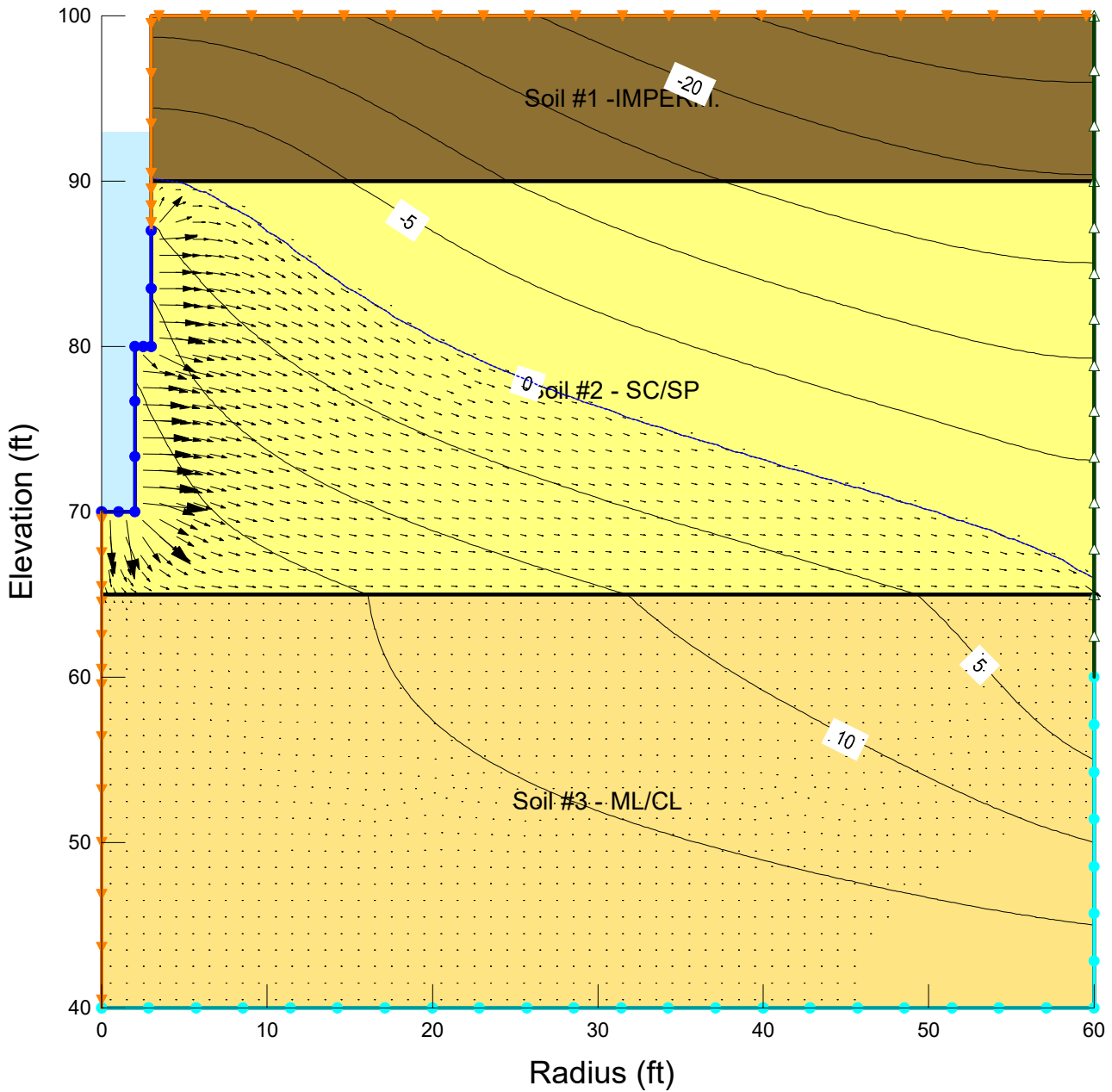
	Low Water Table	Condition 1	
	High Water Table & Water Below Bottom of Well	Condition 2	
	High water Table with Water Above the Well Bottom	Condition 3	
			Units:
Enter Condition (1, 2 or 3):		1	
Ground Surface to Bottom of Well (h_1):		25	feet
Depth to Water (h_2):		20	feet
Height of Water in the Well ($h_1-h_2=h$):		5	feet
Radius of Well (r):		4.0	Inches
Minimum Volume Required:		1473.4	Gal.
Discharge Rate of Water Into Well for Steady-State Condition (q):		0.75	Gal/min.
Temperature (T):		20	Celsius
(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (V):		0.9889	ft ³ /min.
Unsaturated Distance Between the Water Surface in the Well and the			
Water table (T_u):			Ignore T_u
Factor of Safety:		1	
Coefficient of Permeability @ 20° C (k_{20}):		1.57E-03	ft/min.
Design k_{20}:		1.13	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condition III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test puposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

STEADY STATE CASE

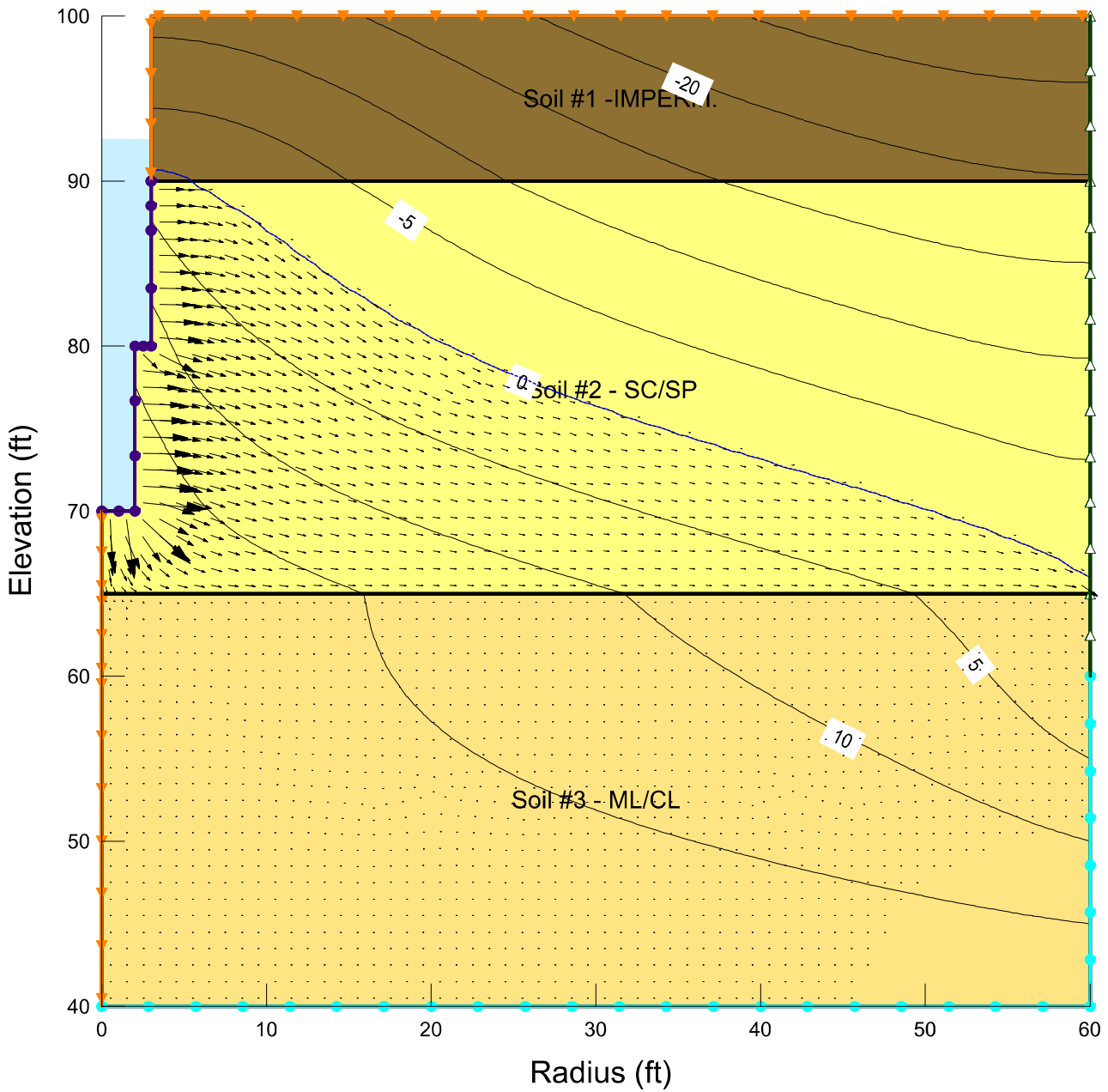


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE- TIME=0.26 HR

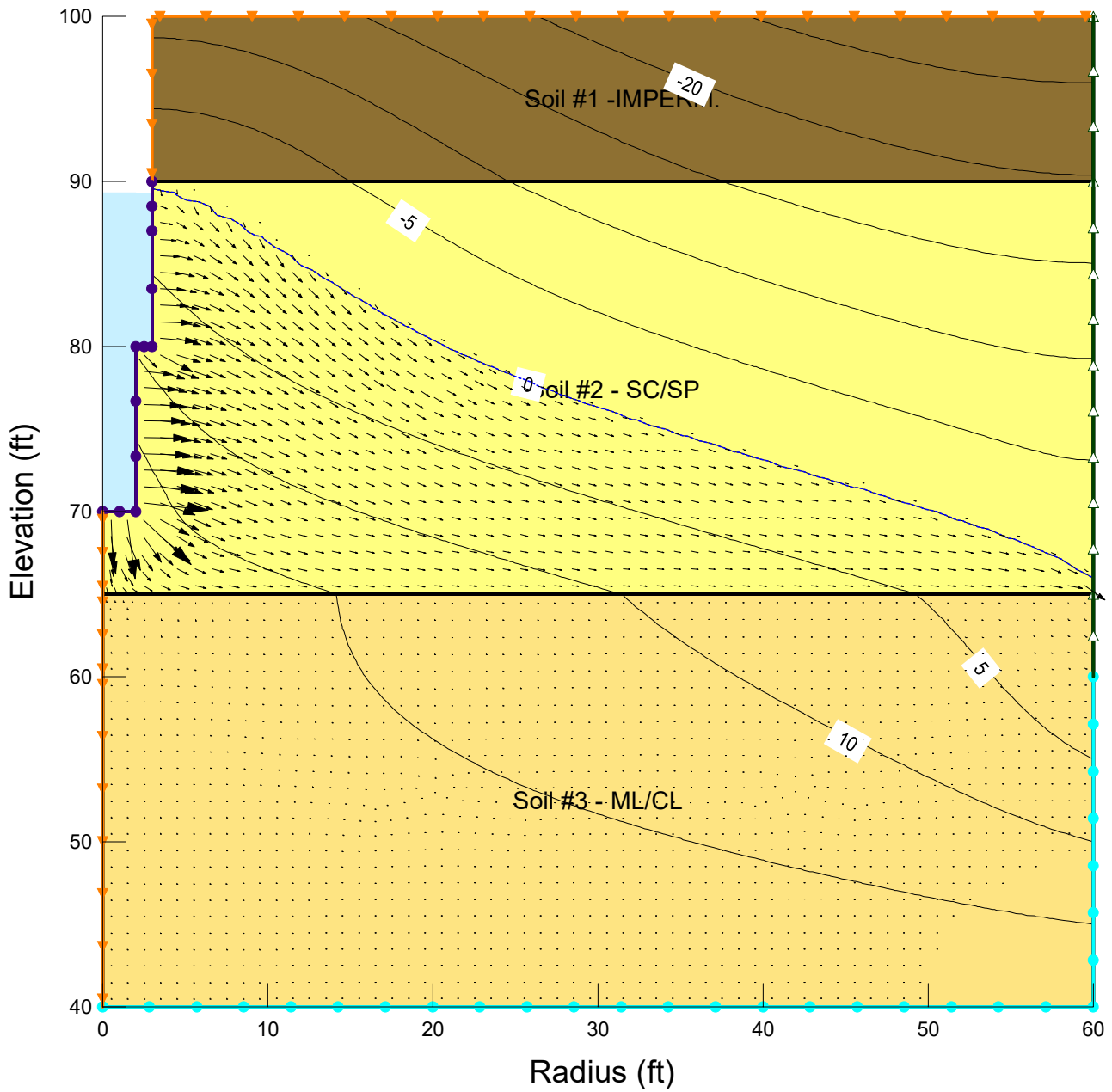


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE T=1.7 HR.

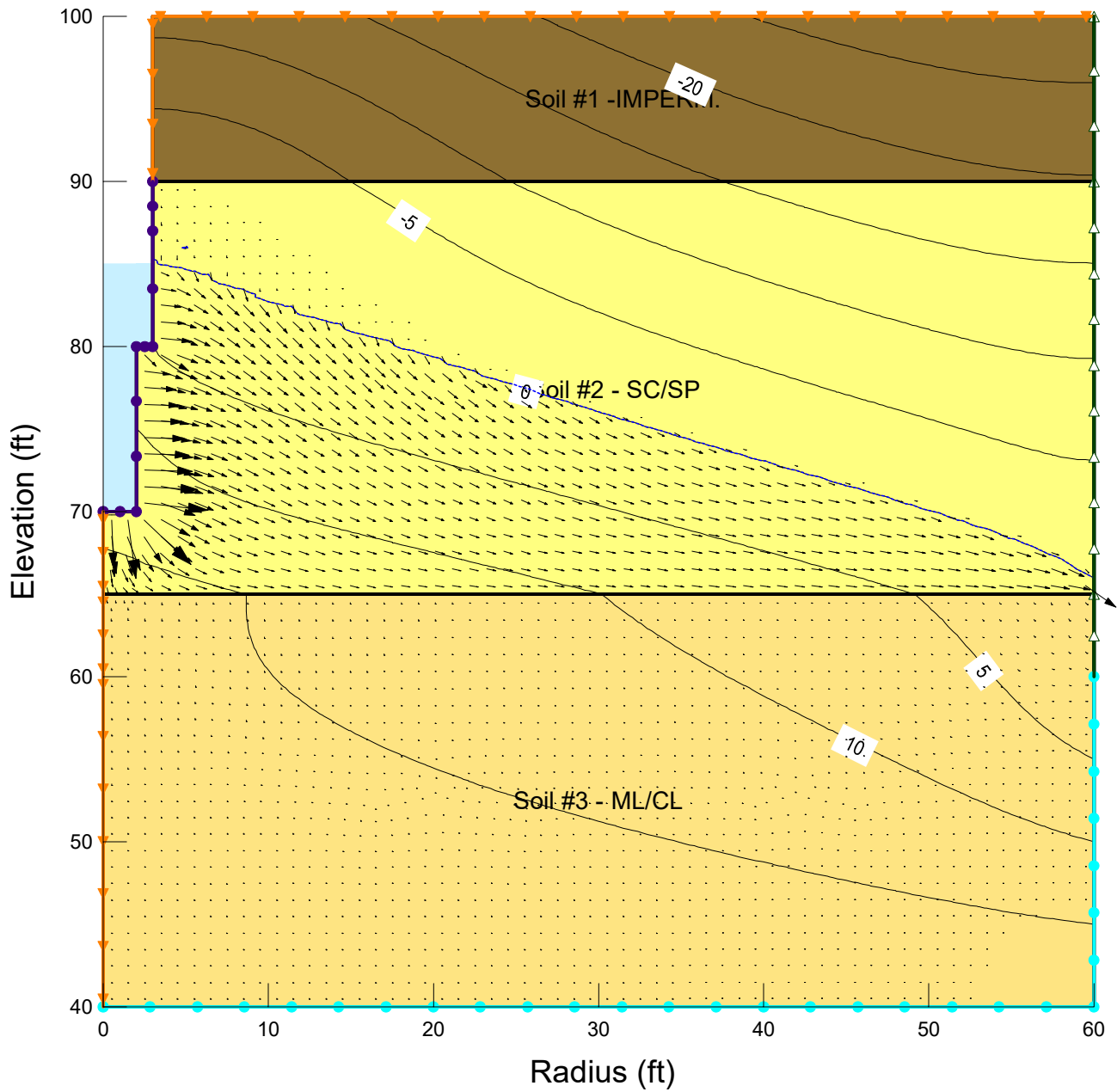


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE T=4.8 HR.

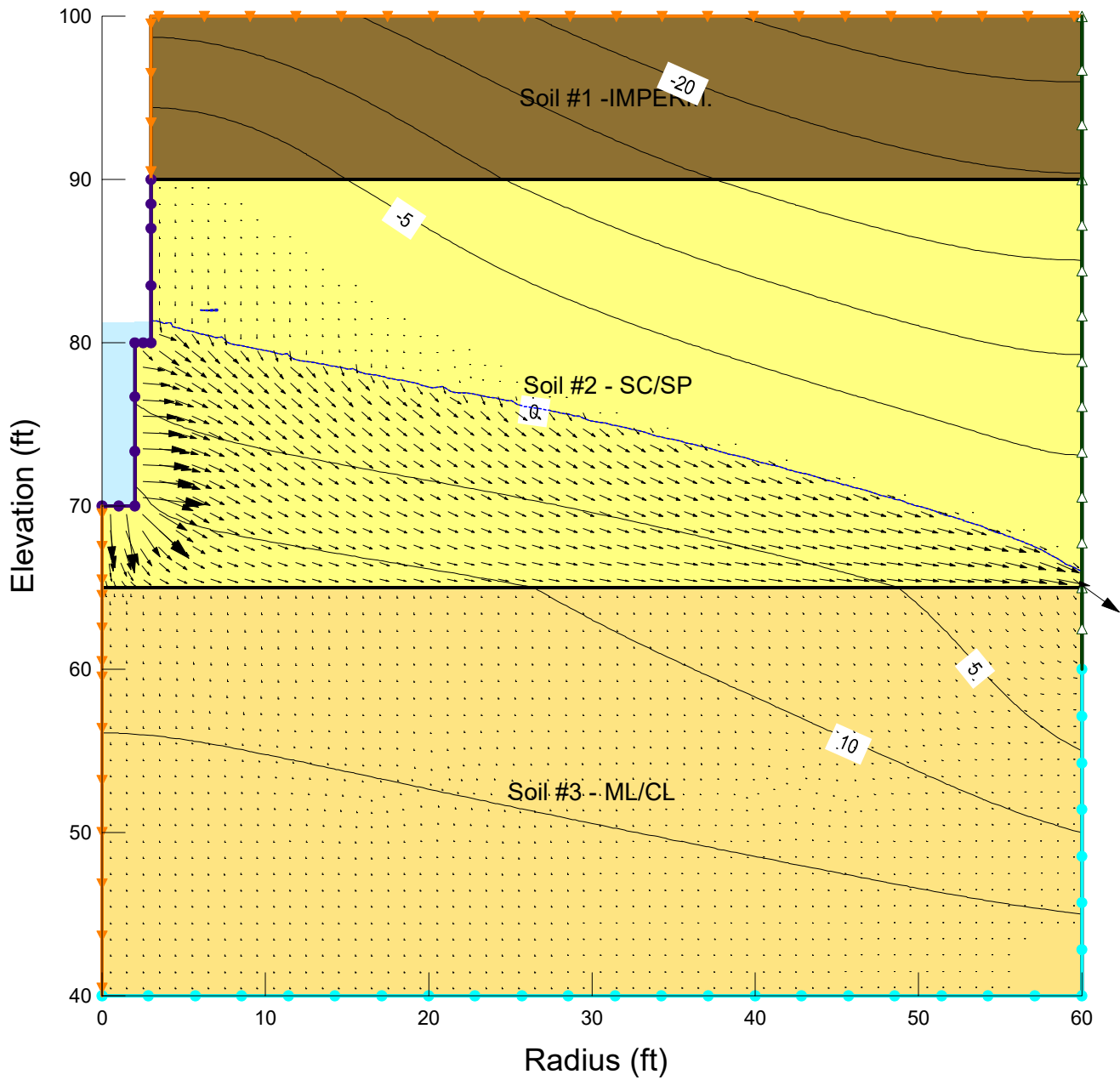


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE T=9.4 HR.

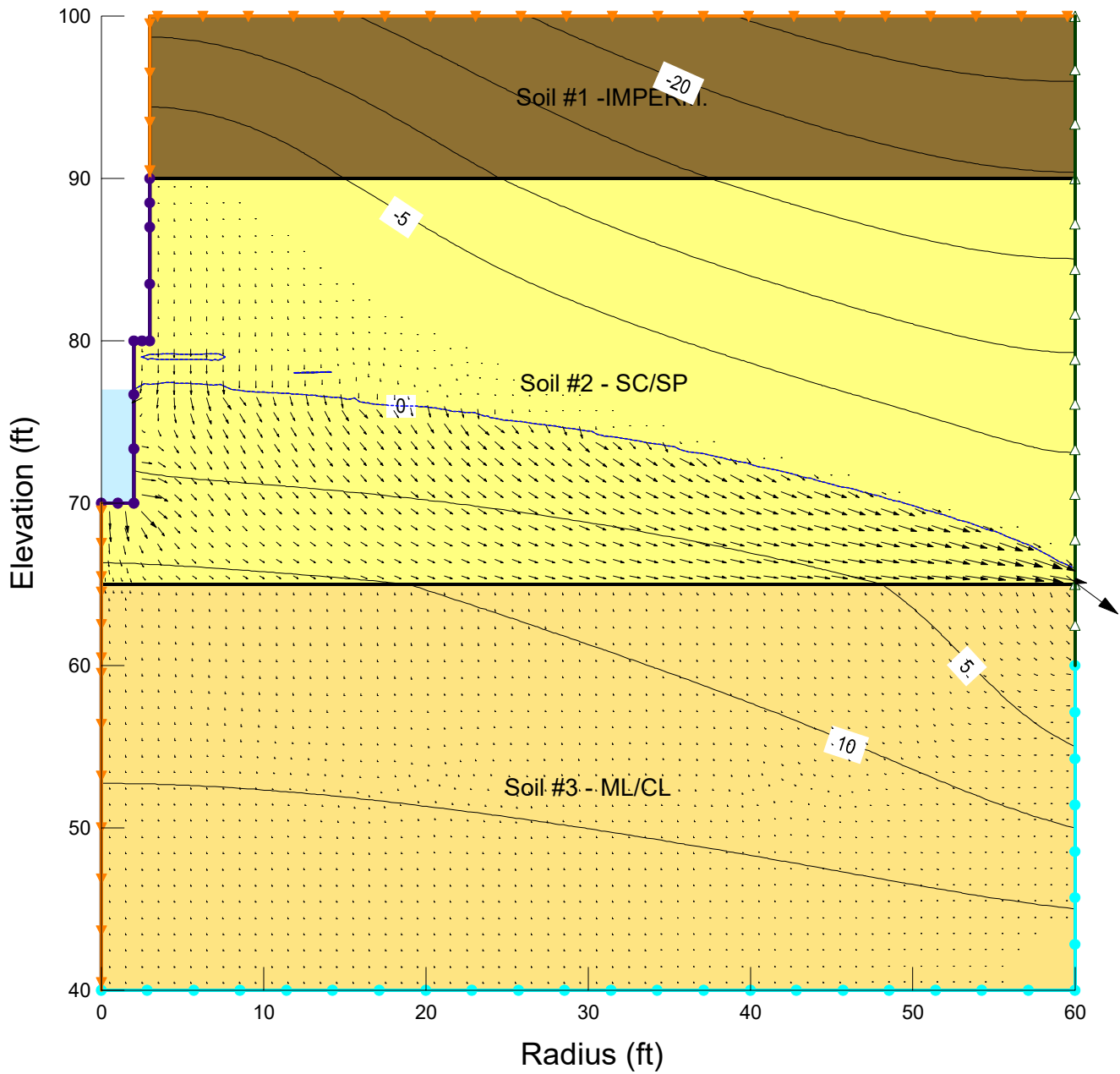


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE T=13.0 HR.



Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



APPENDIX D – PHASE I ENVIRONMENTAL SITE ASSESSMENT





**Phase I Environmental Site
Assessment Report**

**23591 El Toro Road and 24551 Raymond Way
Lake Forest, California**

**Converse Project No. 19-42-162-01
July 5, 2019 revised April 21, 2020**

Prepared For:

**National CORE
lcontreras@nationalcore.org**

Prepared By:

**Converse Consultants
717 South Myrtle Avenue
Monrovia, California 91016**



Converse Consultants

Geotechnical Engineering, Environmental and Groundwater Science, Inspection and Testing Services

July 5, 2019 revised April 21, 2020

Ms. Lorna Contreras
National CORE
lcontreras@nationalcore.org

Subject: PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

23591 El Toro Road and 24551 Raymond Way
Lake Forest, California
Converse Project No. 19-42-162-01

Ms. Contreras:

Converse Consultants (Converse) is pleased to submit the attached report that summarizes the activities and the results of a Phase I Environmental Site Assessment (Phase I ESA) that was conducted at the referenced property.

A summary of the assessment is presented in the Executive Summary, as well as in Sections 8.0, 9.0, and 10.0 of the report. Recognized Environmental Conditions were identified during this assessment. Further assessment is recommended.

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact Spencer Wagner at (562) 505-5219 or Norman S. Eke at (626) 930-1260 .

CONVERSE CONSULTANTS

Spencer Wagner
Senior Staff Environmental Scientist

Norman S. Eke
Senior Vice President/Managing Officer

Executive Summary

The following is an Executive Summary of the Phase I Environmental Site Assessment (Phase I ESA) that was conducted by Converse Consultants (Converse). Please refer to the appropriate sections of the report for a complete discussion of these issues. In the event of a conflict between this Executive Summary and the report, or an omission in the Executive Summary, the report shall prevail.

This report presents the results of the Converse Phase I ESA performed at 23591 El Toro Road and 24551 Raymond Way in the City of Lake Forest, Orange County County, California, referred to as the Property in this report. Converse was retained by National CORE to conduct this Phase I ESA. Our study has been conducted in order to identify, to the extent practical within the scope of an ESA, Recognized Environmental Conditions (RECs) in connection with the Property.

Converse has compiled and reviewed information that was obtained from interviews, document research, and on-site and area reconnaissance to identify potential environmental conditions at the Property, in conformance with the ASTM Standard E: 1527-13 Environmental Site Assessment Standard Practice (ASTM Standard: E1527- 13). This Phase I ESA was conducted during the period of June 7, 2019 to July 5, 2019 revised April 21, 2020.

Recognized Environmental Conditions were identified during this assessment.

Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
3.0	USER PROVIDED INFORMATION & RESPONSIBILITIES	✓					
5.2.5	Summary of Historical Property Use	✓					The historical agricultural use on portion of the Property is not considered a REC as the Property has since been redeveloped.

Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
5.2.6	Summary of Past Uses of Adjoining Properties		✓				The former dry cleaning operations on the southern/ southwestern adjoining property is considered a REC due to the proximity to the Property, and the ongoing open investigation at the site. The former dry cleaning operations at the southeastern adjoining property is not considered a REC due to the distance from the Property and the cross-gradient location of the site from the Property with respect to the groundwater gradient.
5.2.7	Summary of Past Uses of the Surrounding Area	✓					
5.3.1	Property Listings	✓					



Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
5.3.2	Adjoining Properties		✓				The open investigation/ remediation of PCE contamination on the southern/ southwestern adjoining property is considered a REC based on data indicating the presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Property. The ongoing PCE investigation on the southeastern adjoining shopping center does not rise to the level of a REC due to the distance from the Property and the cross-gradient location of the Property with respect to the



Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
							direction of groundwater flow; however, the site is considered an environmental concern.
5.3.3	Other Off-site Locations of Concern	✓					



Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
5.4	Additional Environmental Record Sources		✓				The open investigation/ remediation of PCE contamination on the southern/ southwestern adjoining property (24601 Raymond Way) is considered a REC based on data indicating the presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Property. The ongoing PCE investigation on the southeastern adjoining shopping center (23512-23532 El Toro Road) does not rise to the level of a REC due to the distance from the Property and the cross-gradient



Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action / Comments
							location of the Property with respect to the direction of groundwater flow; however, the site is considered an environmental concern.
6.3	Interior Observations of Property	✓					
6.4	Exterior Observations of Property	✓					
6.5	Current Uses of Adjoining Properties	✓					
6.6	Current Uses of Surrounding Area	✓					
7.0	INTERVIEWS	✓					



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1.0 INTRODUCTION

1.1 Purpose and Scope of Services

This report presents the results of the Converse Consultants (Converse) Phase I Environmental Site Assessment (ESA) performed at 23591 El Toro Road and 24551 Raymond Way in the City of Lake Forest, Orange County County, California, referred to as the Property in this report. Converse was retained by National CORE to conduct this Phase I ESA. Our study has been conducted in order to identify, to the extent practical, Recognized Environmental Conditions (RECs) in connection with the Property. The term Recognized Environmental Conditions is defined in Section 1.1.1 of the American Society of Testing and Materials (ASTM) Standard Practice as the presence or likely presence of any hazardous substances or petroleum products in, at or on a property due to any release to the environment; under conditions indicative of a release to the environment; under conditions that pose a material threat of a future release to the environment.

This Phase I ESA was completed in accordance with our proposal dated June 7, 2019. Our work consisted of the following and was completed in general conformance with the scope and limitations of the ASTM Practice E1527-13 and complies with standards and practices set forth in 40 Code of Federal Regulations (CFR) Part 312 for AAI.

- Interviews with the Property owner representatives
- Property and vicinity reconnaissance
- Review of regulatory agency records
- Description of physical setting
- Historical review
- Interviews with public agency personnel
- Preparation of this report



1.2 Non-Scope Considerations

There are a number of non-scope issues which are sometimes assessed concurrently with a Phase I ESA. Unless specifically agreed in the contract proposal documents, these non-scope considerations are not included as part of the Phase I ESA. Examples of non-scope issues include:

- Asbestos-containing Building Materials
- Biological Agents
- Cultural & Historic Resources
- Diffuse Anthropogenic Pollution
- Ecological Resources
- Endangered Species
- Health & Safety
- Indoor Air Quality
- Industrial Hygiene
- Lead-base Paints
- Lead in Drinking Water
- Mold
- Non-liquid Polychlorinated Biphenyls
- Radon
- Regulatory Compliance
- Wetlands

No Non-Scope issues were addressed in this report.

1.3 Significant Assumptions

No assumptions were made for this assessment that need to be noted as significant.

1.4 Limitations and Exceptions

The following limitations and exceptions were encountered during the course of this assessment:

- An information request pertaining to the Property was submitted to the Orange County Fire Authority, however, a response was not received during the timeframe of this assessment.

1.5 Special Terms and Conditions

There were no special terms or conditions.



1.6 Reliance

This report is for the sole benefit and exclusive use of National CORE in accordance with the terms and conditions attached to our proposal under which these services have been provided. Its preparation has been in accordance with generally accepted environmental practices. No other warranty, either express or implied, is made. The Scope of Services associated with the report was designed solely in accordance with the objectives, schedule, budget, and risk-management preferences of National CORE.

This report should not be regarded as a guarantee that no further contamination, beyond that which could be detected within the scope of this assessment, is present at the Property. Converse makes no warranties or guarantees as to the accuracy or completeness of information provided or compiled by others. It is possible that information exists beyond the scope of this assessment. It is not possible to absolutely confirm that no hazardous materials and/or substances exist at the Property. If none are identified as part of a limited scope of work, such a conclusion should not be construed as a guaranteed absence of such materials, but merely the results of the evaluation of the property at the time of the assessment. Also, events may occur after the Property visit, which may result in contamination of the Property. Additional information, which was not found or available to Converse at the time of report preparation, may result in a modification of the conclusions and recommendations presented.

Any reliance on this report by Third Parties shall be at the Third Party's sole risk. Should National CORE wish to identify any additional relying parties not previously identified, a completed Application of Authorization to Use (see Appendix A of this report) must be submitted to Converse Consultants.



2.0 PROPERTY DESCRIPTION

Item	Comment
Current Use(s) of the Property	<p>The Study Property is developed with two (2) commercial office buildings.</p> <p>A Study Property location map and a field generated Property plan are provided in Appendix B. Pertinent Property photographs are provided in Appendix C.</p>
Location and Legal Description	<p>The Study Property is located at 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California. It is located north of the intersection of El Toro Road and Raymond Way and is located approximately 0.56-miles northeast of Interstate 5 (San Diego Freeway).</p> <p>The Study Property consists of one (1) single parcel (APN 617-441-02) totalling 3.76-acres. The parcel is fully developed with two 2-story office buildings, surface parking lots and landscaped areas.</p> <p>The proposed Project will require a Tentative Parcel Map to divide the parcel into two. Parcel 1 will be approximately 1.96 acres (85,590 square feet) on the western and northern portion of the site fronting Raymond Way and Packer Place. Parcel 2 will be approximately 1.798 acres (78,320 square feet) rectangular parcel on the southeastern half of the site, fronting El Toro Road.</p>
Zoning Information	<p>According to the City of Lake Forest, Planning Department, the zoning for the proposed project site is zoned PA for professional/administrative (APN: 617-441-02).</p>



Item	Comment
Property Characteristics	<p>The Study Property consists of one single L-shaped parcel totaling 3.76 acres.</p> <p>The Property is generally level, covered with asphalt-paved parking and is developed with two (2), two-story commercial office buildings.</p> <p>Properties in the general area are used for commercial and residential purposes.</p>
Description of Property Structure(s)	<p>There are one (1), two-story commercial-office buildings located on the Property. The buildings are wood-framed and concrete masonry block structures. Building materials in the interior of the building consisted primarily of ceramic tile flooring, drop-tile ceiling panels, and painted drywall or concrete masonry walls.</p>
<p>The following services were present at the Property at the time of the assessment.</p>	
Electricity:	Southern California Edison
Gas:	The Gas Company
Potable Water:	El Toro Water District
Sanitary Sewer:	El Toro Water District
Heating, Ventilation, Air Conditioning (HVAC):	Roof-mounted HVAC units
Solid Waste:	CR&R



3.0 USER PROVIDED INFORMATION & RESPONSIBILITIES

3.1 Requested Documents and Information

The ASTM E1527-13 specifies that the User, National CORE provide any helpful documents that may be available, as listed below.

- Environmental site assessment or environmental compliance audit reports
- Environmental permits or hazardous waste generator notices/reports
- Registrations for aboveground and underground storage tanks
- Septic systems, oil wells, or water wells
- Registrations for underground injection systems
- Material Safety Data Sheets; Community Right to Know Plans; or Safety, Preparedness and prevention Plans; Spill Protection Countermeasures and Control Plans
- Reports regarding hydrologic conditions on the Property or surrounding area
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the Property or relating to environmental liens encumbering the Property.
- Hazardous waste generator notices or reports
- Geotechnical studies
- Risk assessments
- Recorded Activity Use Limitations (AULs)
- Proceedings regarding hazardous substances and petroleum products including any pending, threatened or past: litigation; administrative proceedings; or notices from any governmental entity regarding possible violations of environmental laws or other possible liability related to hazardous substances or petroleum products.

No information/documentation was provided by National CORE.

3.2 User Provided Information

Section 6 of ASTM E1527-13 outlines specific User's responsibilities. This information will help identify the possibility of RECs in connection with the Property. The ASTM Standard provides a questionnaire to help the User to comply with the statutory



requirements to perform tasks which would help identify RECs. Converse included the questionnaire as Attachment A to our proposal. In general, any Users should make Converse aware of information they have regarding the following:

- Environmental Cleanup Liens filed or recorded against the Property
- Activity and land use limitations that are in place on the Property or have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the Legal Liability Protections (LLP)
- Relationship of the purchase price to fair market value of the Property if it were not contaminated
- Commonly known or reasonably ascertainable information about the Property
- The degree or obviousness of the presence or likely presence of contamination at the Property, and the ability to detect this contamination by appropriate investigation.

The following information was requested from the User, National Core.

3.2.1 Environmental Cleanup Liens

The User had no information regarding environmental cleanup liens or title records.

3.2.2 Activity and Use Limitations

The User did not have any information indicating they were aware of any AULs.

3.2.3 Specialized Knowledge or Experience

The User did not have any information indicating they had specialized knowledge or experience related to the Property or nearby property.



3.2.4 Reason for Significantly Lower Purchase Price

Converse has no information regarding the purchase price of the Property or comparable properties. The User has not indicated to Converse that there is any conclusion that there was a lower purchase price because of known or suspected contamination at the Property.

3.2.5 Commonly Known or Reasonably Ascertainable Information

The User did not have any information about past uses, specific chemicals at the Property, past spills, environmental cleanup or other reasonably ascertainable information regarding the Property.

3.2.6 Obviousness of Contamination

The User did not provide any information based on their knowledge or experience that would be obvious indicators of contamination on the Property.

Unless specifically stated otherwise in the Scope of Services, the purpose of this Phase I ESA was to qualify for the landowner liability protections to CERCLA Liability as described in ASTM E1527-13.

Business risk unrelated to the CERCLA innocent landowners defense are only assessed as specifically agreed in the Scope of Services and discussed in Section 11.0, Additional Non-Scope Services, of this report.

3.3 Continuing Obligations

In order to assert a LLP, the User must satisfy a number of statutory requirements that are generally referred to as Continuing Obligations, which are outside the Scope of Services of the Phase I ESA. Examples of Continuing Obligations include providing legally required notices, stopping continuing releases and complying with land use restrictions. Failure to comply with these and other statutory post-acquisition requirements will jeopardize liability protection.

It is the responsibility of the User to comply with the Continuing Obligations requirements of ASTM E1527-13 and AAI. Anyone seeking LLP protections should take independent action beyond this Phase I ESA to perfect their position.



4.0 OWNER PROVIDED INFORMATION

The ASTM E1527-13 specifies that the Property owner and the Key Site Manager provide any helpful documents that may be available as listed below.

- Environmental site assessment or environmental compliance audit reports
- Environmental permits or hazardous waste generator notices/reports
- Registrations for aboveground and underground storage tanks
- Septic systems, oil wells, or water wells
- Registrations for underground injection systems
- Material Safety Data Sheets; Community Right to Know Plans; or Safety, Preparedness and Prevention Plans; Spill Protection Countermeasures and Control Plans
- Reports regarding hydrologic conditions on the Property or surrounding area
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the Property or relating to environmental liens encumbering the Property.
- Hazardous waste generator notices or reports
- Geotechnical studies
- Risk assessments
- Recorded AULs
- Proceedings regarding hazardous substances and petroleum products including any pending, threatened or past: litigation; administrative proceedings; or notices from any governmental entity regarding possible violations of environmental laws or other possible liability related to hazardous substances or petroleum products.

The Owner representative, Ms. Kristi Cozens, did not provide any documentation, and had no knowledge of any environmental issues associated with the Property.



5.0 RECORDS REVIEW

5.1 Physical Setting

Item	Comments
Physical Setting:	The Property is located approximately 400 feet above mean sea level with surface topography sloping towards the north/northeast (United States Geological Survey [USGS] Topographic Map, Lake Forest, CA).
Geology:	The Property is underlain by unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits (Division of Mines and Geology, Geologic Map of California, 2010).
Groundwater:	According to data obtained from the State Water Resources Control Board's Geotracker database, results of groundwater monitoring on the southwestern/western adjoining property indicate that groundwater levels in March of 2019 were measured to be between 19 and 26 feet beneath ground surface (bgs). Groundwater flow direction was measured to be to the northeast.
Potable Water Supply:	Potable water is supplied by the El Toro Water District.

5.2 Historical Review

5.2.1 Aerial Photograph and Map Review

Available historical aerial photographs and historical maps, which were provided by Environmental Risk Information Services (ERIS), were reviewed.

A summary of the review is provided in the following table. Copies of the aerial photographs and maps are provided in an appendix to this report.



The Property was not depicted on the 1935, 1950, 1978, 1982 and 1997 Topographic Maps so those maps were not discussed.

Table 1 – Historical Resource Review

Property	Adjoining Properties	General Vicinity
1931 and 1939 Aerial Photographs, 1942 Topographic Map, 1946 Aerial Photograph, 1948 and 1949 Topographic Maps, 1952, 1958, and 1963 Aerial Photographs		
The Property is primarily undeveloped with a strip of agricultural land located in the southeast corner of the Property.	The adjoining properties are typically undeveloped or developed for agricultural use.	Undeveloped; Agricultural
1968 Topographic Map, 1972 Aerial Photograph, 1974 Topographic Map		
There are no significant identifiable changes in use on the Property.	The adjoining properties to the northwest, north, and east are developed with the existing residential neighborhoods. The adjoining properties to the east, and southeast are developed for agricultural use. The adjoining properties to the south, southwest, and west are undeveloped.	Undeveloped; Agricultural; Residential
1981 Aerial Photograph and Topographic Map, 1988, 1994, 2002, 2005, 2009, 2010, 2012, 2014 Aerial Photographs, 2015 Topographic Map, 2016 and 2018 Aerial Photographs		



Property	Adjoining Properties	General Vicinity
<p>The Property is developed with the two (2) existing commercial office buildings.</p>	<p>The adjoining properties to the northwest, north, and northeast are developed with the existing residential neighborhoods. The adjoining properties to the east, southeast, south, and southwest are developed with the existing commercial shopping centers. The adjoining property to the west is developed with the existing commercial building.</p>	<p>Residential; Commercial</p>

5.2.2 Building Permit Review

Available building permits were provided by the City of Lake Forest, Department of Building & Safety. A chronological summary is provided below.

Building permits for the construction of two (2) commercial office buildings were issued to Mr. Jaime Liverant on May 4, 1977. The building addresses were listed as 2351 El Toro Road and 24551 Raymond Way.

A release from the water department to supply water to the Property was issued on January 25, 1978.

A certificate of occupancy date 1978 identified the Property complex as the Golden Coast Executive Offices.

Various other tenant improvement permits and certificates of occupancy showing commercial office tenants were issued at the Property between 1978 and 2018.



5.2.3 City Directories

A city directory search was completed on the Property by EDR. The complete city directory is provided in Appendix D, Historical Research.

The Property was identified under commercial office listings from as early as 1981 through 2018.

The adjoining properties were identified under various commercial-retail listings from as early as 1981 through 2018.

A drycleaners was identified as operating on the southern adjoining property (24601 Raymond Way) in 1994 and 2000.

A drycleaners was identified as operating on the southeastern adjoining property (23532 El Toro Road) in 1989, 1994, and 2014.

5.2.4 Data Failure

Historical information regarding the Property indicated the Property was undeveloped land as early as 1931 with a minor portion used for agricultural. Therefore, historical data failure occurred during this assessment.

Additional standard ASTM resources are not deemed likely to yield any significant new information. This is not deemed a significant data gap.

5.2.5 Summary of Historical Property Use

From as early as 1931 to 1974, the majority of the Property was undeveloped land. During that time period, a strip of land located along the southeastern Property boundary was developed for agricultural use. The Property was developed with the two (2) existing commercial office buildings and associated parking lots in 1977.

5.2.6 Summary of Past Uses of Adjoining Properties

From as early as 1931 to 1963, the adjoining properties were undeveloped and/or developed for agricultural use. By 1968, the adjoining properties to the northwest, north, and northeast were developed with the existing residential neighborhoods.



By 1981, the adjoining properties to the east, southeast, south, and southwest were developed with the existing shopping centers, and the adjoining property to the west was developed with the existing USPS building. A drycleaner operated on the southeastern adjoining property from 1985 to 2012. A drycleaner also operated on the southern/southwestern adjoining property from the 1970s through 2010.

5.2.7 Summary of Past Uses of the Surrounding Area

The surrounding area was typically undeveloped or developed for agricultural use from as early as 1931 through the 1960s. The area was further developed for residential and commercial-retail uses in the late 1960s through the early 1980s. The area has remained primarily developed for residential and commercial-retail uses.

5.3 Results of Environmental Records Sources Review

An ERIS Database Report prepared specifically for the Property, adjoining properties and other off-site locations of concern. The search included queries to the following databases for cases within specified ASTM search distances. A copy of the database report is provided in an appendix to this report.

5.3.1 Property Listings

The Property was identified on the following databases in the ERIS report:

Facility and Manifest Data (HAZNET)

Database of sites which submit a hazardous waste manifest to DTSC.

There were seven (7) former tenants listed in this database. The listings appear to be related to medical wastes. No specific information pertaining to the quantities of wastes was listed.

Target Property Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HAZNET	DR STEVE PARHAM	23591 EL TORO SUITE 110, LAKE FOREST, CA, 926300000	0.00/-	5.0	
HAZNET	TEKRANGE	23591 EL TORO RD STE 178, LAKE FOREST, CA, 92630	0.00/-	5.0	
HAZNET	LAKE FOREST DENTAL GROUP	23591 EL TORO SUITE 120, LAKE FOREST, CA, 926300000	0.00/-	5.0	
HAZNET	AMANI SOLIMAN DDS INC	23591 EL TORO RD STE 130, LAKE FOREST, CA, 92630	0.00/-	5.0	



Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HAZNET	ASHRAF SOLIMAN DDS	23591 EL TORO RD STE 130, LAKE FOREST, CA, 926304704	0.00/-	5.0	
HAZNET	CHOICE HEALTH CENTERS	24551 Raymond Way, Lake Forest, CA, 926304400	0.00/ SW	-4	
HAZNET	CHOICE HEALTH CENTER	24551 RAYMOND WAY, LAKE FOREST, CA, 926300000	0.00/ SW	-4	

5.3.2 Adjoining Properties

The following adjoining properties were identified in the regulatory database report:

- 23532 El Toro Road - The property is located southeast of the Property and was identified in the DRYCLEANERS, EMISSIONS, Orange County Industrial Cleanup Site (ORANGE ICP), Resource Conservation and Recovery Act Non-Generator (RCRA-Non Gen), and RCRA Small Quantity Generator (RCRA-SQG), Voluntary Cleanup Program (VCP), and Department of Toxic Substances Control (DTSC) Envirostor databases. The listings are related to the former Green Tree Cleaners, a dry cleaning business, that operated at the site from 1985 to 2012. Former drycleaning operations at the site have



impacted soil, soil-vapor, and groundwater beneath the site. The databases identified the former facility as having generated tetrachloroethylene (PCE) which is the primary contaminant identified in the soil, soil vapor, and groundwater. The site was previously under the oversight of the DTSC but has since been under the oversight of the Orange County Health Care Agency.

- 24601 Raymond Way - The site is located contiguous to the south/southwest of the Property and was identified in the California Environmental Reporting System (CERS) Hazardous Waste Site, DRYCLEANERS, EMISSIONS, Cleanup Sites, Orange County Lead Cases List (Orange LOP), and Orange ICP, databases. The listings are related to the former operation of a drycleaners at the site (Crown Cleaners). According to the databases. An active investigation was opened at the site in September 2016 and identified contamination beneath the site related to the former drycleaner operations. The databases provided links to records on the State Water Resources Control Board's Geotracker database. According to the records on the Geotracker database, the site was occupied by the drycleaners from the 1970s through 2010. Environmental studies conducted beginning in 2009 indicated that soil, soil-vapor and groundwater beneath the site were impacted by PCE. According to the most recent groundwater monitoring report, active soil vapor and groundwater remediation is underway at the site, along with groundwater sampling. According to the report, groundwater monitoring wells installed within the building footprint have greater than 100 micrograms per liter (ug/l) of dissolved PCE, with maximum concentrations frequently greater than 500 ug/L. In addition, the most recent monitoring event showed that two (2) wells located in the alleyway that separates the former drycleaners from the Property had concentrations of PCE in groundwater of 93 ug/l and 300 ug/l. In addition, groundwater level measurements indicated that the depth to groundwater in these two (2) wells was approximately 25 feet beneath ground surface (bgs), and groundwater gradient is toward the northeast (towards the Property). In addition, in June 2017, soil gas sampling was conducted at several locations in and adjacent to the former drycleaner unit. Vapor samples collected from depths of 10 and 15 feet bgs from a location in the alleyway separating the former cleaners from the Property had reported concentrations of PCE in soil vapor of 16 ug/l and 35 ug/l respectively. These were the highest concentrations of PCE reported in any of the soil vapor sample locations.

Surrounding Properties Summary

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
HAZNET	UNITED STATES POSTAL SERVICE	24552 RAYMOND WAY, LAKE FOREST, CA, 926309978	0.01/ SSW	-2.0	Southwest - The Property is listed in the database. No additional pertinent information was provided.
DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD, LAKE FOREST, CA, 926300000	0.02/ ESE	5.0	Southeast - See write up above.
DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO BLVD, EL TORO, CA, 926300000	0.02/ ESE	5.0	Southeast - See write up above.
DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD #3, EL TORO, CA, 926300000	0.02/ ESE	5.0	Southeast - See write up above.



Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
EMISSIONS	ORANGE TREE CLEANERS	23532 EL TORO RD, #3, EL TORO, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.
EMISSIONS	ORANGE TREE CLEANERS, MICHAEL	23532 EL TORO RD, #3, EL TORO, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.
ORANGE ICP	ORANGE TREE PLAZA CLEANERS	23532 EL TORO RD, LAKE FOREST, CA, 92630-	0.02/ ESE	5.0	Southeast - See write up above.
RCRA NON GEN	SALONCENTR INC 6034	23532 EL TORO RD STE 6, LAKE FOREST, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.
RCRA SQG	ORANGE TREE PLAZA	23532 EL TORO ROAD UNIT #3, LAKE FOREST, CA, 92630	0.02/ ESE	5.0	Southeast - See write up above.



Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	BIGSHOTS BILLIARDS BAR & GRILL	23512 EL TORO RD, LAKE FOREST, CA, 92630	0.02/ ESE	6.0	Southeast - The facility is listed in the database as a facility that uses hazardous wastes (CO2). The database identified several inspection reports from 2016 to 2018. No violations were noted.



Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	O'Reilly Auto Parts #2940	24601 RAYMOND WAY, LAKE FOREST, CA, 92630	0.03/S	2.0	Southwest - The site is listed in the database as a facility that utilizes hazardous wastes. Several inspection reports from 2016 to 2017 were identified. No violations were issued.
DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY UNIT 15, EL TORO, CA, 926300000	0.03/S	2.0	Southwest - See write-up above.
DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY STE 15, LAKE FOREST, CA, 926304460	0.03/S	2.0	Southwest - See write-up above.



Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
DRYCLEANERS	MOHAMMAD BANASHFAT DBA CROWN CLEANERS	24601 RAYMOND WAY STE 15, LAKE FOREST, CA, 926304460	0.03/S	2.0	Southwest - See write-up above.
DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY, EL TORO, CA, 926300000	0.03/S	2.0	Southwest - See write-up above.
EMISSIONS	CROWN 1 HOUR CLEANERS, A. TAHB	24601 RAYMOND WAY #15, EL TORO, CA, 92630	0.03/S	2.0	Southwest - See write-up above.
EMISSIONS	CROWN 1 HOUR CLEANERS	24601 RAYMOND WAY #15, EL TORO, CA, 92630	0.03/S	2.0	Southwest - See write-up above.
CLEANUP SITES	FORMER CROWN CLEANERS	24601 RAYMOND WAY, LAKE FOREST, CA, 92603	0.03/S	2.0	Southwest - See write-up above.

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
ORANGE HW	OREILLY AUTO PARTS #2940	24601 RAYMOND WAY, LAKE FOREST, CA, 92630	0.03/S	2.0	Southwest - The site was listed in this database. No additional pertinent information was provided.
ORANGE ICP	CARLEN PLAZA - CROWN CLEANERS	24601 RAYMOND WAY, LAKE FOREST, CA, 92630-	0.03/S	2.0	Southwest - See write-up above.
RCRA NON GEN	O'REILLY AUTO PARTS STORE 2940	24601 RAYMOND WAY, LAKE FOREST, CA, 92630	0.03/S	2.0	Southwest - The site was listed in this database. No additional pertinent information was provided.

Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	Sizzler Restaurant #409	23501 EL TORO RD, LAKE FOREST, CA, 92630	0.03/ SE	0.0	South - Several inspection reports between 2015 and 2018 were described in the database. No violations were issued at the site.
EMISSIONS	SIZZLER-MORRIS MANAGEMENT	23501 EL TORO RD, EL TORO, CA, 92630	0.03/ SE	0.0	South - The site is listed in the database. No additional pertinent information was provided.
ENVIROSTOR	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD, LAKE FOREST, CA, 92630	0.07/ ESE	0.0	Southeast - See write-up above.



Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
VCP	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD, LAKE FOREST, CA, 92630	0.07/ ESE	0.0	Southeast - See write-up above.
CLEANUP SITES	THE FORMER ORANGE TREE PLAZA DRY CLEANERS	23532 EL TORO ROAD, LAKE FOREST, CA,	0.09/ ESE	0.0	Southeast - See write-up above.



Database	Site Name	Address	Dist. (mi) / Dir.	Elev. diff. (ft)	Comments
CERS HAZ	FREEDOM VILLAGE HEALTH CARE CENTER	23442 EL TORO RD, LAKE FOREST, CA, 92630	0.10/E	7.0	East - Several site inspection reports were listed in the database. The facility received a violation for failure to electronically submit a hazardous material inventory. The violation was brought into compliance.

5.3.3 Other Off-site Locations of Concern

Other off-site locations of concern identified by ERIS within a maximum one-mile radius from the Property included CERS HAZ, RCRA Non Gen, DELISTED TANK, CDL, HHSS, HIST TANK, ORANGE LOP, LUST, DRYCLEANERS, EMISSIONS, RCRA LQG, CLEANUP SITES, ENVIROSTOR, and SCHOOL sites. These sites are not considered RECs in connection with the Property due to the distance from the Property, type of listing, regulatory status of the sites, or the identification of responsible parties.



5.3.4 Orphan Listings

The database report identified six (6) orphan listings. The locations of sites were identified only by street name. These street names were found in the general vicinity of the Property; however, the specific site locations could not be determined. These orphan sites appeared to have a low potential for environmental impact to the Property due to one or more of the following: type of regulatory listing or distance from the Property.

5.4 Additional Environmental Record Sources

Federal Agencies

Federal Agencies	
Source	Comments
U.S. Department of Transportation, Pipeline and Hazardous Material Safety Administration (PHMSA)	PHMSA online mapping system for gas transmission pipelines and hazardous liquid pipelines on the Property or adjacent properties was reviewed (https://www.npms.phmsa.dot.gov/PublicViewer/). No pipelines were identified on the Property or adjacent properties.



State Agencies

State Agencies	
Source	Comments
<p>California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC)</p>	<p>No information regarding the Property was on file with DTSC.</p> <p>The Envirostor website (http://www.envirostor.dtsc.ca.gov/public/) was reviewed for information, and the Property was not listed in the database.</p> <p>The southeastern adjoining property (23512-23532 El Toro Road) was listed in the database as a voluntary cleanup site that is currently under the oversight of the Orange County Health Care Agency. According to the database, the site was formerly under the oversight of the DTSC. During investigations conducted at the site in 2011, elevated levels of PCE were detected in soil-vapor. Based on these findings, DTSC recommended further action. The responsible party proceeded to a voluntary cleanup action with OCHCA, and DTSC concurred with the proposed oversight change in 2013.</p>



State Agencies	
Source	Comments
<p>Cal/EPA, Regional Water Quality Control Board (RWQCB)</p>	<p>The RWQCB had no records on file regarding underground storage tank (UST) issues at the Property. The Geotracker website (http://geotracker.waterboards.ca.gov/) was reviewed for information, and the Property was not listed in the database.</p> <ul style="list-style-type: none"> • The Geotracker database had records pertaining to an open case in the southwest adjoining shopping center (24601 Raymond Way). The site is located contiguous to the southwest of the Property. According to the records on the Geotracker database, the site was occupied by the drycleaners from the 1970s through 2010. Environmental studies conducted beginning in 2009 indicated that soil, soil-vapor and groundwater beneath the site were impacted by PCE. According to the most recent groundwater monitoring report, active soil vapor and groundwater remediation is underway at the site, along with groundwater sampling. According to the report, groundwater monitoring wells installed within the building footprint have greater than 100 micrograms per liter (ug/l) of dissolved PCE, with maximum concentrations frequently greater than 500 ug/L (5ug/L is maximum contaminant level). In addition, the most recent monitoring event (March 2019) showed that two (2) wells located in the alleyway that separates the former drycleaners from the Property had concentrations of PCE in groundwater of 93 ug/l and 300 ug/l. In addition, groundwater level measurements indicated that



State Agencies	
Source	Comments
	<p>the depth to groundwater in these two (2) wells was approximately 25 feet beneath ground surface (bgs), and groundwater gradient is toward the northeast (towards the Property). In addition, in June 2017, soil gas sampling was conducted at several locations in and adjacent to the former drycleaner unit. Vapor samples collected from depths of 10 and 15 feet bgs from a location in the alleyway separating the former cleaners from the Property had reported concentrations of PCE in soil vapor of 16 ug/l and 35 ug/l respectively. These were the highest concentrations of PCE reported in any of the soil vapor sample locations. The concentrations exceed the regulatory thresholds for commercial use. Site consultant has proposed more assessment and remediation.</p> <ul style="list-style-type: none"> • Former drycleaning operations at the southeastern adjoining site (23532 El Toro Road) have impacted soil, soil-vapor, and groundwater beneath the site. The databases identified the former facility as having generated tetrachloroethylene (PCE) which is the primary contaminant identified in the soil, soil vapor, and groundwater. The site was previously under the oversight of the DTSC but has since been under the oversight of the Orange County Health Care Agency. According to records reviewed on the Geotracker database, groundwater beneath the site was measured to be between 16 and 23 feet bgs with groundwater gradient calculated to be to the southwest (cross-gradient of the



State Agencies	
Source	Comments
	Property). Data from the February 2019 groundwater monitoring event showed non-detectable concentrations of VOCs in the groundwater monitoring well nearest the western boundary of the site (closest proximity to the Property).
California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR)	According the DOGGR online database (http://maps.conservation.ca.gov/doms/doms-app.html), there are no oil or gas wells located on the Property or adjacent properties.

Local Agencies

Source	Comments
South Coast Air Quality Management District (SCAQMD)	There were no agency records pertaining to the Property on file with this agency.
Orange County Health Care Agency (OCHCA)	There were no agency records pertaining to the Property on file with this agency.
Orange County Fire Authority (OCFA)	There were no agency records pertaining to the Property on file with this agency.

6.0 PROPERTY RECONNAISSANCE

6.1 Methodology

On June 24, 2019, Converse visited the Property to evaluate present use and to identify observable environmental conditions at the Property. Our methodology involved walking the perimeters, center lines, and accessible interior areas of the buildings while noting observed evidence of present and potential environmental concerns

A field-generated map is provided in Appendix B. Pertinent Property photographs are provided in Appendix C.

6.2 Limiting Conditions

Converse's findings are based on the Property conditions observed on Monday, June 24, 2019

6.3 Interior Observations of Property

During our Property visit, Converse made the following observations of the interior of the Property's building(s):

Table 3 – Interior Observations of Property

Item or Condition	Observed Evidence	No Evidence Observed	Comments
Hazardous Substances & Petroleum Products:	✓		Minor quantities of cleaning agents and paints were observed in utility closets in both buildings. No leaking or staining was observed.

Item or Condition	Observed Evidence	No Evidence Observed	Comments
Storage Tanks & Related Equipment:		✓	
Odors:		✓	
Standing Surface Water or Other Pools of Liquid:		✓	
Drums & Other Containers of Hazardous Substances, Petroleum Products, or Other Unidentified Contents:	✓		See above.
Transformers or Equipment containing Polychlorinated Biphenyls (PCBs):	✓		A single elevator was located in each of the two (2) buildings. Elevator equipment rooms were observed. No leaking or staining was observed.
Heating/Cooling System:	✓		HVAC vents were observed in individual tenant spaces and common areas.
Stains or Corrosion on Floors, Walls or Ceilings:		✓	



Item or Condition	Observed Evidence	No Evidence Observed	Comments
Drains and Sumps		✓	

Additional Comments

6.4 Exterior Observations of Property

During our Property visit, Converse made the following observations of the exterior of the Property:

Table 4 – Exterior Observations of Property

Item or Condition	Observed Evidence	No Evidence Observed	Comments
Hazardous Substances & Petroleum Products:		✓	
Storage Tanks & Related Equipment:		✓	
Odors:		✓	
Standing Surface Water or Other Pools of Liquid:		✓	

Item or Condition	Observed Evidence	No Evidence Observed	Comments
Drums & Other Containers of Hazardous Substances, Petroleum Products, or Other Unidentified Contents:		✓	
Transformers or Equipment containing Polychlorinated Biphenyls (PCBs):		✓	
Pits, Ponds, or Lagoons:		✓	
Stained Soil or Pavement:		✓	
Stressed Vegetation (other than from insufficient water):		✓	
Evidence of Mounds, Depressions or Filled or Graded Areas Suggesting Trash or Other Solid Waste Disposal:		✓	



Item or Condition	Observed Evidence	No Evidence Observed	Comments
Waste Water or any discharge (including storm water) into a Drain, Ditch, or Stream on or Adjacent to the Property:		✓	
Wells (active, inactive, or abandoned):		✓	
Septic Systems or Cesspools:		✓	
Prior Structures:		✓	
Roads, Tracks, Railroad Tracks or Spurs:	✓		The Property fronts onto El Toro Road to the southeast, and Raymond Way to the southwest.

Additional Comments

In addition to the above items, Converse observed the following:

- A fenced enclosure with remediation equipment was observed southwest of the Property, in parking spaces associated with the southwestern adjoining shopping center.

6.5 Current Uses of Adjoining Properties

Based on our research and observations during our Property visit, the Property is bordered by the following:



Table 5 – Adjoining Property Use

Direction	Current Development
North:	Residential
Northeast:	Residential
Northwest:	Raymond Way followed by residential.
South:	Commercial shopping center (24601 Raymond Way).
Southeast:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
Southwest:	Commercial shopping center (24601 Raymond Way).
East:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
West:	Raymond Way followed by US Post Office (24552 Raymond Way).

6.6 Current Uses of Surrounding Area

Based on our research and observations during our Property visit, the surrounding area of the Property consists of residential and commercial uses.

7.0 INTERVIEWS

Interview:	Comments:
Property Owner:	The Property Owner representative, Ms. Kristi Cozens was interviewed during the Property reconnaissance. Ms. Cozens stated that the Property had been developed with the existing buildings in the 1970s, and had only been occupied by commercial office tenants since that time. Ms. Cozens was unaware of any environmental issues associated with the Property or any of the adjoining properties. Ms. Cozens had no knowledge of any of the ongoing remediation at the southwestern adjoining property, and stated that she was unaware as to whether any drilling related to the southwestern adjoining site had been conducted on the Property.
Tenant/ Occupant:	Ms. Cozens is also the Property manager, and has an office located in the El Toro Road building.
State or Local Government Officials:	Other than the information in Section 5.4, no additional information could be provided.
Owners and Occupants of Neighboring Sites:	No interviews of owners or occupants of neighboring sites were conducted.

8.0 FINDINGS

A cursory summary of findings is provided below. However, details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

The Property is developed with two (2) commercial office buildings.

From as early as 1931 to 1974, the majority of the Property was undeveloped land. During that time period, a strip of land located along the southeastern Property boundary was developed for agricultural use. The Property was developed with the two (2) existing commercial office buildings and associated parking lots in 1977.

Minor quantities of paints and cleaners were observed in utility closets in both buildings. Elevator equipment was observed in both buildings. No leaking or staining was observed.

Both Property buildings were identified in the Haznet database in the database report under multiple listings that appeared to be related to medical offices that operated at the Property.

The following adjoining properties were identified in the regulatory database report:

- 23532 El Toro Road - The property is located southeast of the Property and was identified in the DRYCLEANERS, EMISSIONS, Orange County Industrial Cleanup Site (ORANGE ICP), Resource Conservation and Recovery Act Non-Generator (RCRA-Non Gen), and RCRA Small Quantity Generator (RCRA-SQG), Voluntary Cleanup Program (VCP), and Department of Toxic Substances Control (DTSC) Envirostor databases. The listings are related to the former Green Tree Cleaners, a dry cleaning business, that operated at the site from 1985 to 2012. Former drycleaning operations at the site have impacted soil, soil-vapor, and groundwater beneath the site. The databases identified the former facility as having generated tetrachloroethylene (PCE) which is the primary contaminant identified in the soil, soil vapor, and groundwater. The site was previously under the oversight of the DTSC but has since been under the oversight of the Orange County Health Care Agency.
- 24601 Raymond Way - The site is located contiguous to the southwest of the Property and was identified in the California Environmental Reporting System (CERS) Hazardous Waste Site, DRYCLEANERS, EMISSIONS, Cleanup Sites, Orange County

Lead Cases List (Orange LOP), and Orange ICP, databases. The listings are related to the former operation of a drycleaners at the site (Crown Cleaners). According to the databases. An active investigation was opened at the site in Septemeber 2016 and identified contamination beneath the site related to the former drycleaner operations. The databases provided links to records on the State Water Resources Control Board's Geotracker database. According to the records on the Geotracker database, the site was occupied by the drycleaners from the 1970s through 2010. Environmental studies conducted beginning in 2009 indicated that soil, soil-vapor and groundwater beneath the site were impacted by PCE. According to the most recent groundwater monitoring report, active soil vapor and groundwater remediation is underway at the site, along with groundwater sampling. According to the report, groundwater monitoring wells installed within the building footprint have greater than 100 micrograms per liter (ug/l) of dissolved PCE, with maximum concentrations frequently greater than 500 ug/L (5ug/L is maximum contaminant level). In addition, the most recent monitoring event showed that two (2) wells located in the alleyway that separates the former drycleaners from the Property had concentrations of PCE in groundwater of 93 ug/l and 300 ug/l. In addition, groundwater level measurements indicated that the depth to groundwater in these two (2) wells was approximately 25 feet beneath ground surface (bgs), and groundwater gradient is toward the northeast (towards the Property). In addition, in June 2017, soil gas sampling was conducted at several locations in and adjacent to the former drycleaner unit. Vapor samples collected from depths of 10 and 15 feet bgs from a location in the alleyway separating the former cleaners from the Property had reported concentrations of PCE in soil vapor of 16 ug/l and 35 ug/l respectively. These were the highest concentrations of PCE reported in any of the soil vapor sample locations. The concentrations exceed the regulatory thresholds for commercial use. Site consultant has proposed more assessment and remediation.

- Various other tenants at the same properties were identified in databases; however, due to the types of listings or lack of information, were not deemed environmental concerns.



9.0 OPINION

The historical agricultural operations on a portion of the Property are not considered a REC as the Property has since been redeveloped.

The current and historical commercial office use of the Property is not considered a REC.

The open investigation/remediation of PCE contamination on the southern/southwestern adjoining property is considered a REC based on data indicating the presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Property.

The ongoing PCE investigation on the southeastern adjoining shopping center does not rise to the level of a REC due to the distance from the Property and the cross-gradient location of the Property with respect to the direction of groundwater flow; however, the site is considered an environmental concern.

No significant data gaps were identified during this assessment that affect the ability of the Environmental Professional (EP) to identify RECs.

There are no unusual circumstances where greater certainty is required regarding RECs.



10.0 CONCLUSIONS AND RECOMMENDATIONS

Converse has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E1527-13 for 23591 El Toro Road and 24551 Raymond Way, City of Lake Forest, Orange County County, California. Any exceptions to or deletions from this practice are described in the Limitations and Exceptions of Assessment section of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Property except for the following:

- The ongoing open site investigation of PCE contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way). A Phase II Investigation appears warranted.

The following environmental concern was noted:

- The ongoing open site investigation of PCE contaminated soil, soil vapor, and groundwater on the southeastern adjoining property (23532 El Toro Road).

Converse recommends a Phase II investigation to evaluate if the unauthorized release of PCE on the southern/southwestern adjoining property has impacted the Property.



11.0 DEVIATIONS AND LIMITATIONS

The following limitations and exceptions were encountered during the course of this assessment:

- An information request pertaining to the Property was submitted to the Orange County Fire Authority, however, a response was not received during the timeframe of this assessment.

Based on the known commercial office use at the Property, this is not deemed significant.



12.0 ADDITIONAL NON-SCOPE SERVICES

There are environmental issues outside the scope of the ASTM E1527-13 that can be assessed in connection with a commercial real estate transaction. These are dealt with as non-scope considerations since they do not typically present a Superfund Liability. The specific level of inquiry (if any) is defined in the Proposal which contains a Scope of Work. These non-scope services are very client specific and not covered by the ASTM standard. They are frequently related to the business environmental risk which is defined in the standard as “risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate...”

No non-scope issues were addressed in this report.



13.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standard and practices set forth in 40 CFR Part 312.

A handwritten signature in blue ink that reads "Spencer Wagner". The signature is fluid and cursive, with the first and last names being the most prominent.

Spencer Wagner
Senior Staff Environmental Scientist

This Phase I ESA was completed by the above Environmental Professional. A complete list of preparers, and their responsibilities for this assessment, is provided in the following section (Section 14.0, List of Preparers).

14.0 LIST OF PREPARERS

Norman S. Eke

Senior Vice President/Managing Officer

B.A., Liberal Studies, Environmental Studies Emphasis, University of California, Santa Barbara, 1988.

Cal/OSHA Certified Asbestos Consultant, #96-2093

NIOSH 582 Equivalent Training

Senior Vice President and Managing Officer of Converse's California Environmental offices. Mr. Eke has served as the Principal-in-Charge and Contract Administrator to deliver services to our public agency and private clients. Mr. Eke has 29 years of experience in the fields of Environmental Due Diligence including Phase I and Phase II Environmental Site Assessments, Asbestos surveys/specifications/abatement monitoring, Preliminary Endangerment Assessments and associated Supplemental Site Investigations and Removal Action Work Plans/Implementation, various forms of Remediation, Human Health Risk Assessment and Indoor Air Quality. Mr. Eke is the former Subcommittee Chairman for E.50-02 Real Assessment and Management of the ASTM E.50 Committee on Environmental Assessment, Risk Management, Corrective Action, which includes Phase I ESA standards (2008 to 2016).

Principal area of responsibility for this ESA report: Project Management, Client Point of Contact, and Quality Assurance/Quality Control and Technical Review.

Spencer Wagner

B.A., Environmental Science and Policy, California State University, Long Beach, 2006

B.A., Geography, California State University, Long Beach, 2006

40-Hour HAZWOPER Certified

Certified Wood Destroying Organism (WDO) Inspector

Mr. Wagner has over 9 years' experience conducting Phase I and II Environmental Site Assessments throughout California. Mr. Wagner has completed Phase I ESAs on undeveloped land, residential properties, commercial/retail facilities, industrial facilities, and school sites. His Phase II ESA experience includes collection of soil matrix, soil



vapor, indoor air and groundwater samples. Phase II projects worked on have included residential properties, commercial warehousing sites, school sites, dry cleaning facilities, automotive service sites, metal plating facilities and multi-tenant commercial properties.

Principal area of responsibility for this ESA report: Project Management, Client Point of Contact, Historical Research, Regulatory Agency Interaction, Property Reconnaissance, Interviews, Report Generation, and Report Review.



15.0 REFERENCES

California Department of Conservation, Division of Mines and Geology, Geologic Map of California, 2010.

California Department of Conservation, Division of Oil and Gas and Geothermal Resources, Online DOGGR database, June 2019.

California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control, Cypress Office, Request for Information, June 2019.

Cal/EPA, Envirostor Website (<http://www.envirostor.dtsc.ca.gov/public/>), June 2019.

Cal/EPA, Santa Ana Regional Water Quality Control Board, Request for Information, June 2019.

Cal/EPA, Geotracker Website (<http://geotracker.waterboards.ca.gov/>), June 2019.

Cozens, Kristi, Property Owner Representative, Interview, June 2019.

Environmental Risk Information Services., Aerial Photographs, June 2019.

ERIS, Inc., City Directory Abstract, June 2019.

ERIS, Inc., EDR-Radius Map Report, June 2019.

ERIS, Inc., Request for Sanborn Map, June 2019.

ERIS, Inc. Topographic Map, June 2019.

Lake Forest, City of, Building and Safety Department, Building Permit Request, June 2019.

Orange County Fire Authority, Request for Information, June 2019.

Orange County, Health Care Agency, Request for Information, June 2019.

South Coast Air Quality Management District, Request for Information, June 2019.



United States Geological Survey, 7.5-Minute Topographic Quadrangle, Lake Forest, CA 2018.

United States Department of Transportation, Pipeline and Hazardous Material Safety Administration (PHMSA), Pipeline Location Website (<https://www.npms.phmsa.dot.gov/default.htm>), June 2019.



Appendix A - Application for Authorization to Use

Appendix A





Converse Consultants

Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

Application for Authorization to Use

TO: Converse Consultants
717 South Myrtle Avenue
Monrovia, California 91016

Project Title & Date: _____

Project Address: _____

FROM: (Please identify name & address of person/entity applying for permission to use the referenced report.)

Applicant _____ hereby applies for permission to use the referenced report in order to:

Applicant wishes or needs to use the referenced report because:

Applicant also understands and agrees that the referenced document is a copyrighted document and shall remain the sole property of Converse Consultants. Unauthorized use or copying of the report is strictly prohibited without the express written permission of Converse Consultants. *Applicant* understands and agrees that Converse Consultants may withhold such permission at its sole discretion, or grant such permission upon agreement to Terms and Conditions, such as the payment of a re-use fee, amongst others.

Applicant Signature: _____

Applicant Name (print): _____

Title: _____

Date: _____

Appendix B - Property Plans

Appendix B



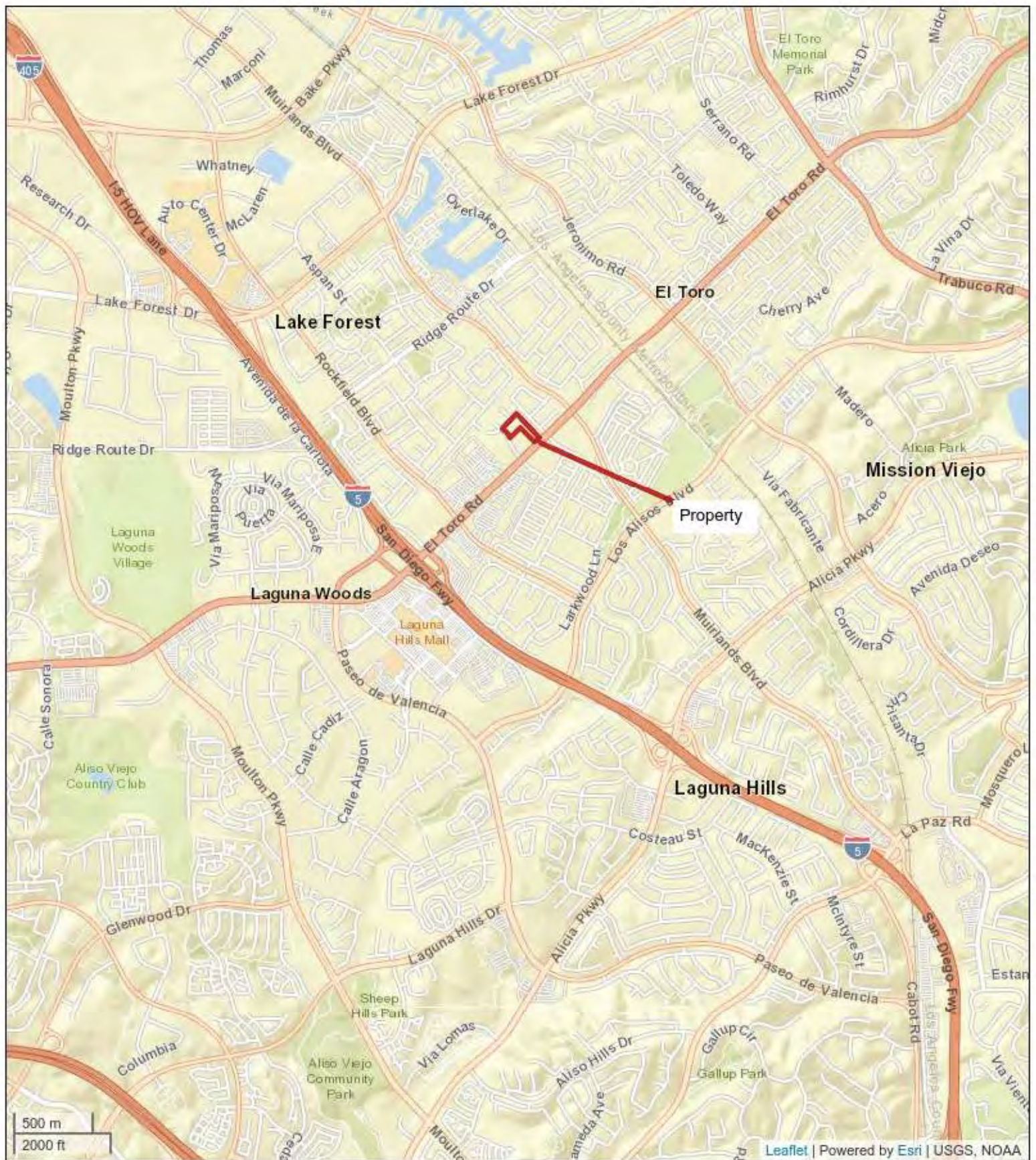


Figure 1 - Property Location Map

National Core
 23591 El Toro Road and 24551 Raymond Way
 Lake Forest, California





Figure 2 - Property Plan
 National Core
 23591 El Toro Road and 24551 Raymond Way
 Lake Forest, California



Appendix C - Pertinent Property Photographs

Appendix C



1



View of 23591 El Toro Road building (looking southeast).

2



View of 24551 Raymond Way building (looking southwest).

3



View of northwestern Property boundary.

4



View of northeastern Property boundary.

5



View of southern Property boundary.

6



View of southern Property boundary.

7



View of typical open-air interior as seen in both of the commercial buildings.

8



View of interior of leasing office (23591, Suite 100).

9



View of interior of optometry office (23514, Suite 145).

10



View of interior of optometry office (23514, Suite 145).

11



View of interior of communal conference room (23591 building).

12



View of elevator in 23591 building.

13



View of elevator equipment in 23591 building.

14



View of vacant suite (23591, Suite 216).

15



View of vacant suite (23591, Suite 216).

16



View of vacant suite (23591, Suite 216).

17



View of vacant suite (23591, Suite 216).

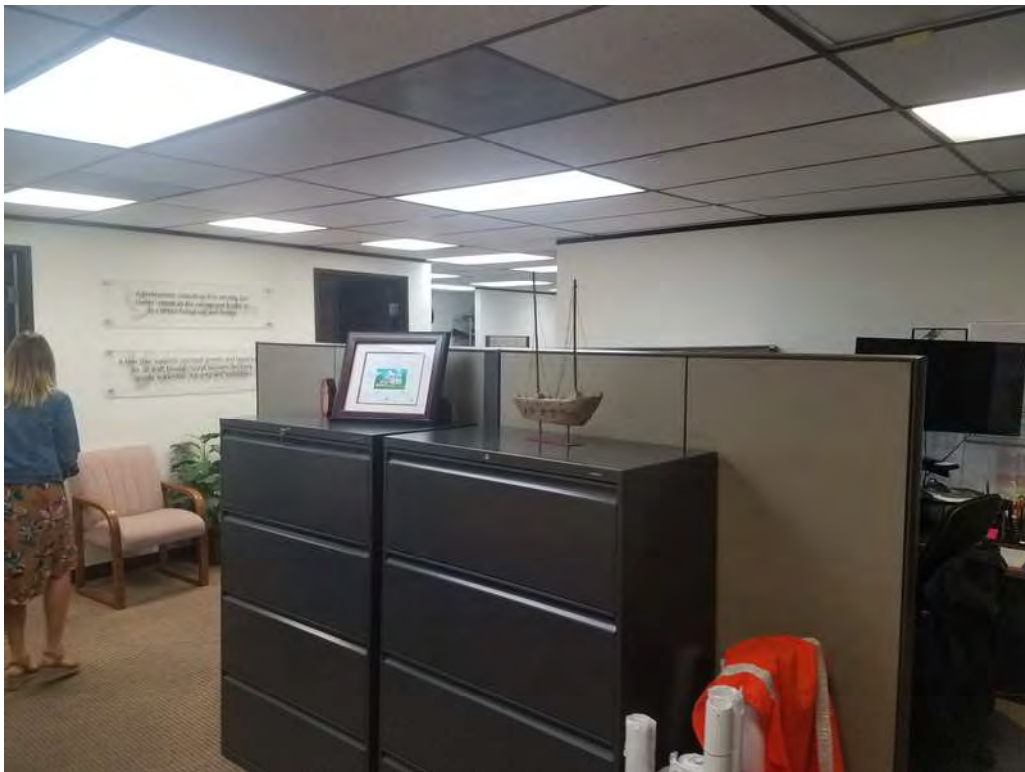
18



View of vacant suite (23591, Suite 216).



View of chemicals stored in utility closet (23591 building).



View of interior of Utility Services office space (24551, Suite 100).

21



View of vacant tenant space (24551 building).

22



View of vacant tenant space (24551 building).

23



View of vacant tenant space (2451 building).

24



View of Century Pacific office space (2451, Suite 250).

25



View of paints stored in utility room (24551 building).

26



View of northwestern adjoining residential properties.

27



View of northeastern adjoining residential neighborhood.

28



View of remediation compound at rear of former drycleaner tenant space (24601 Raymond Way).



View of southern/southwestern adjoining former drycleaner suite (24601 Raymond Way, Suite 15).



View of typical tenant spaces in southern/southwestern adjoining property.



View of southeastern adjoining shopping center with open site assessment (23532 El Toro Road).

**Appendix D - Historical Information: Aerials, Maps & City
Directory**

Appendix D





FIRE INSURANCE MAPS

Project Property: National CORE/El Toro Road
23591 El Toro Road
Lake Forest CA 92630

Requested By: 19-42-162-01

Order No: 20190618288

Date Completed: June 20, 2019

Please note that no information was found for your site or adjacent properties.



TOPOGRAPHIC MAPS

Project Property: National CORE/El Toro Road
23591 El Toro Road
Lake Forest CA 92630

Requested By: 19-42-162-01

Order No: 20190618288

Date Completed: June 19, 2019

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1997	7.5
1982	7.5
1981	7.5
1978	7.5
1974	7.5
1968	7.5
1950	7.5
1949	7.5
1948	7.5
1935	7.5
1942	15

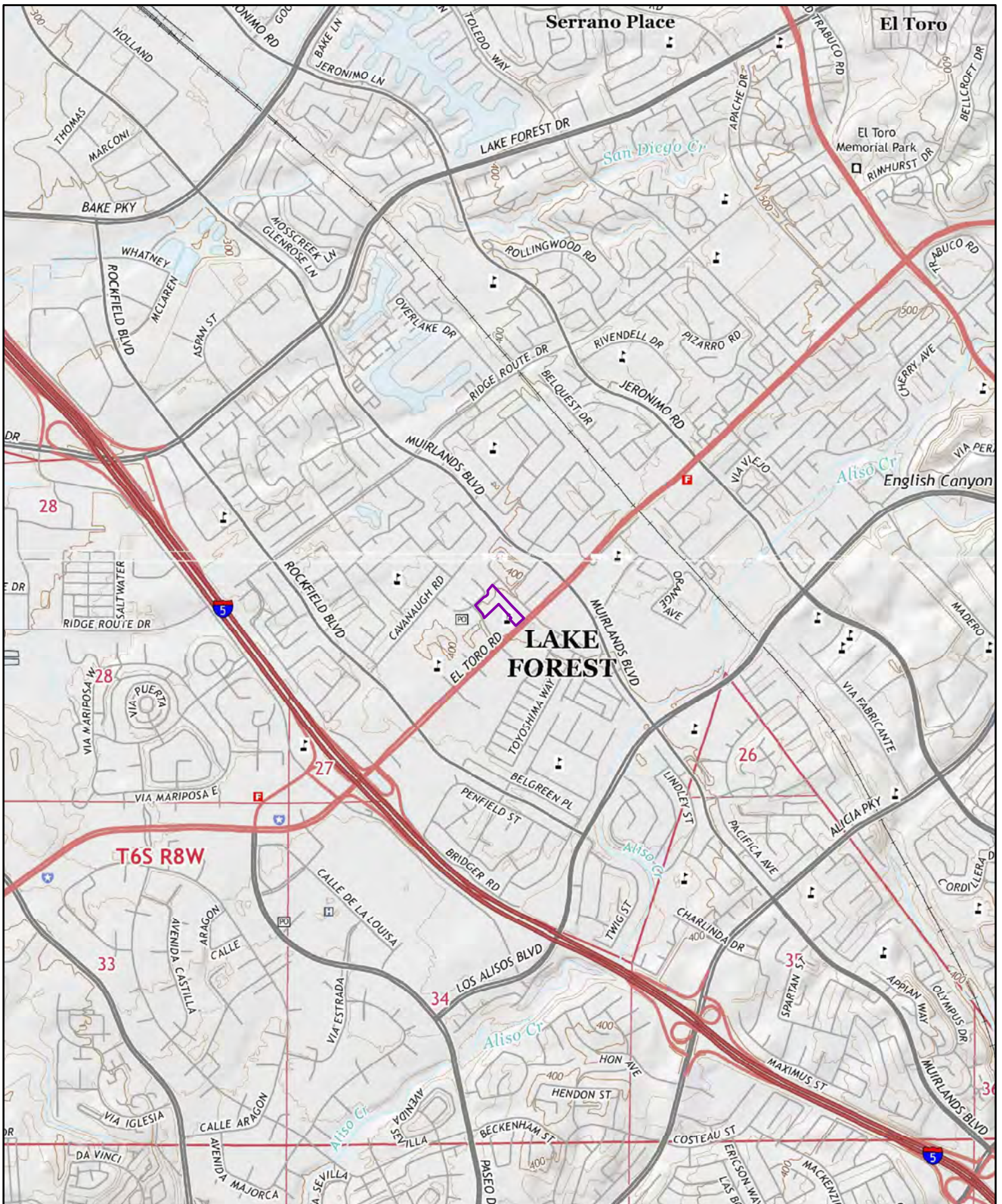
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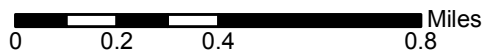
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2015

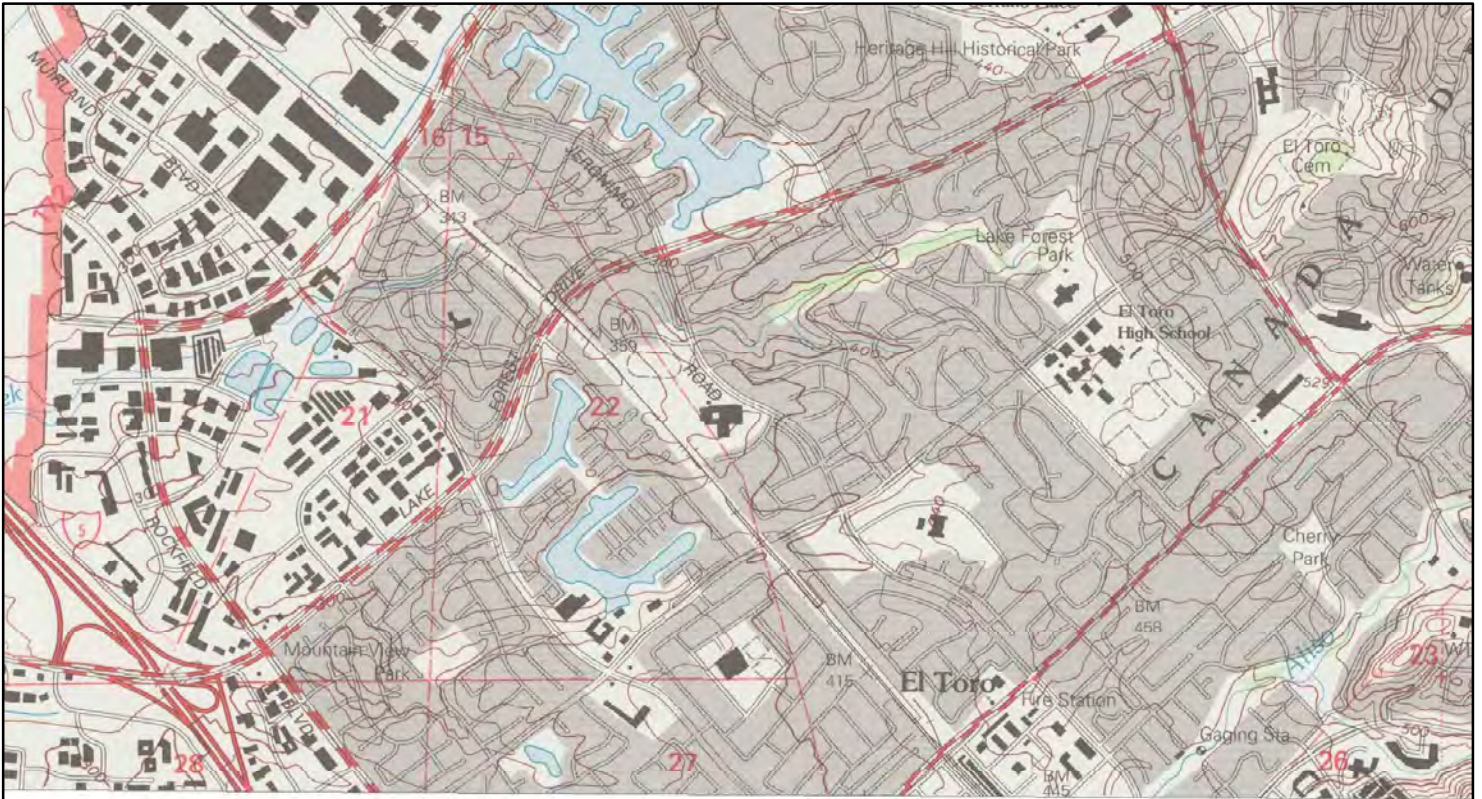


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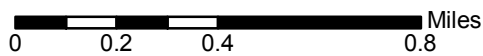
Quadrangle(s): Lake Forest, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1997

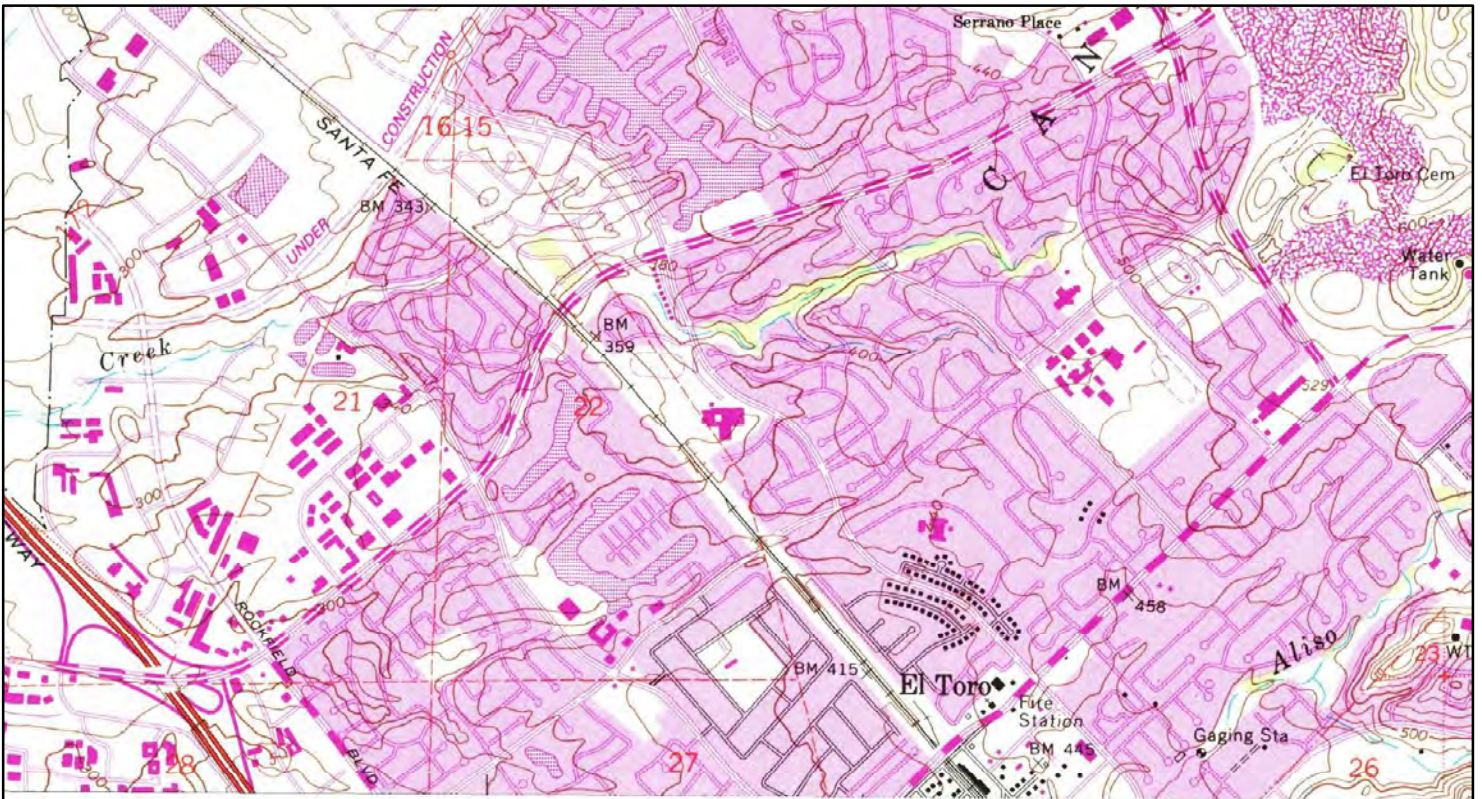


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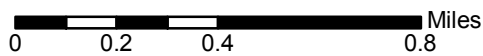
Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1982

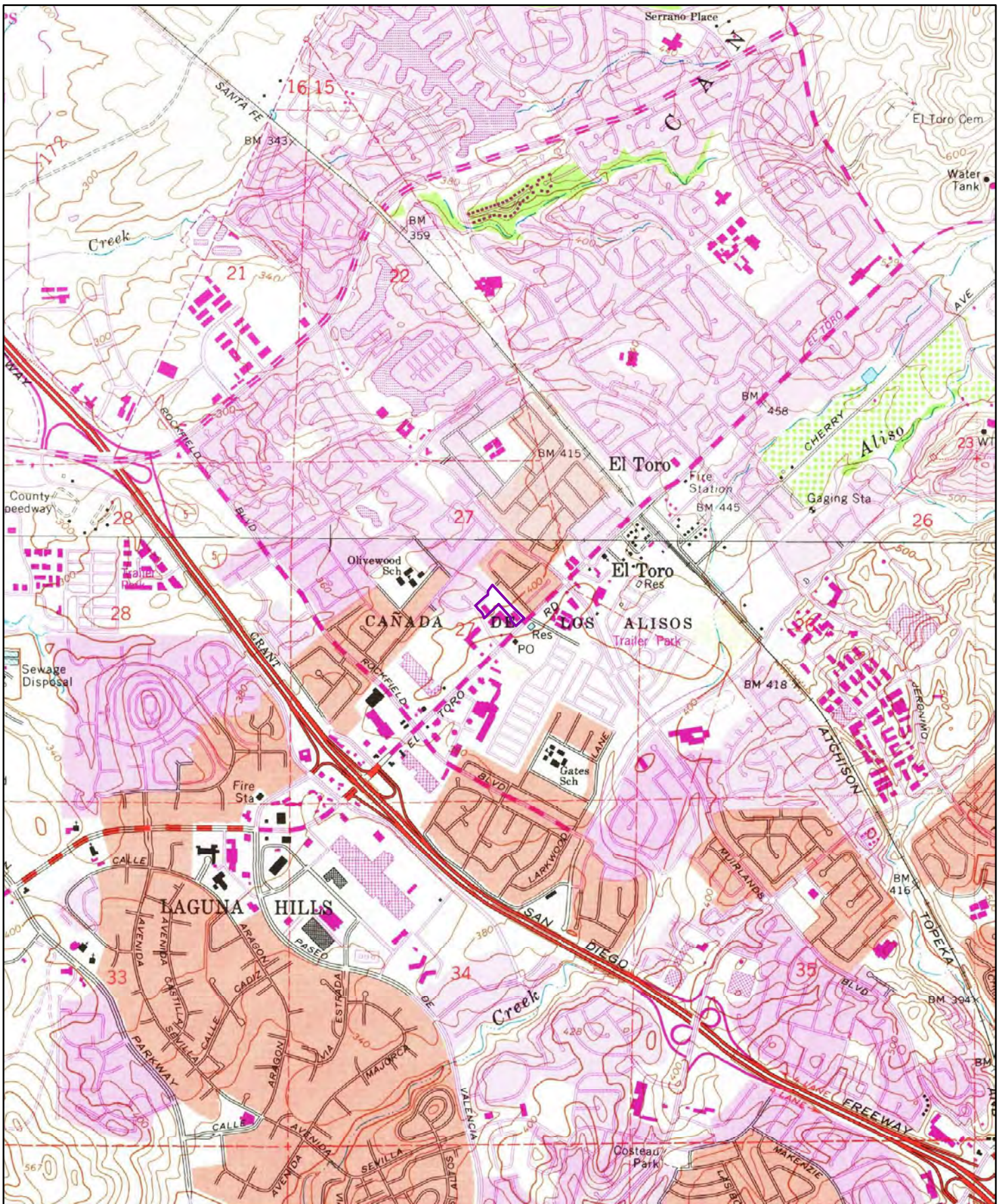


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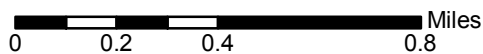
Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1981

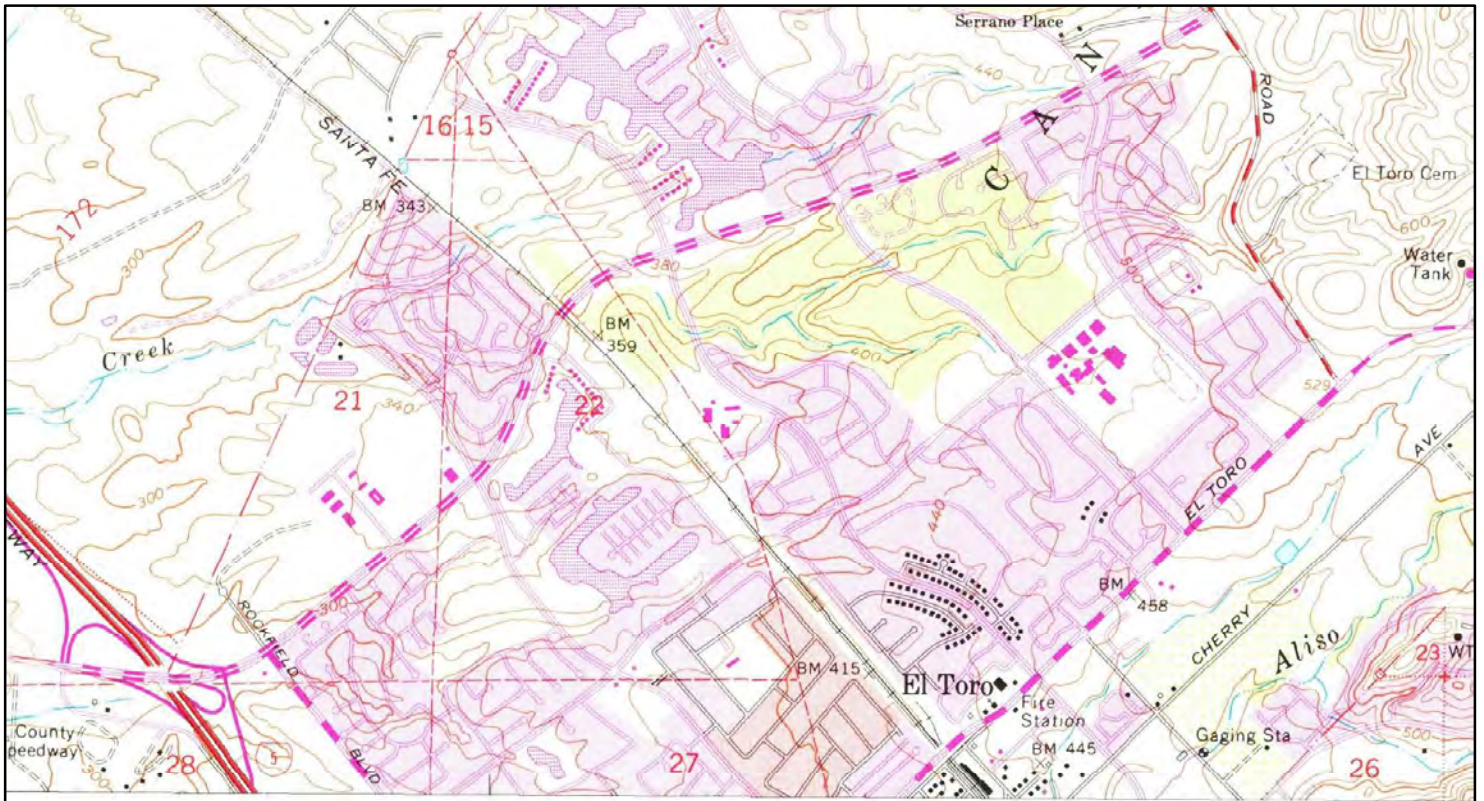


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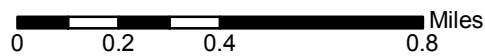
Quadrangle(s): El Toro, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1978



Order No. 20190618288

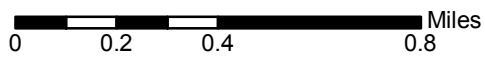
Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1974

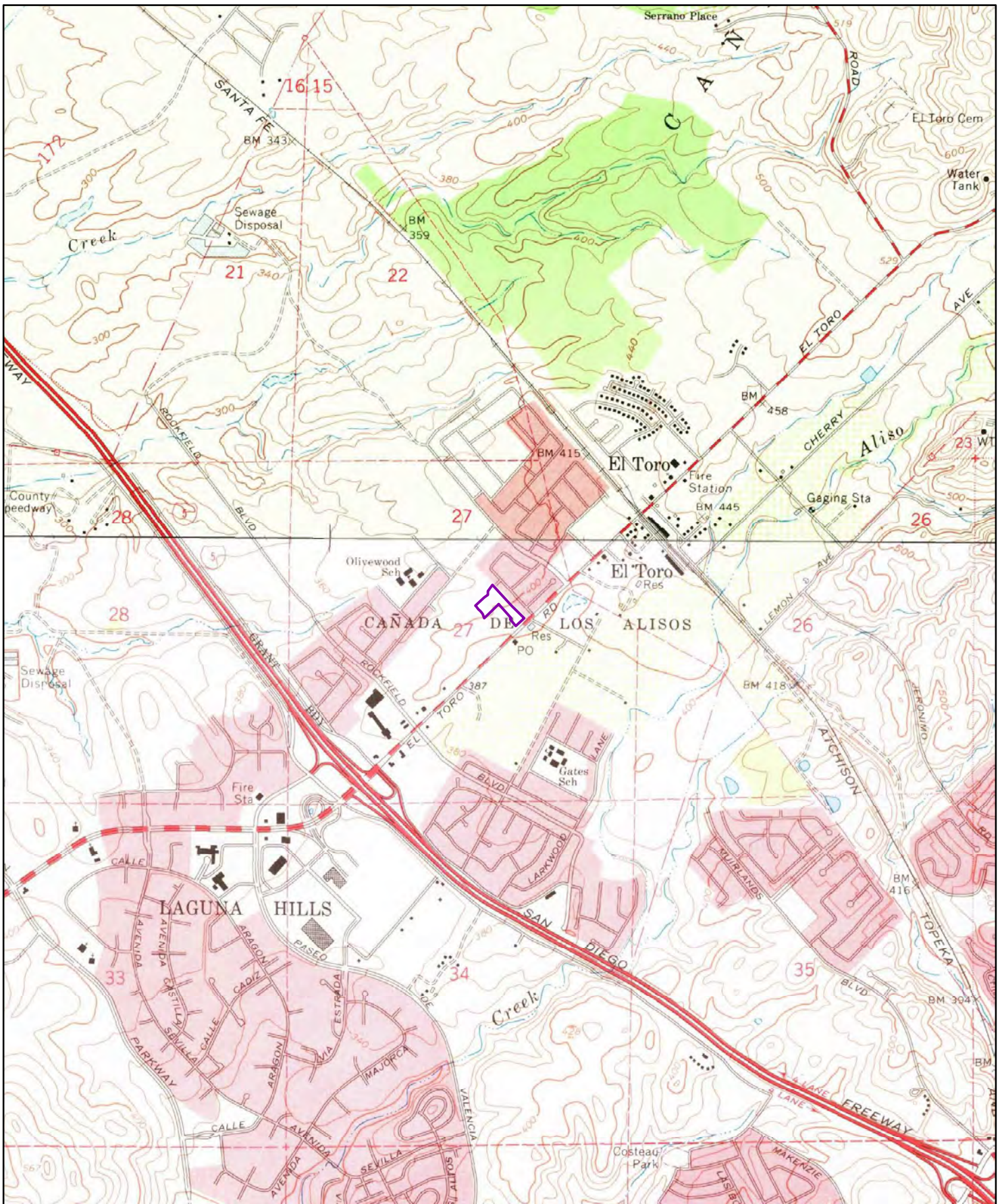


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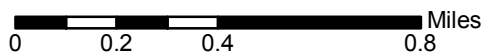
Quadrangle(s): El Toro, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1968

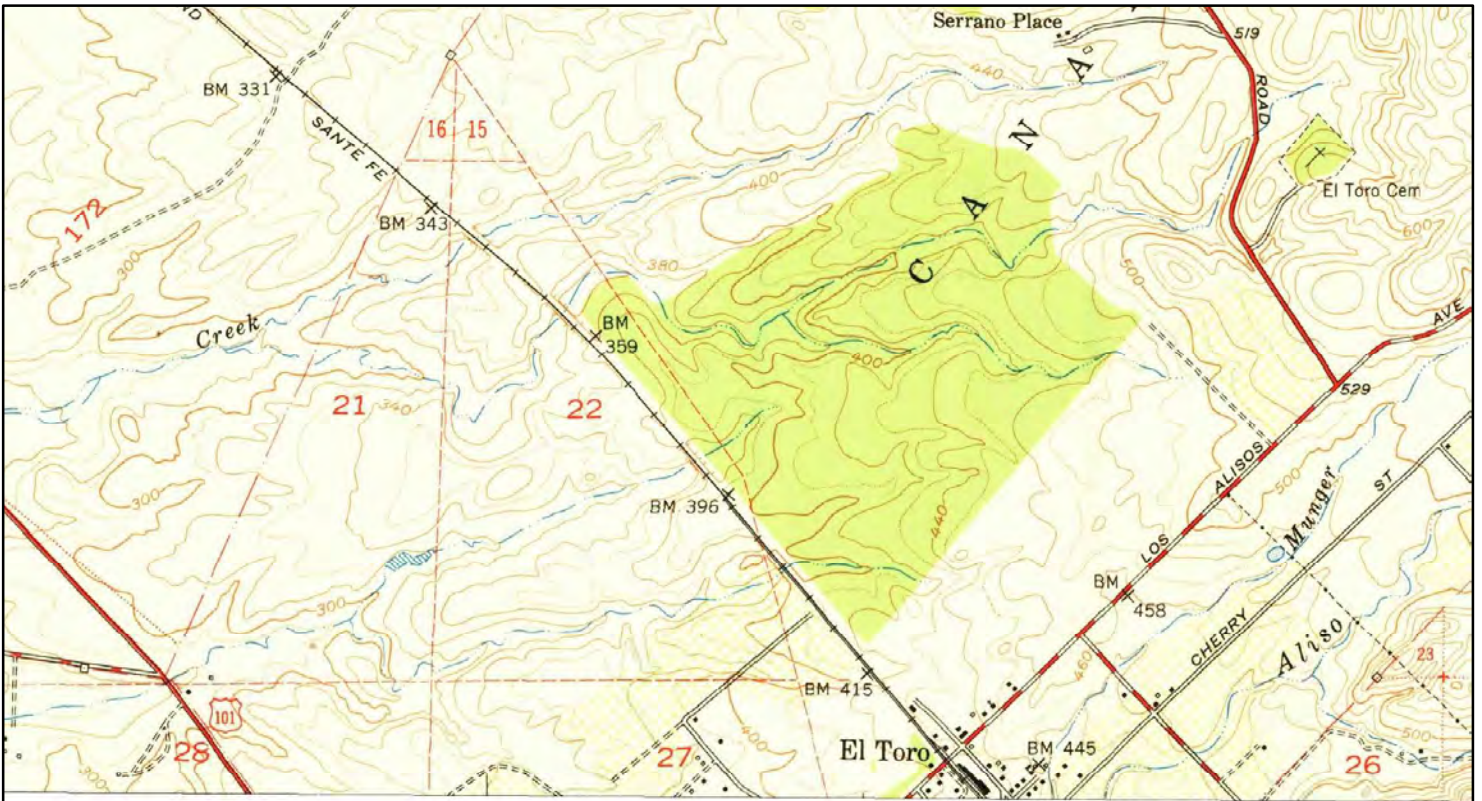


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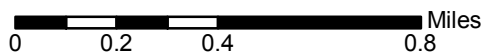
Quadrangle(s): El Toro, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1950

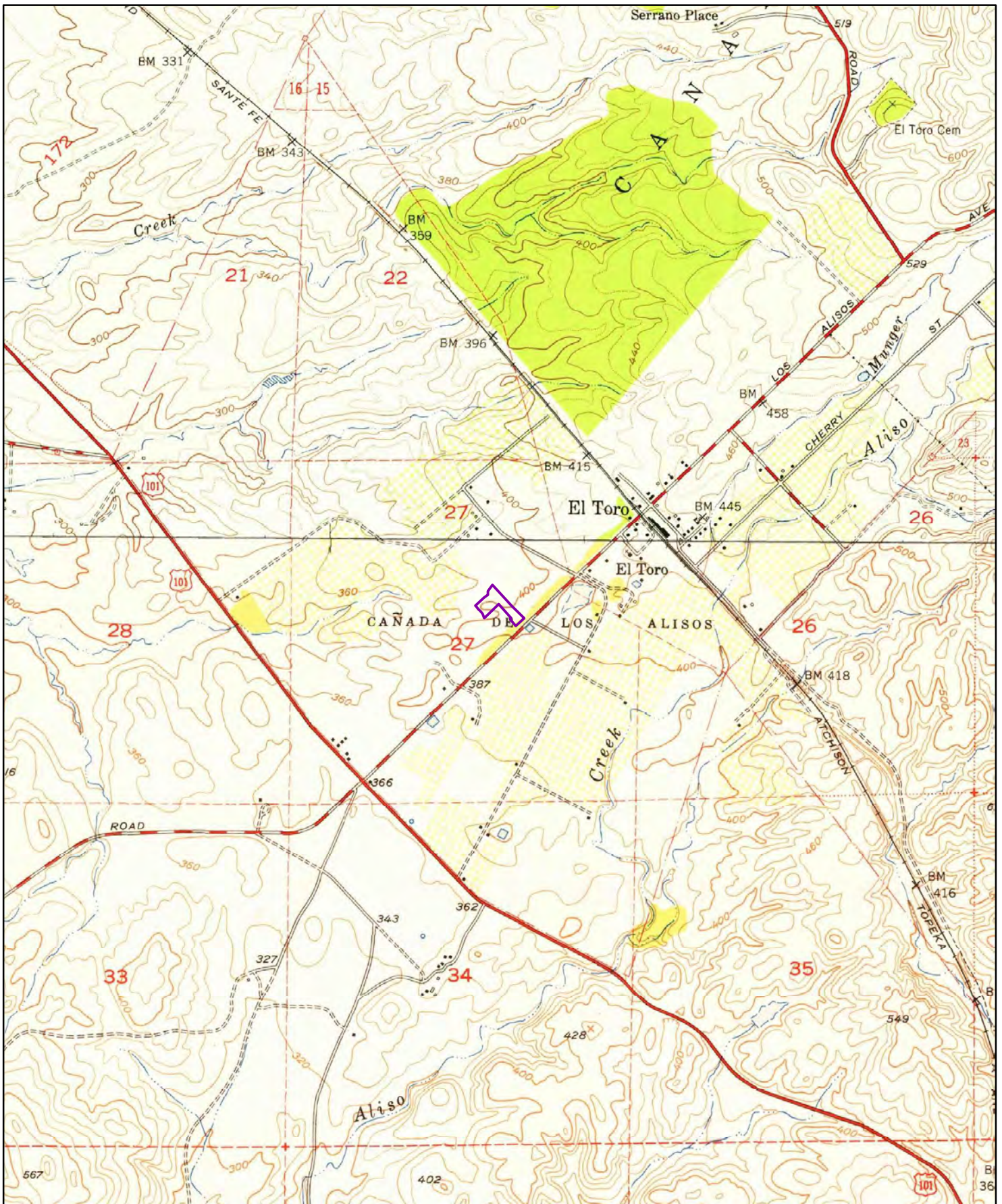


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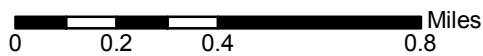
Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1949

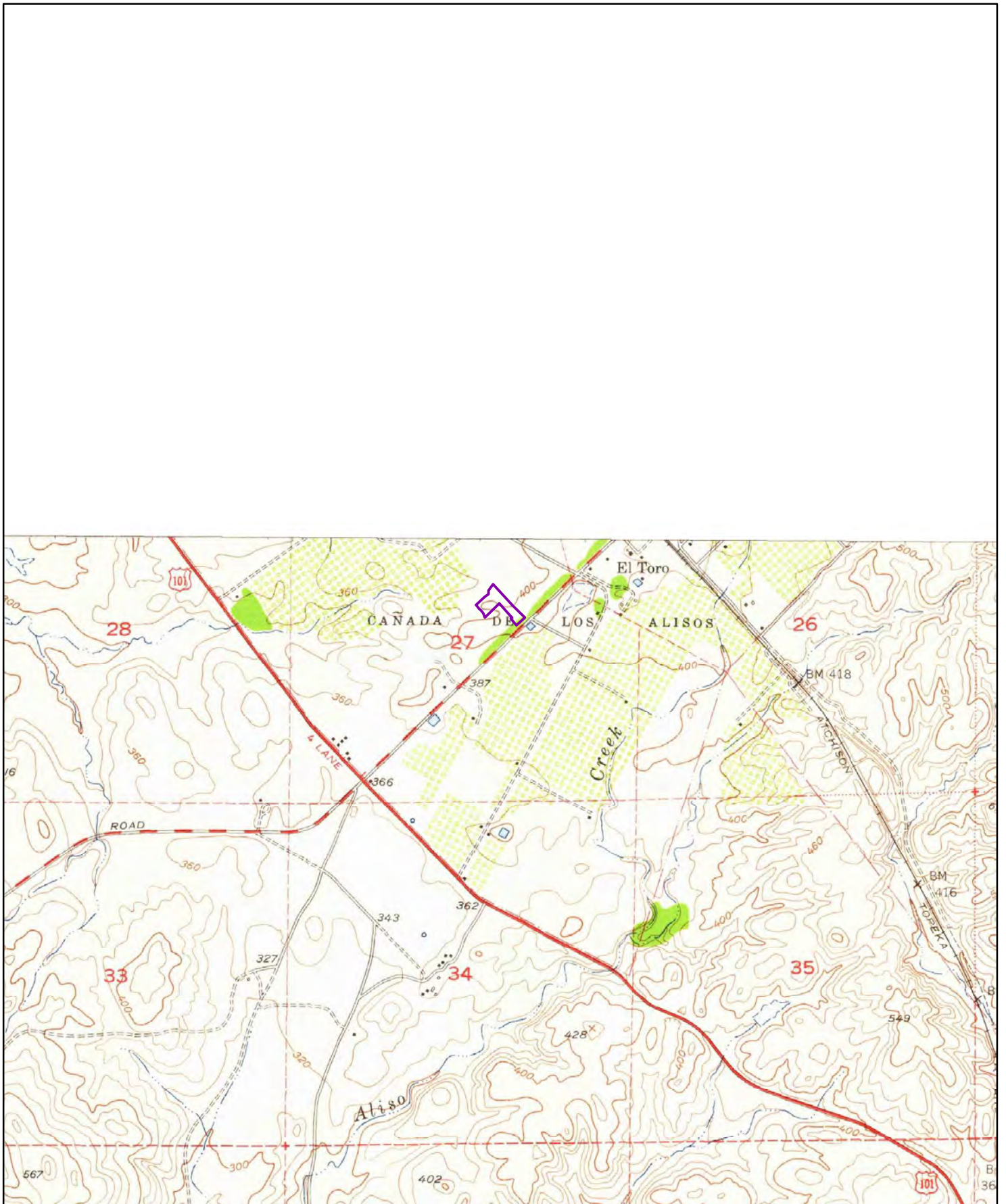


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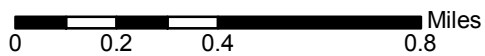
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Source: USGS 7.5 Minute Topographic Map





1948

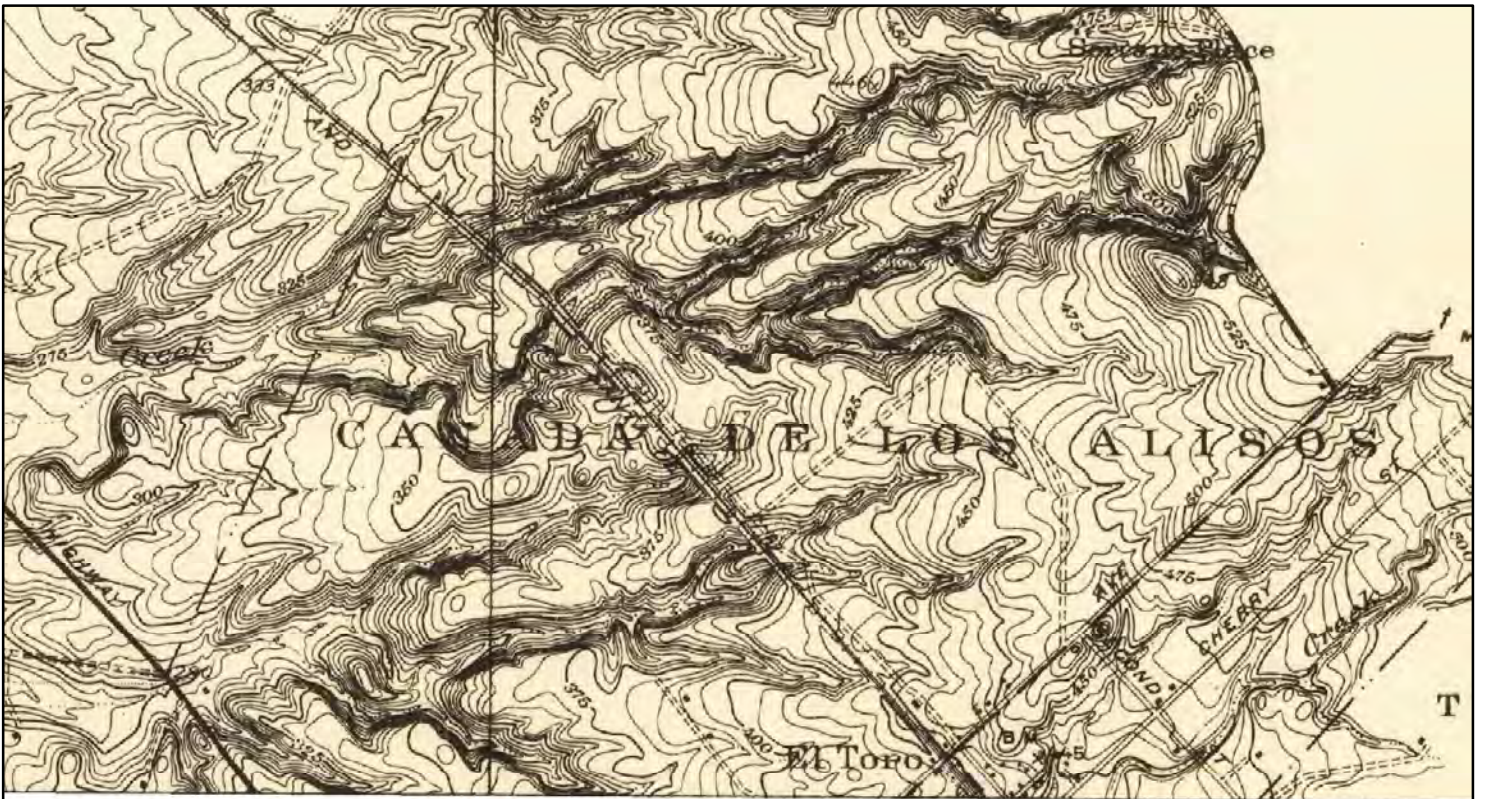


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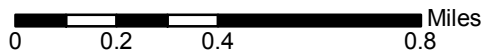
Quadrangle(s): San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1935

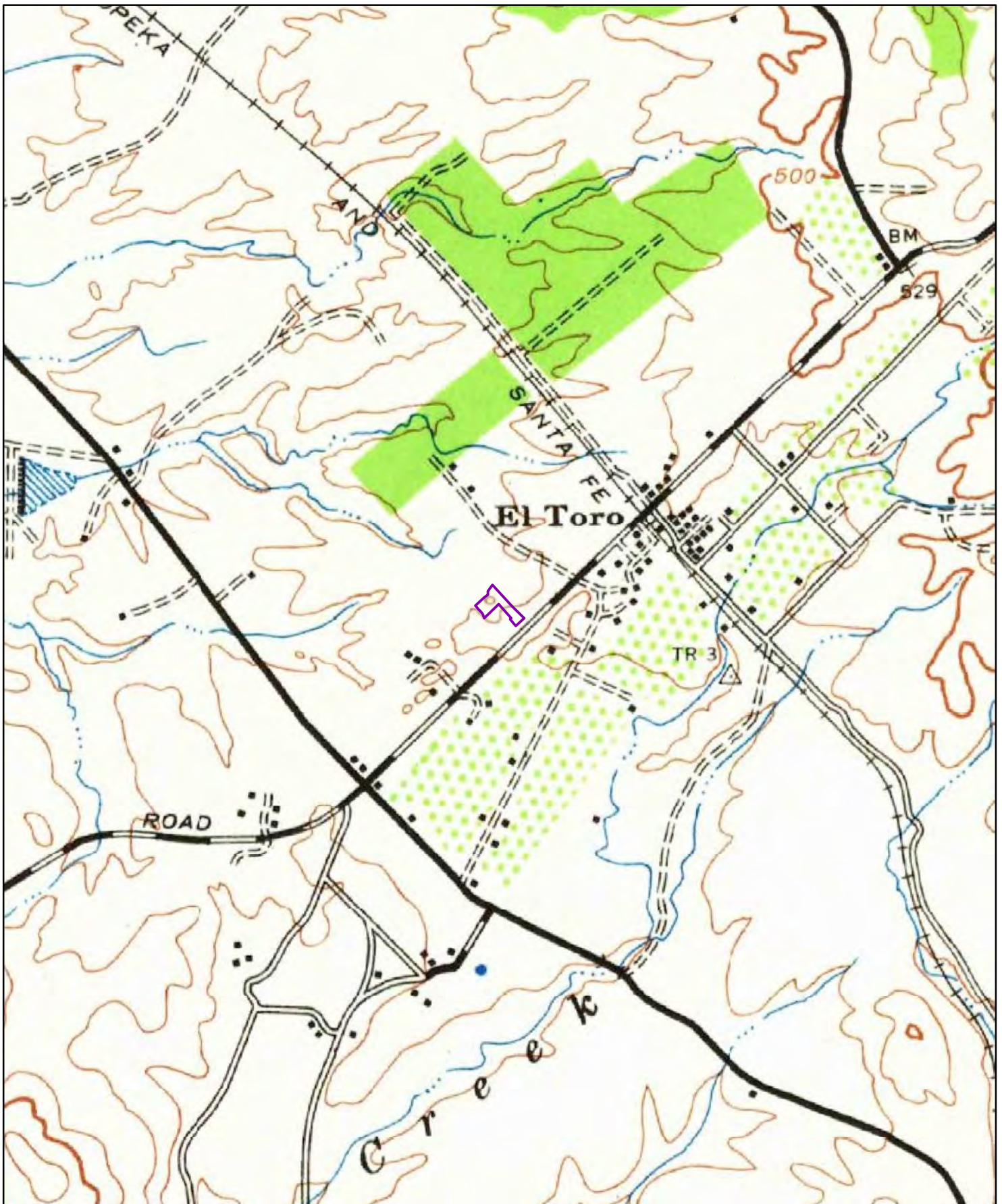


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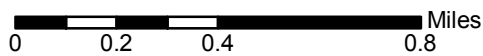
Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1942



Order No. 20190618288

Quadrangle(s): Santiago Peak, CA

Source: USGS 15 Minute Topographic Map





TOPOGRAPHIC MAPS

Project Property: National CORE/El Toro Road
23591 El Toro Road
Lake Forest CA 92630

Requested By: 19-42-162-01

Order No: 20190618288

Date Completed: June 19, 2019

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

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1950	7.5
1949	7.5
1948	7.5
1935	7.5
1942	15

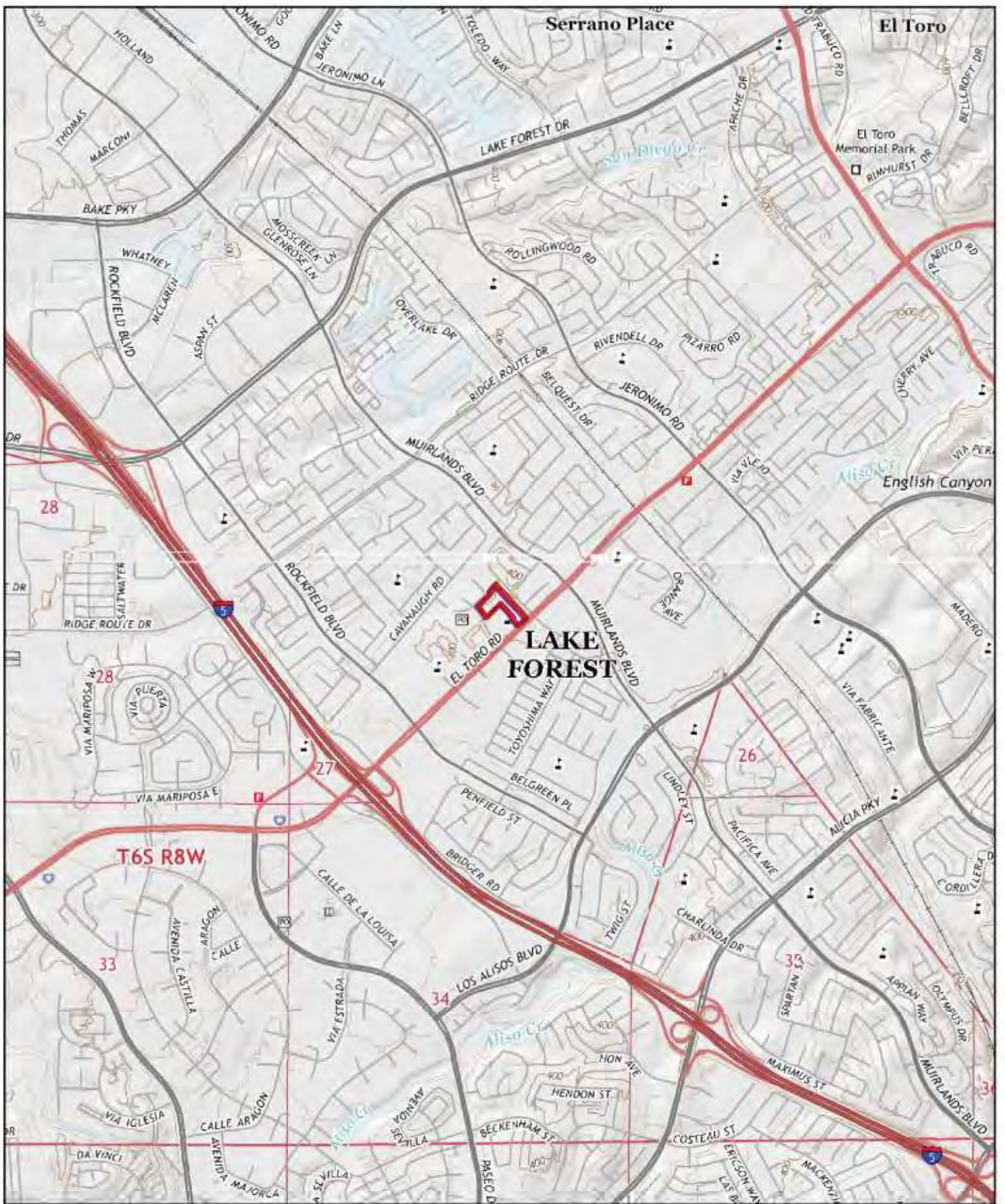
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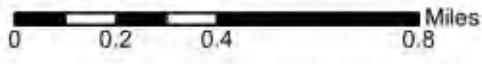
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2015



Order No. 20190618288

Quadrangle(s): Lake Forest, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1997

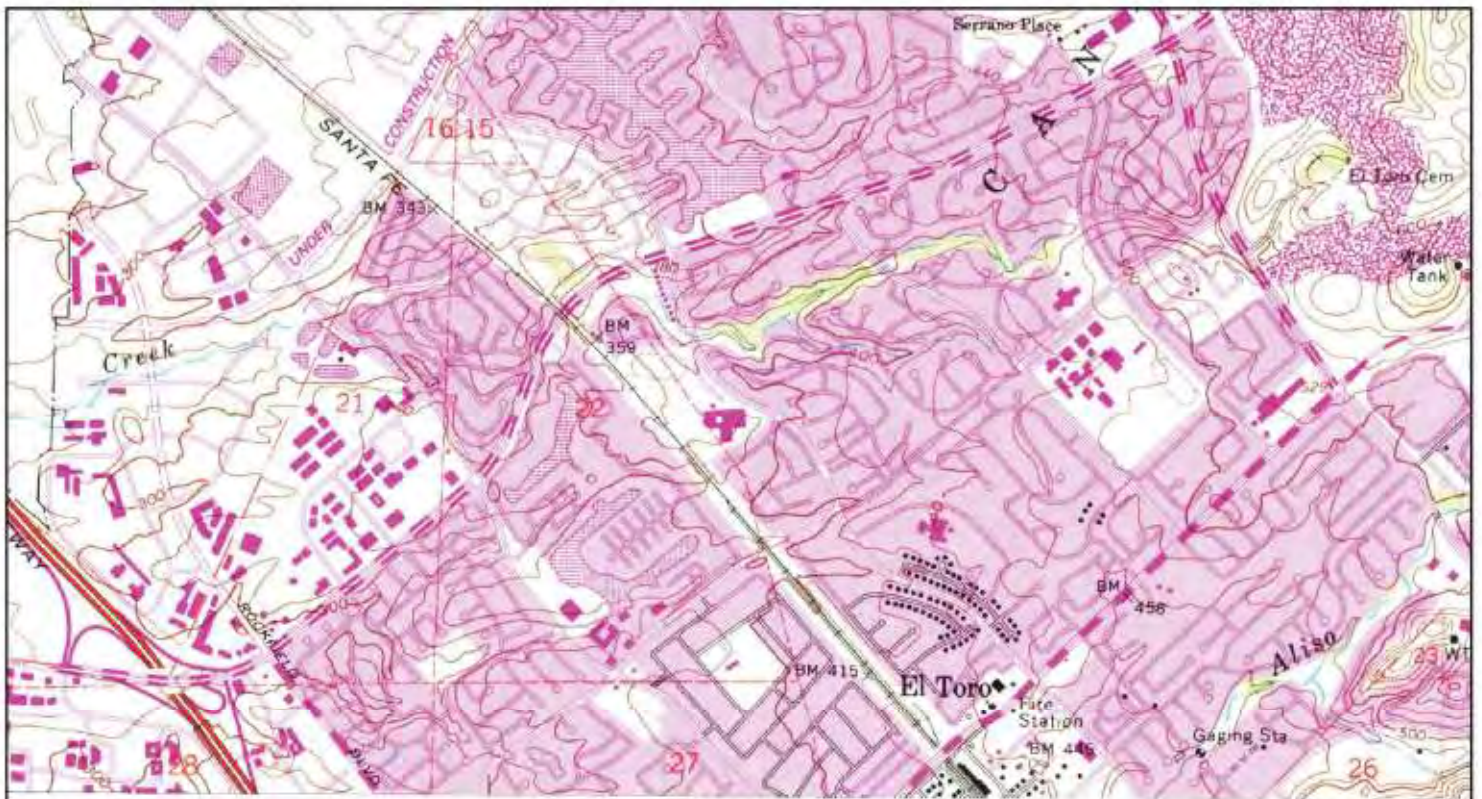


Order No. 20190618288

Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1982

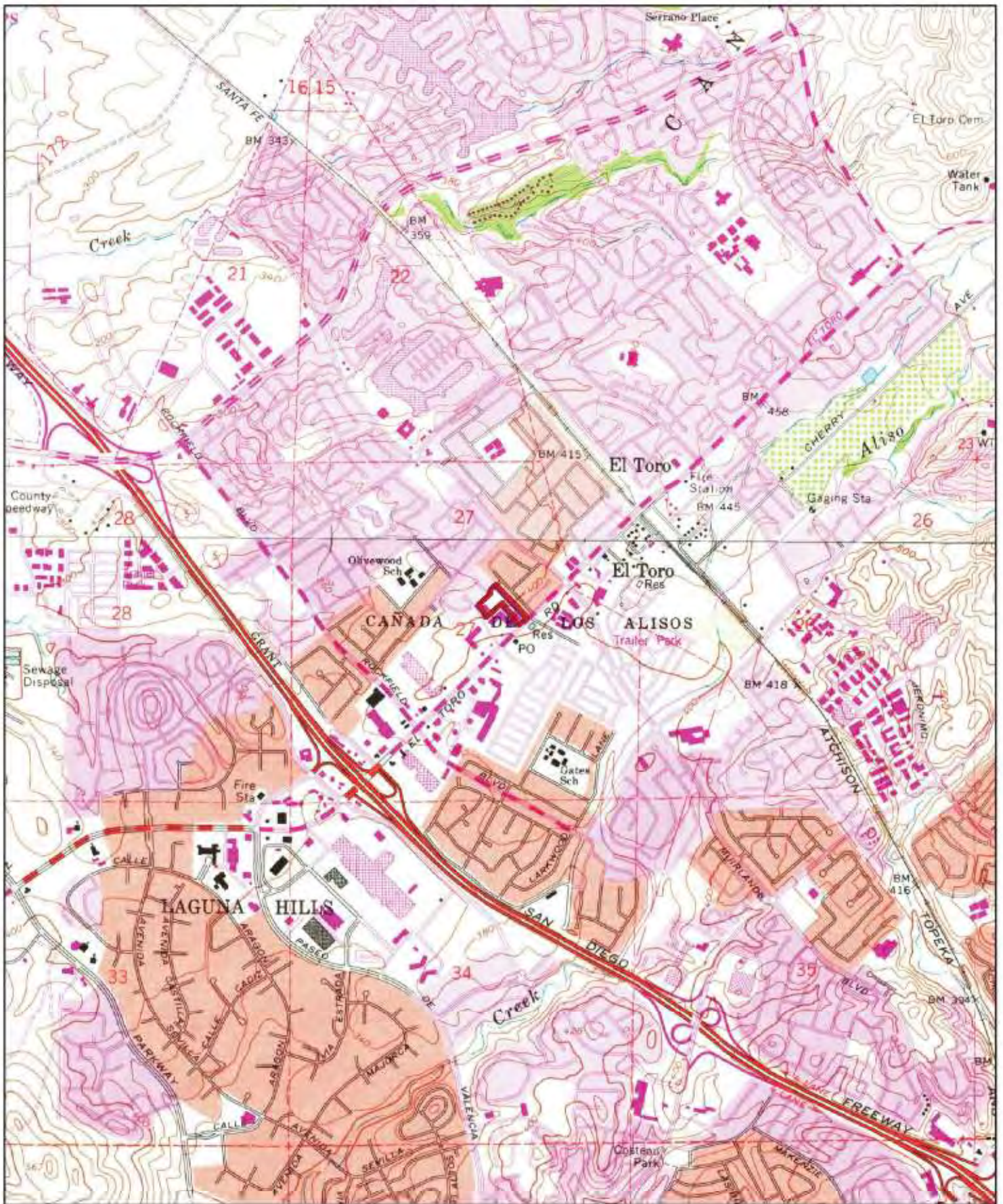


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Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1981

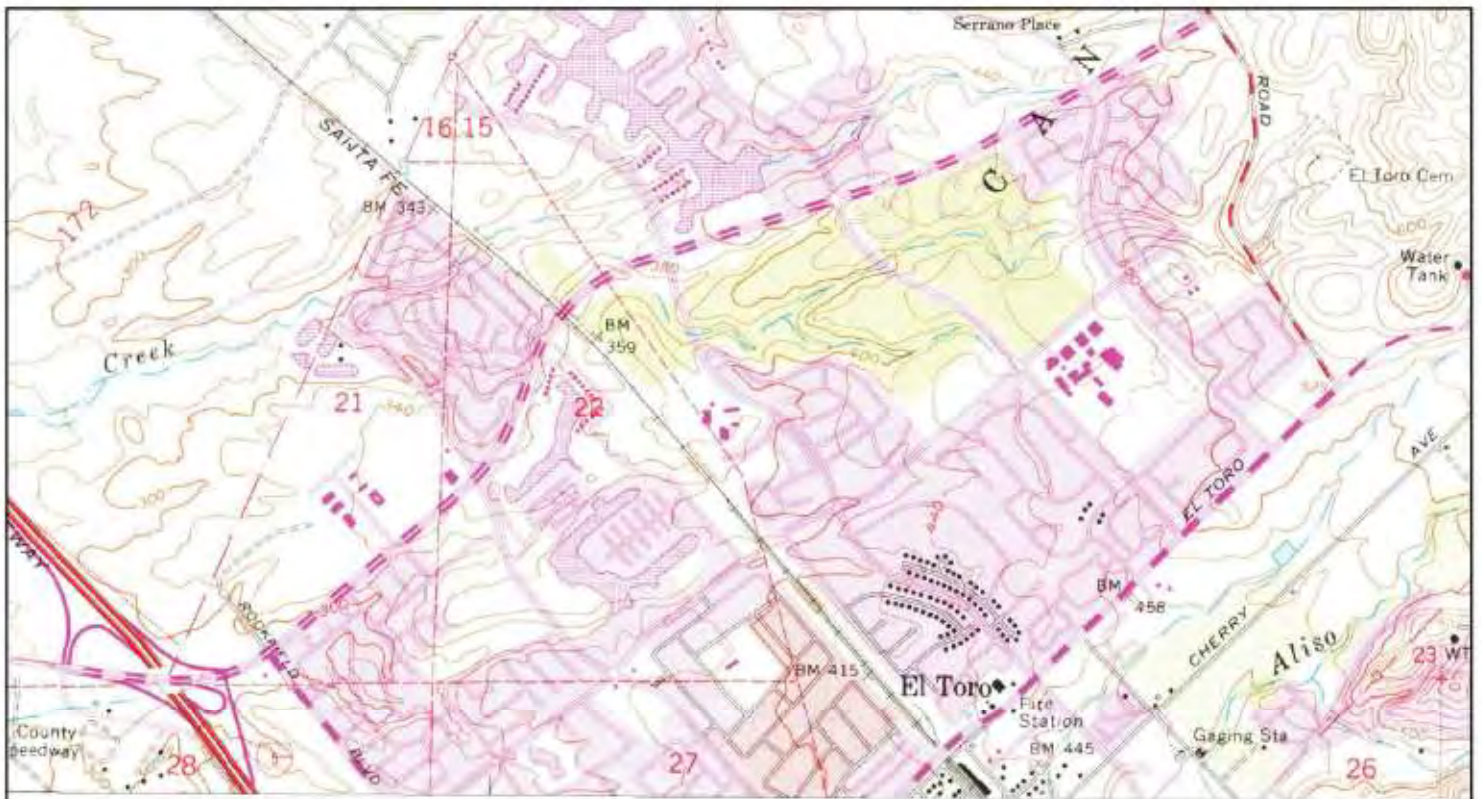


Order No. 20190618288

Quadrangle(s): El Toro, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1978



Order No. 20190618288

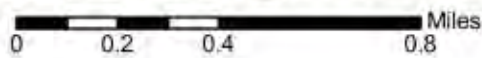
Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1974

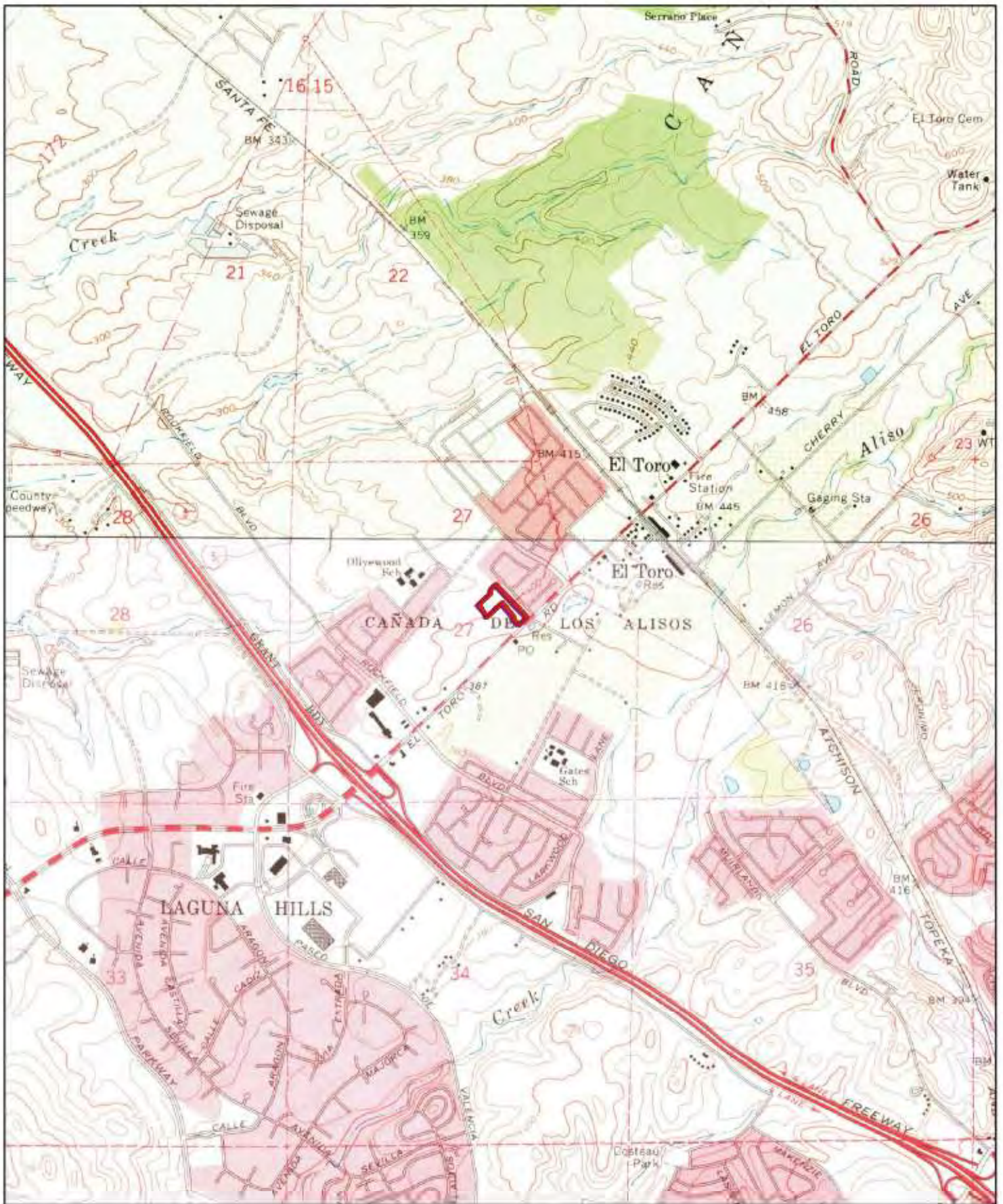


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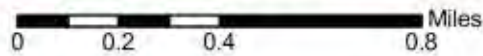
Quadrangle(s): El Toro, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1968

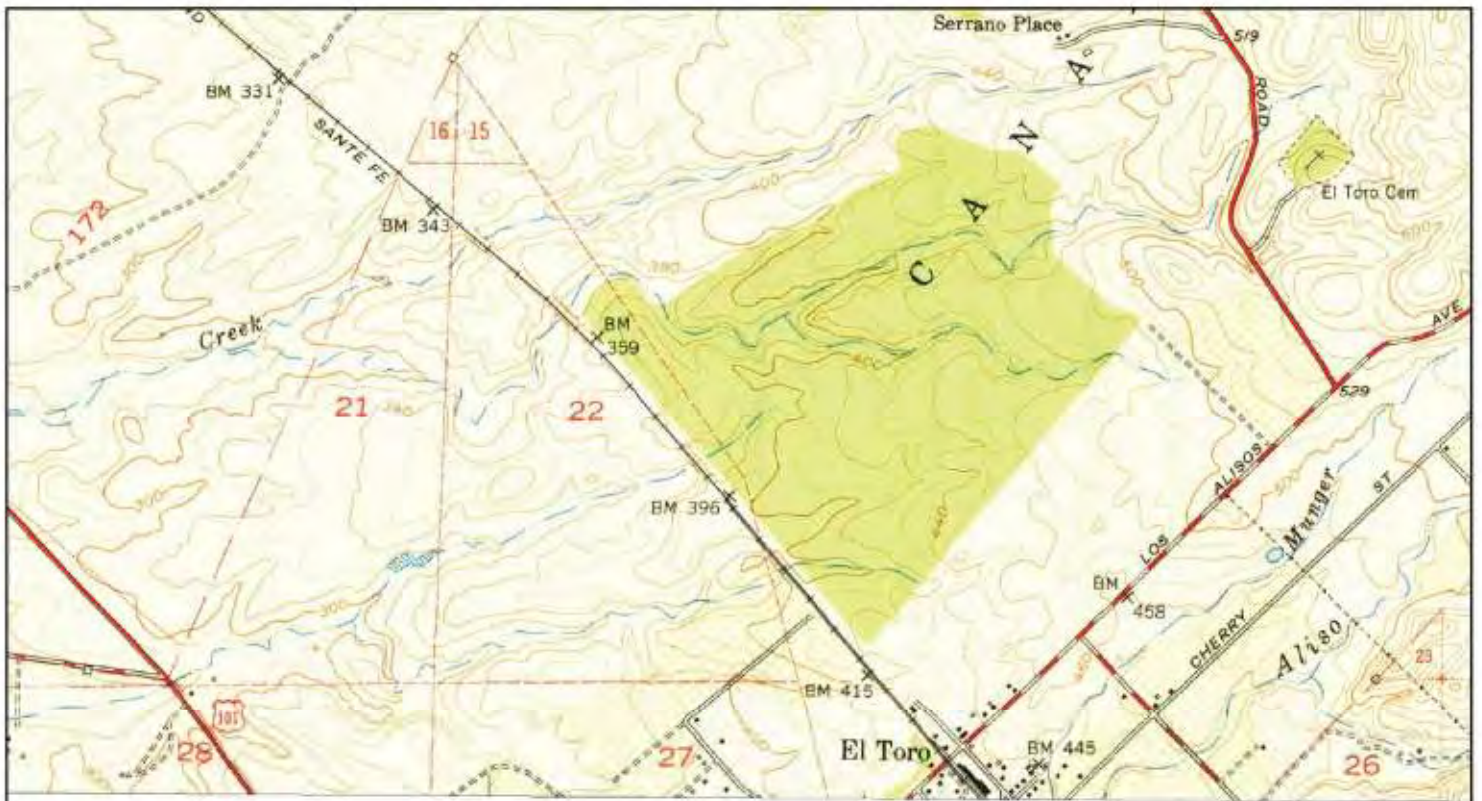


Order No. 20190618288

Quadrangle(s): El Toro, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1950

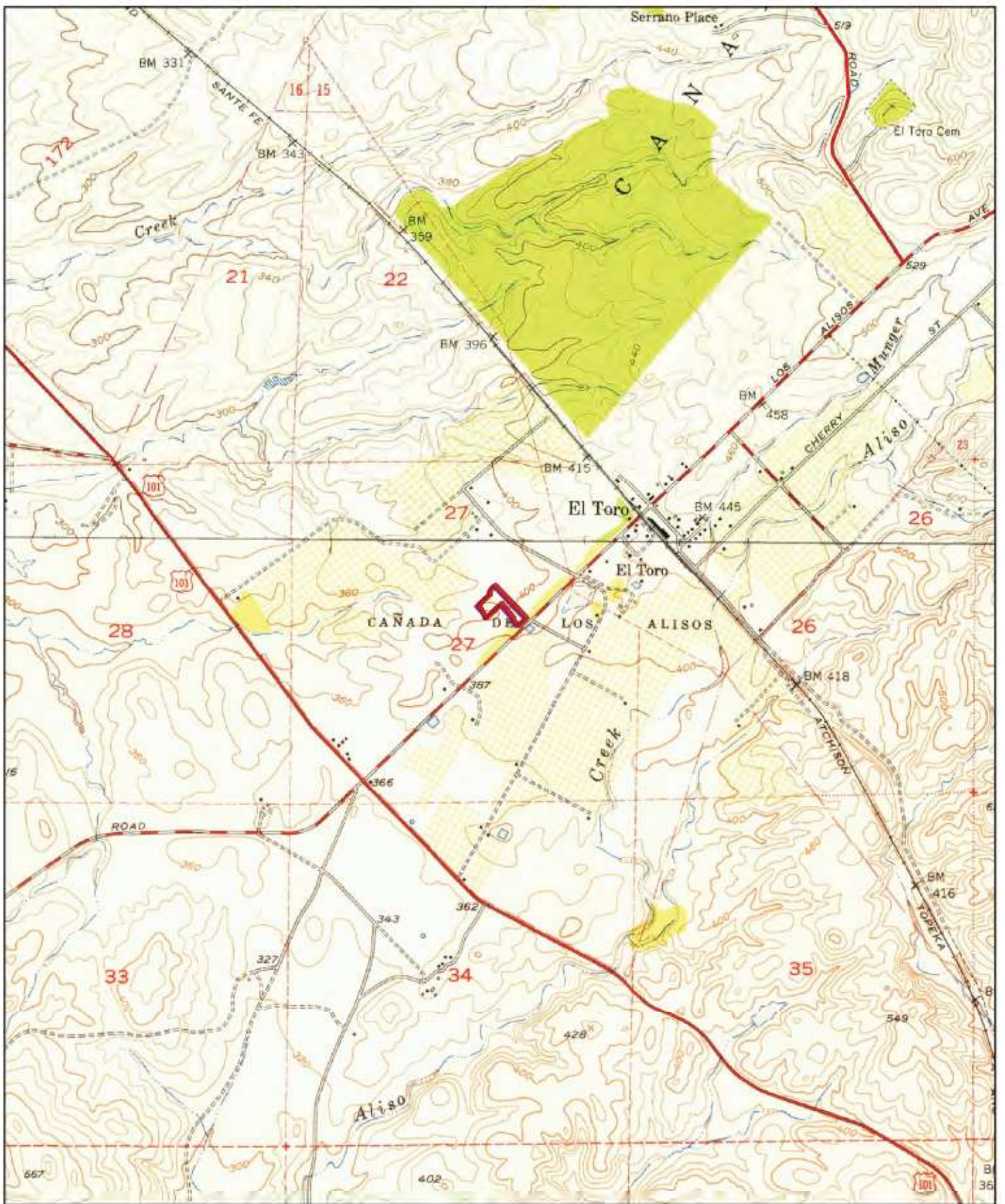


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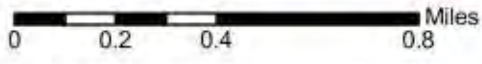
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Source: USGS 7.5 Minute Topographic Map





1949

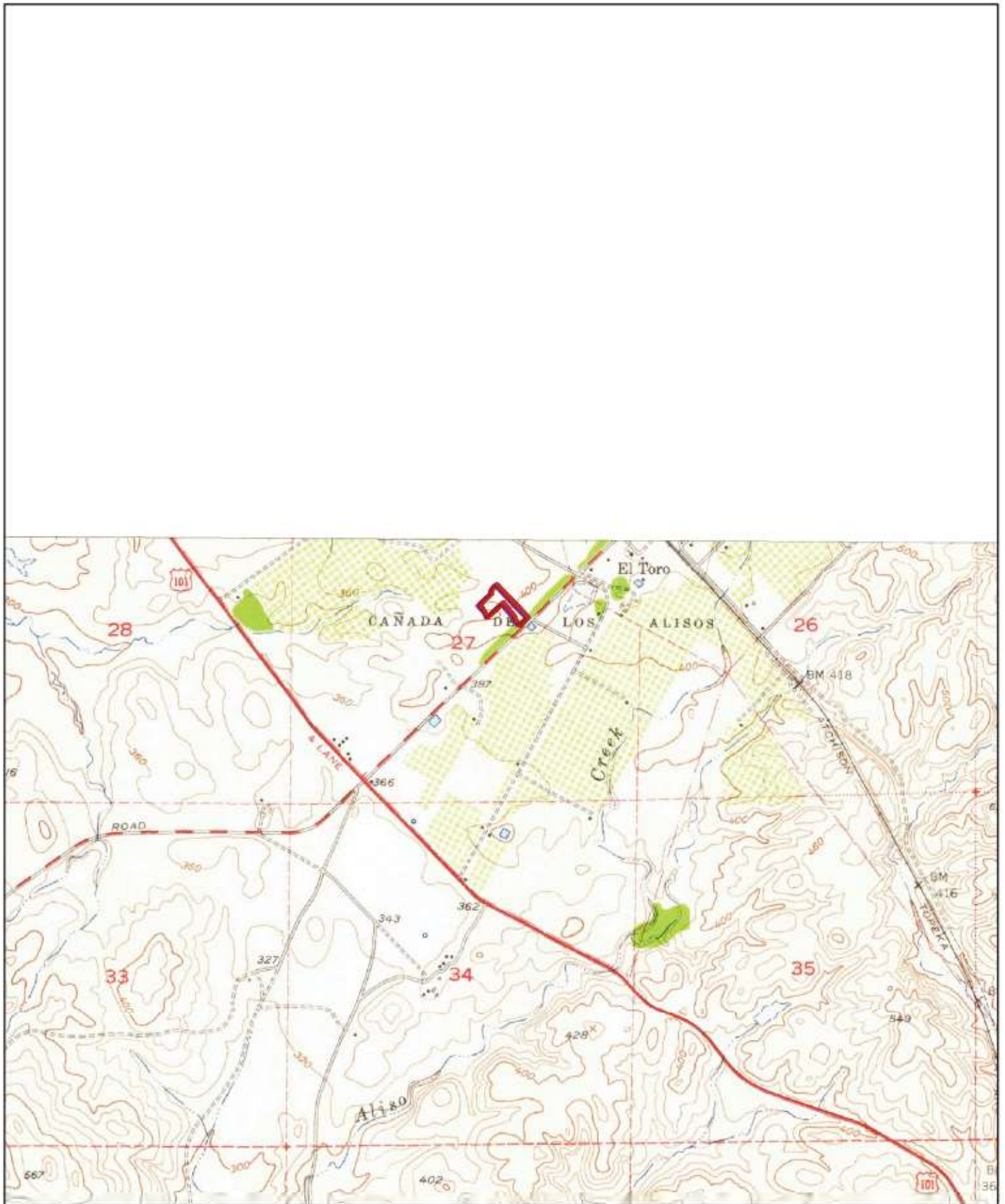


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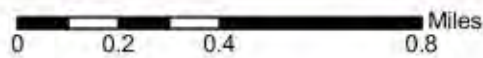
Quadrangle(s): El Toro, CA; San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1948

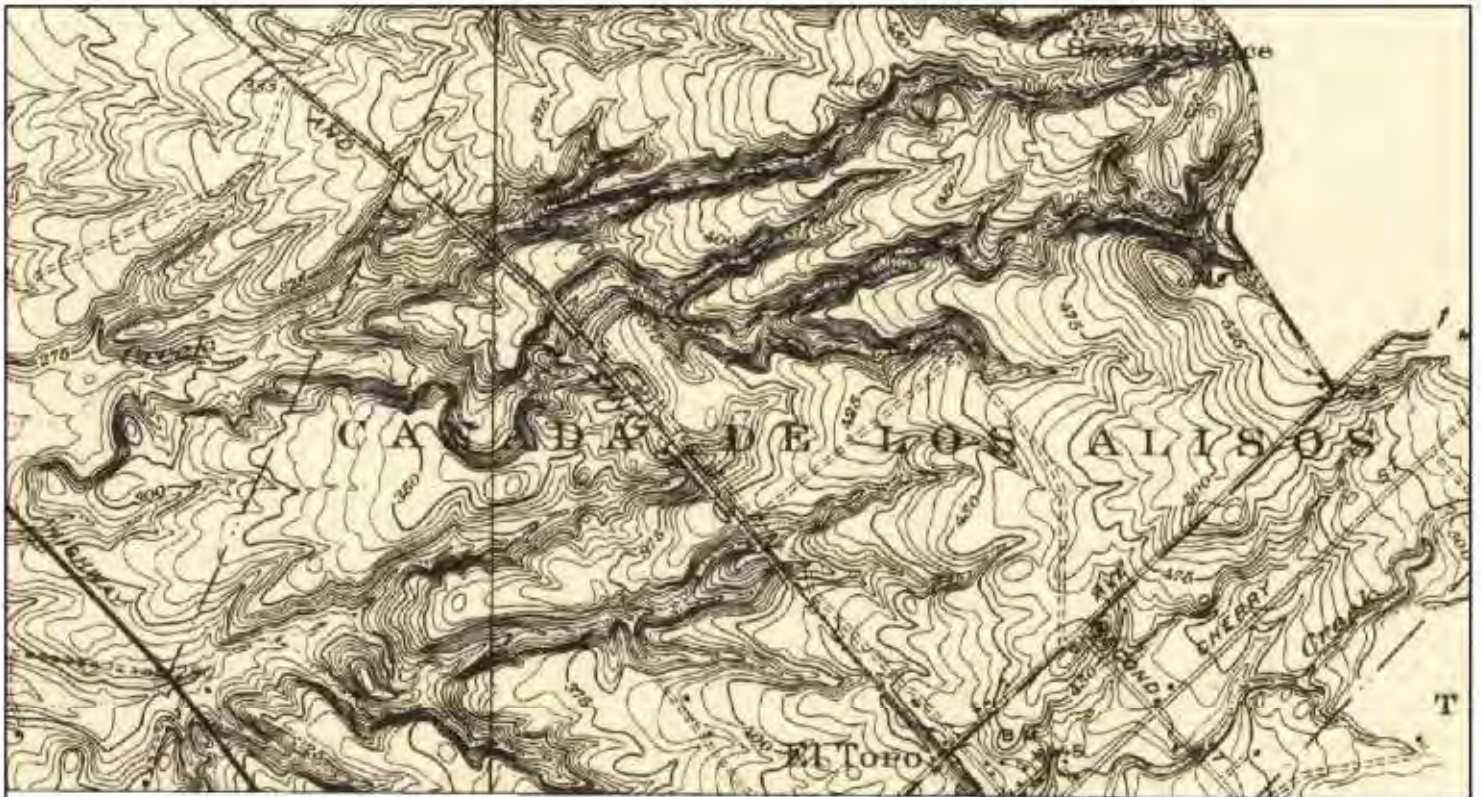


Order No. 20190618288

Quadrangle(s): San Juan Capistrano, CA

Source: USGS 7.5 Minute Topographic Map





1935

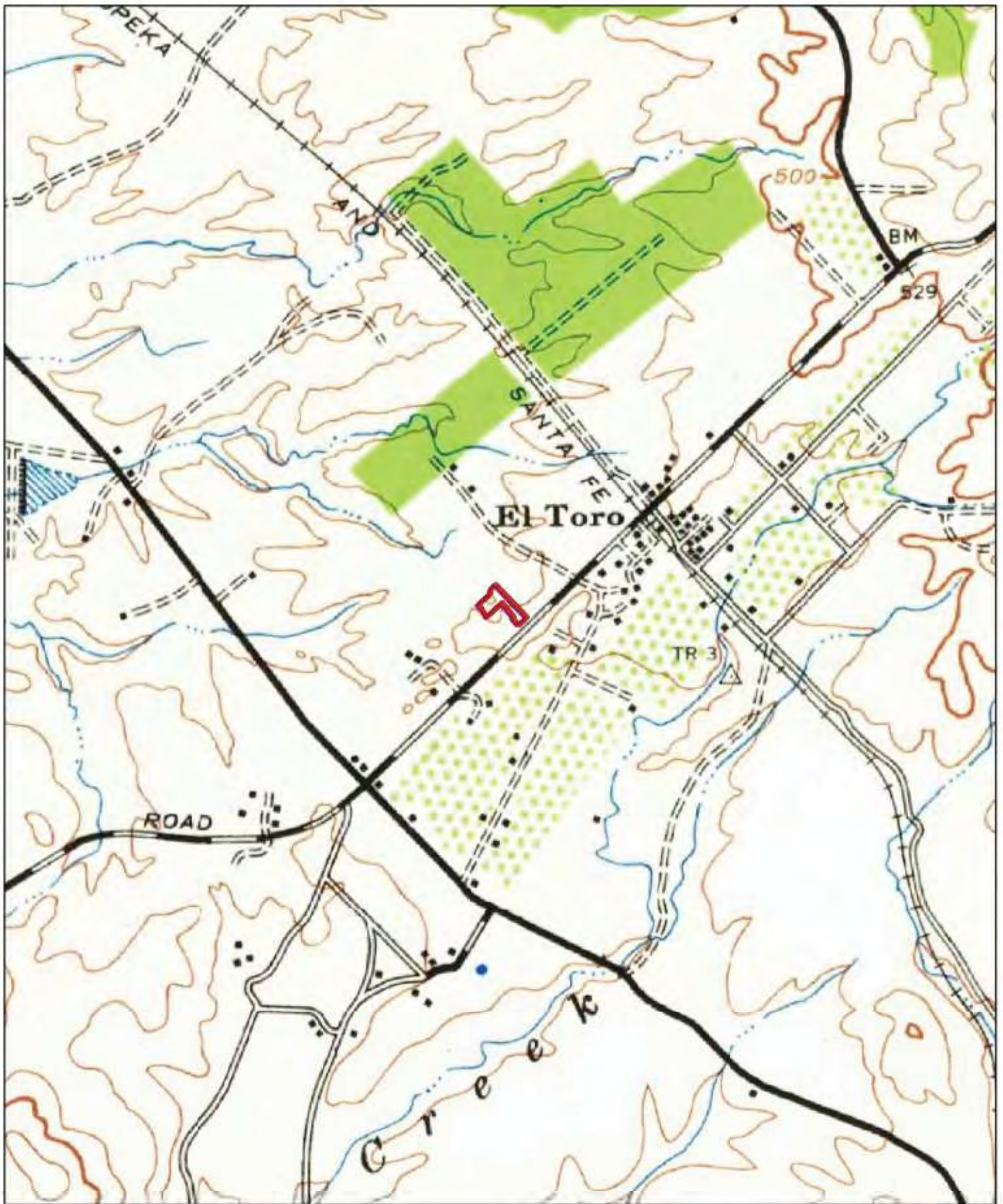


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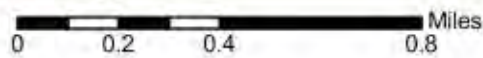
Quadrangle(s): El Toro, CA

Source: USGS 7.5 Minute Topographic Map





1942



Order No. 20190618288

Quadrangle(s): Santiago Peak, CA

Source: USGS 15 Minute Topographic Map





HISTORICAL AERIALS

Project Property: *National CORE/El Toro Road
23591 El Toro Road
Lake Forest, CA 92630*

Project No: *19-42-162-01*

Requested By: *Converse Consultants*

Order No: *20190618288*

Date Completed: *June 19, 2019*

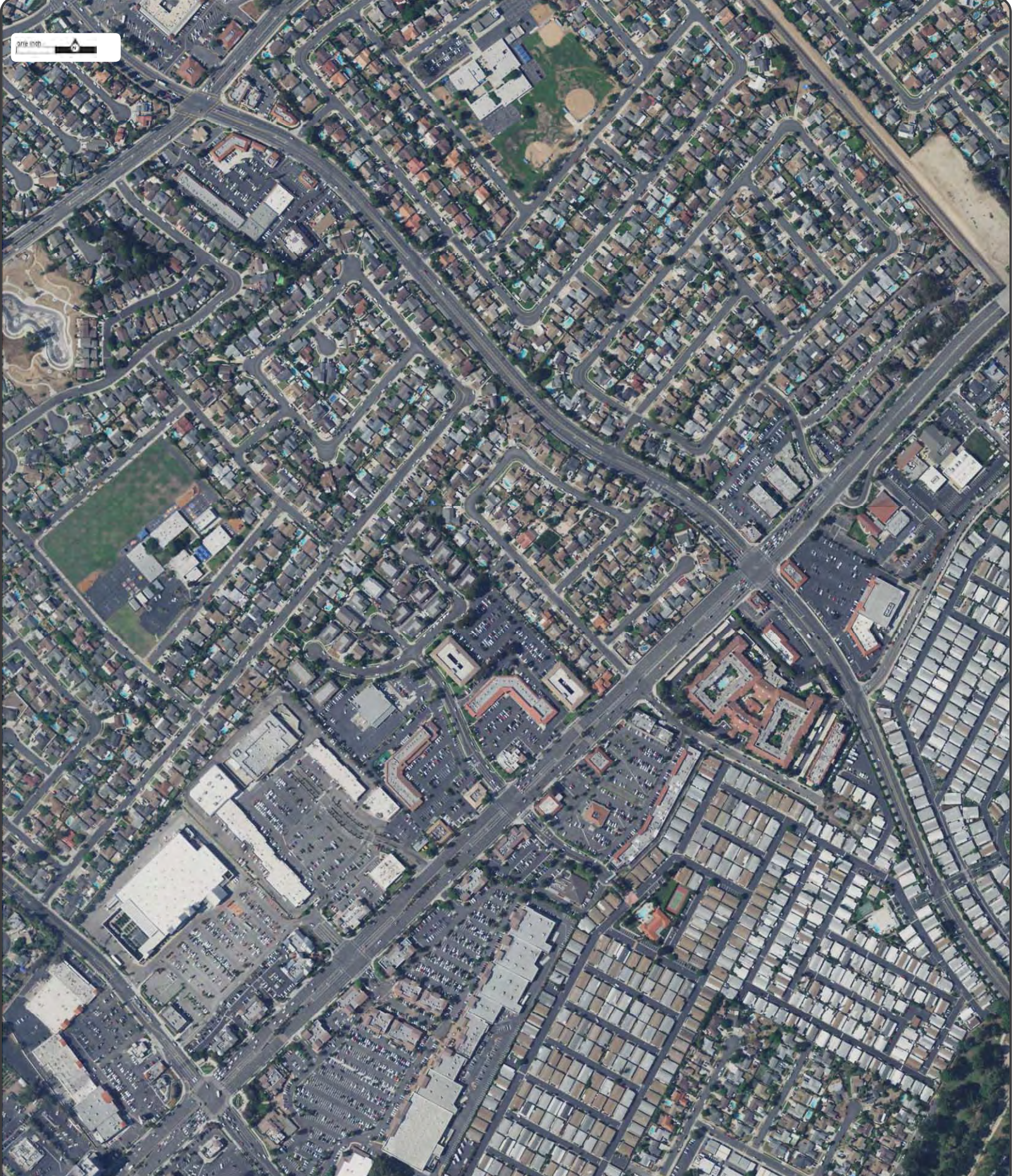
Search Results Summary

Year	Source	Scale	Comment
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2016	NAIP - National Agriculture Information Program	1"=500'	
2014	NAIP - National Agriculture Information Program	1"=500'	
2012	NAIP - National Agriculture Information Program	1"=500'	
2010	NAIP - National Agriculture Information Program	1"=500'	
2009	NAIP - National Agriculture Information Program	1"=500'	
2005	NAIP - National Agriculture Information Program	1"=500'	
2002	USGS - US Geological Survey	1"=500'	
1994	USGS - US Geological Survey	1"=500'	
1988	NHAP - National High Altitude Photography	1"=500'	
1981	USGS - US Geological Survey	1"=500'	
1972	USGS - US Geological Survey	1"=500'	
1967	USGS - US Geological Survey	1"=500'	
1963	USGS - US Geological Survey	1"=500'	
1958	FAIRCHILD - Private Company	1"=500'	
1952	ASCS - Agriculture and Soil Conservation Service	1"=500'	
1946	ASCS - Agriculture and Soil Conservation Service	1"=500'	
1939	FAIRCHILD - Private Company	1"=500'	
1931	FAIRCHILD - Private Company	1"=500'	BEST COPY AVAILABLE

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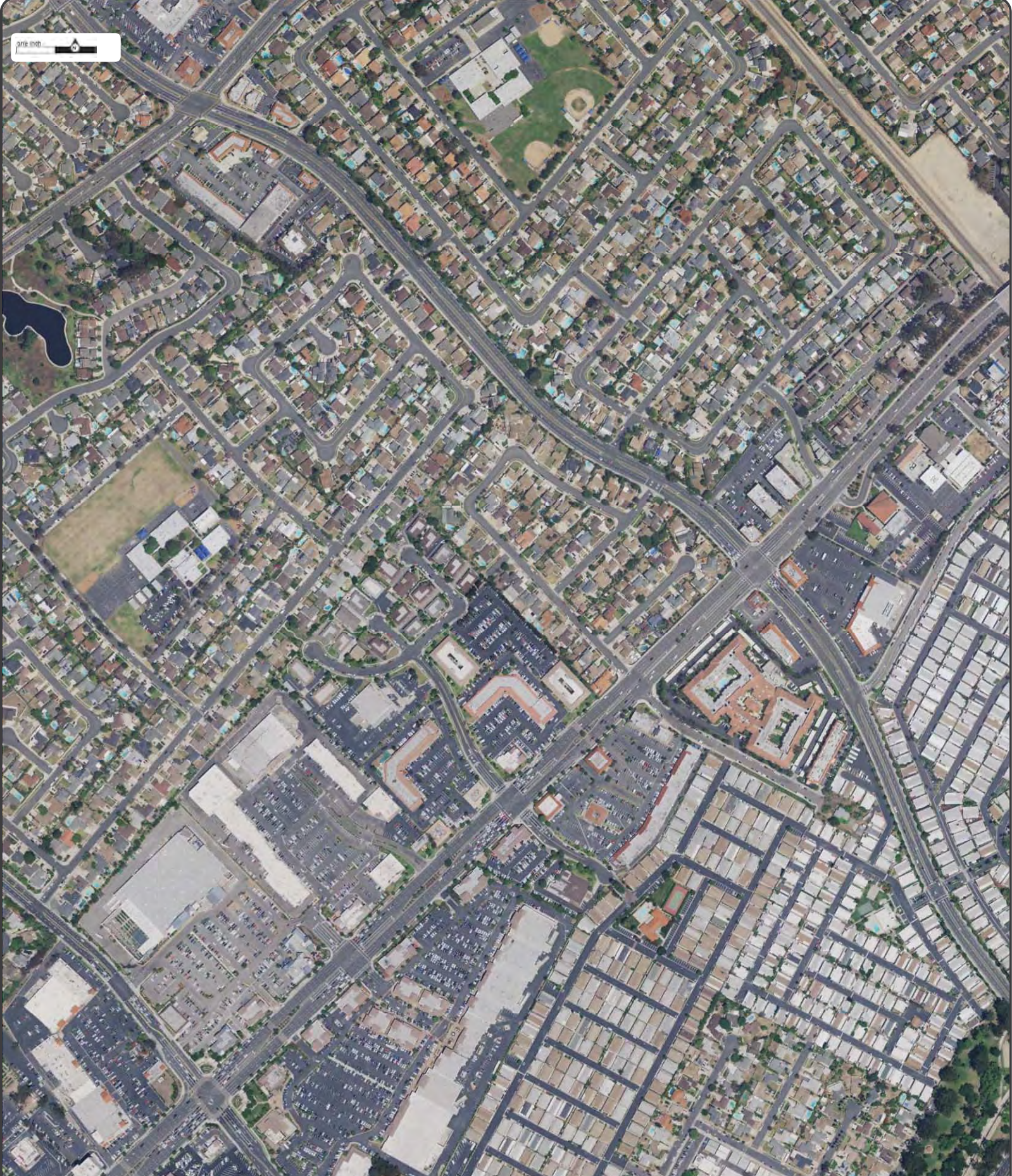
Year: 2018
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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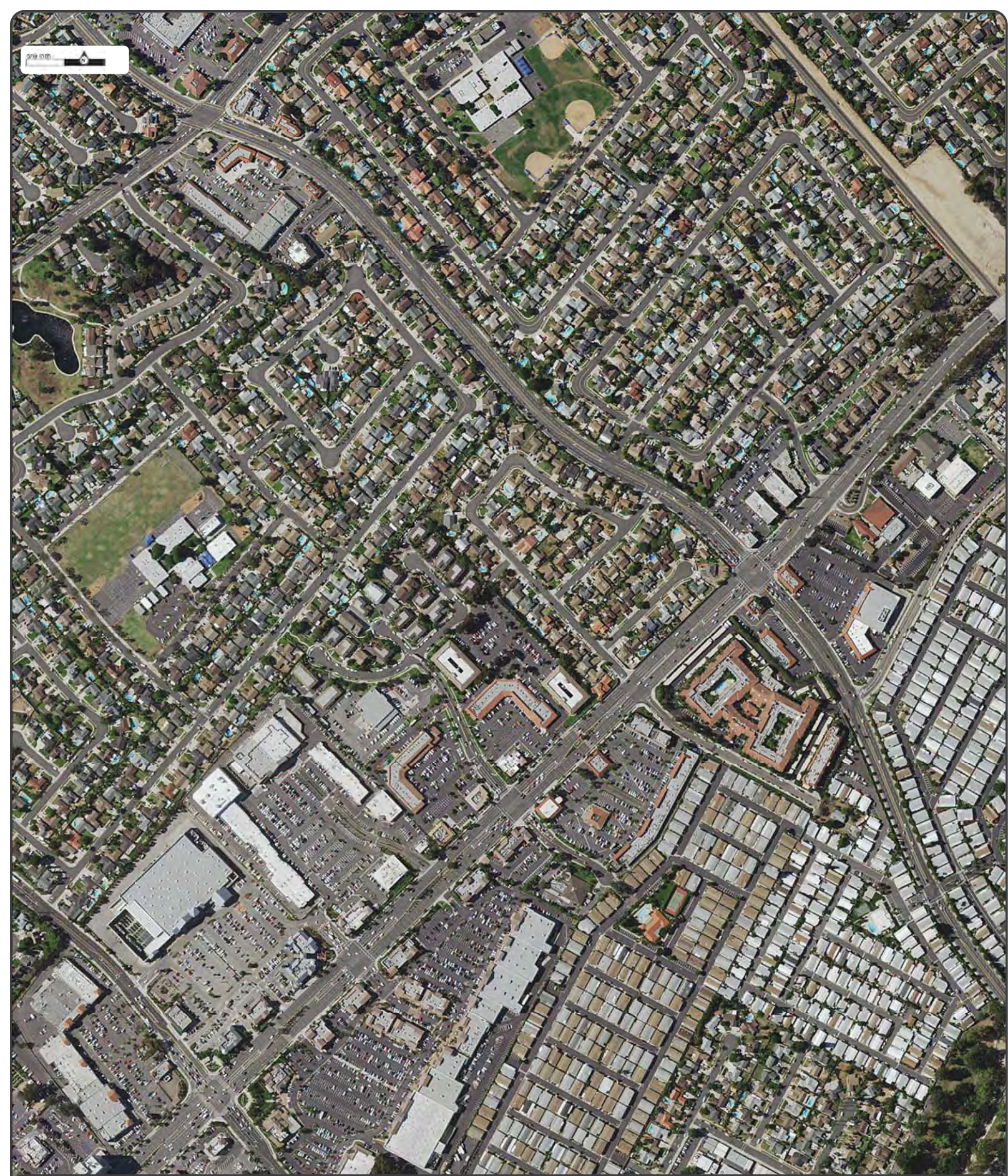
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 Comments:

Site Address: 23591 El Toro Road Lake Forest CA
 Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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Year: 2014
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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Year: 2012
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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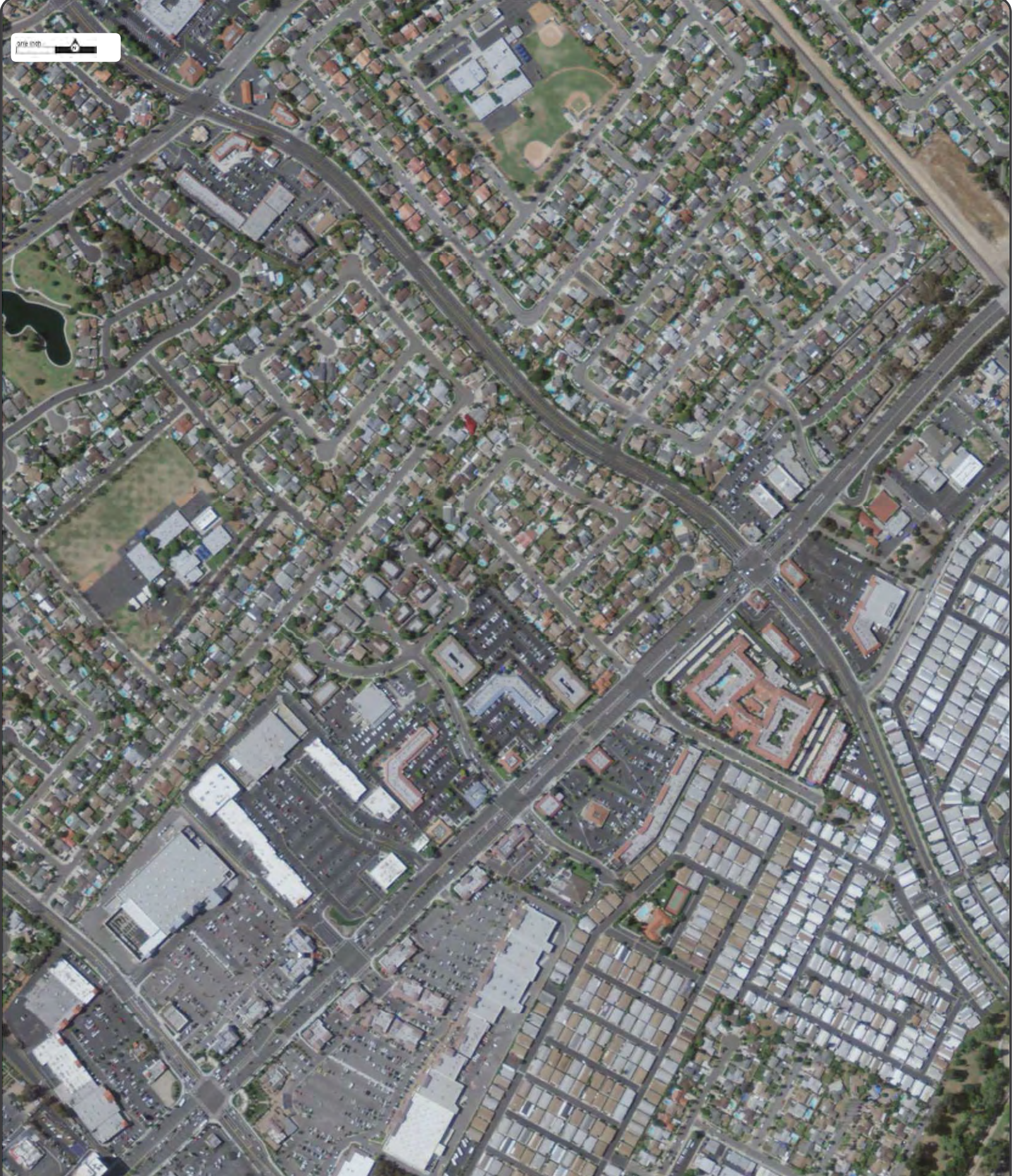
Year: 2010
 Source: NAIP
 Scale: 1" to 500'
 Comments:

Site Address: 23591 El Toro Road Lake Forest CA
 Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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Year: 2009
 Source: NAIP
 Scale: 1" to 500'
 Comments:

Site Address: 23591 El Toro Road Lake Forest CA
 Approx Center: 33.62222 / -117.7006



Order No: 20190618288



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Year: 2005
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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Year: 2002
 Source: USGS
 Scale: 1" to 500'
 Comments:

Site Address: 23591 El Toro Road Lake Forest CA
 Approx Center: 33.62222 / -117.7006



Order No: 20190618288



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0 100 200 Feet



Year: 1994
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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Year: 1988
 Source: NHAP
 Scale: 1" to 500'
 Comments:

Site Address: 23591 El Toro Road Lake Forest CA
 Approx Center: 33.62222 / -117.7006



Order No: 20190618288



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0 100 200 Feet



Year: 1981
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 1972
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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Year: 1967
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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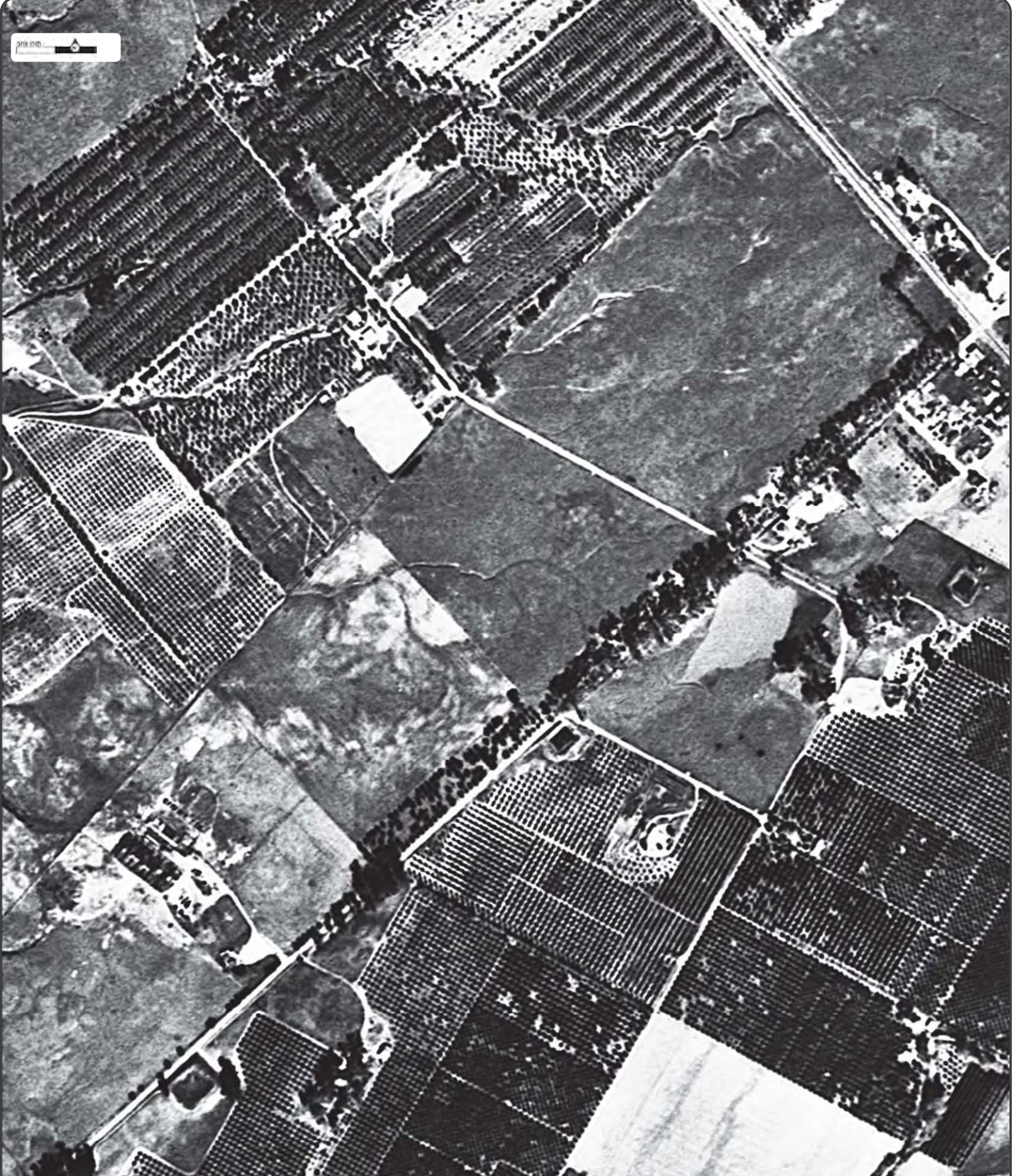
Year: 1963
 Source: USGS
 Scale: 1" to 500'
 Comments:

Site Address: 23591 El Toro Road Lake Forest CA
 Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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Year: 1958
 Source: FAIRCHILD
 Scale: 1" to 500'
 Comments:

Site Address: 23591 El Toro Road Lake Forest CA
 Approx Center: 33.62222 / -117.7006



Order No: 20190618288



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one inch



Year: 1952
Source: ASCS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



www.erisinfo.com | 1.866.517.5204

0 100 200



Year: 1946
Source: ASCS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006



Order No: 20190618288



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0 100 200 Feet



Year: 1939
Source: FAIRCHILD
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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one inch



1590

Year: 1931
Source: FAIRCHILD
Scale: 1" to 500'
Comments: BEST COPY AVAILABLE

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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ERIS

ENVIRONMENTAL RISK INFORMATION SERVICES



HISTORICAL **AERIALS**

Project Property: *National CORE/El Toro Road
23591 El Toro Road
Lake Forest, CA 92630*

Project No: *19-42-162-01*

Requested By: *Converse Consultants*

Order No: *20190618288*

Date Completed: *June 19, 2019*

Environmental Risk Information Services

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Search Results Summary

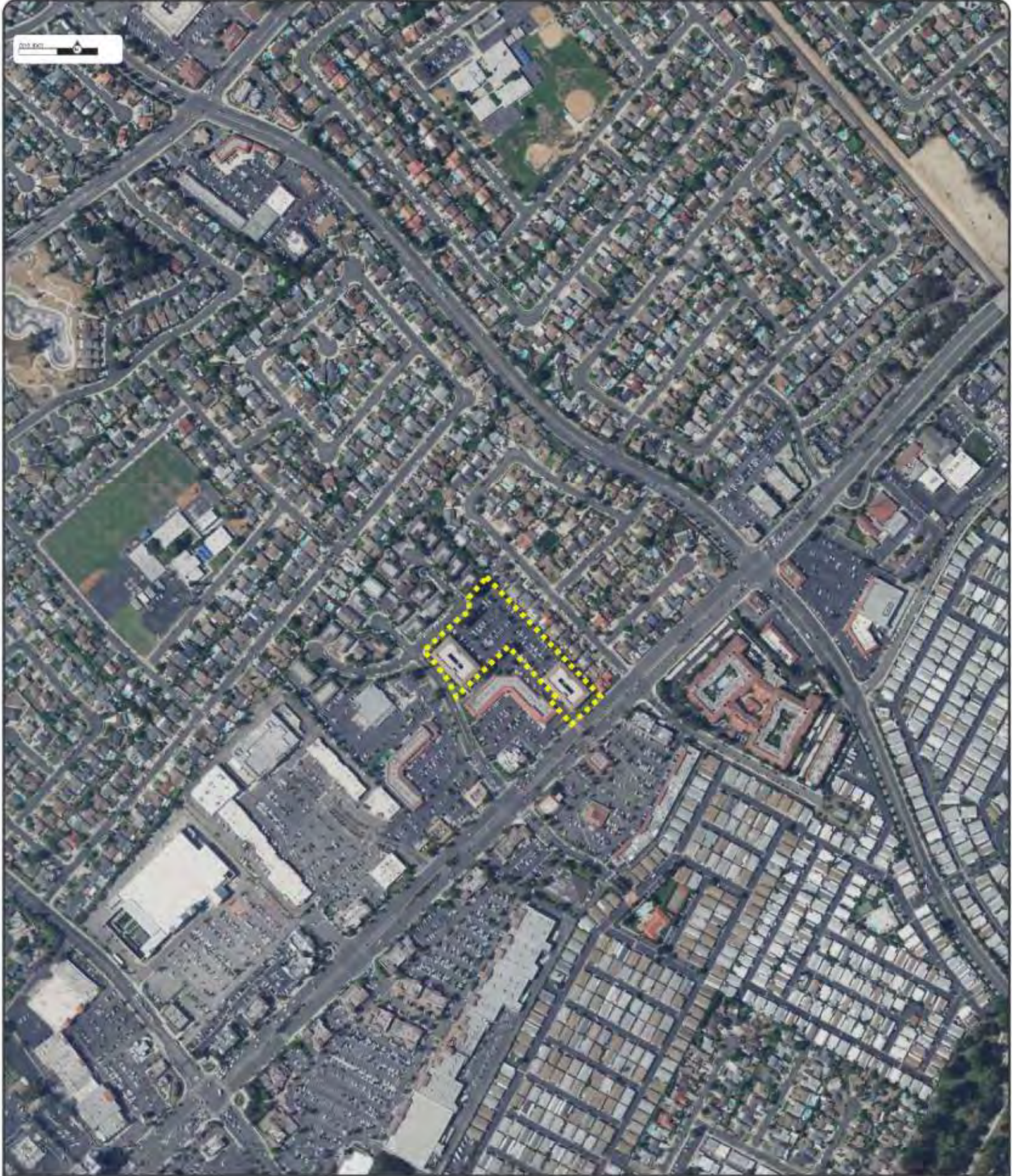
Year	Source	Scale	Comment
2018	NAIP - National Agriculture Information Program	1"=500'	
2016	NAIP - National Agriculture Information Program	1"=500'	
2014	NAIP - National Agriculture Information Program	1"=500'	
2012	NAIP - National Agriculture Information Program	1"=500'	
2010	NAIP - National Agriculture Information Program	1"=500'	
2009	NAIP - National Agriculture Information Program	1"=500'	
2005	NAIP - National Agriculture Information Program	1"=500'	
2002	USGS - US Geological Survey	1"=500'	
1994	USGS - US Geological Survey	1"=500'	
1988	NHAP - National High Altitude Photography	1"=500'	
1981	USGS - US Geological Survey	1"=500'	
1972	USGS - US Geological Survey	1"=500'	
1967	USGS - US Geological Survey	1"=500'	
1963	USGS - US Geological Survey	1"=500'	
1958	FAIRCHILD - Private Company	1"=500'	
1952	ASCS - Agriculture and Soil Conservation Service	1"=500'	
1946	ASCS - Agriculture and Soil Conservation Service	1"=500'	
1939	FAIRCHILD - Private Company	1"=500'	
1931	FAIRCHILD - Private Company	1"=500'	BEST COPY AVAILABLE

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2018 NAIP



Year: 2018
Source: NAIP
Scale: 1" to 500'
Comments:

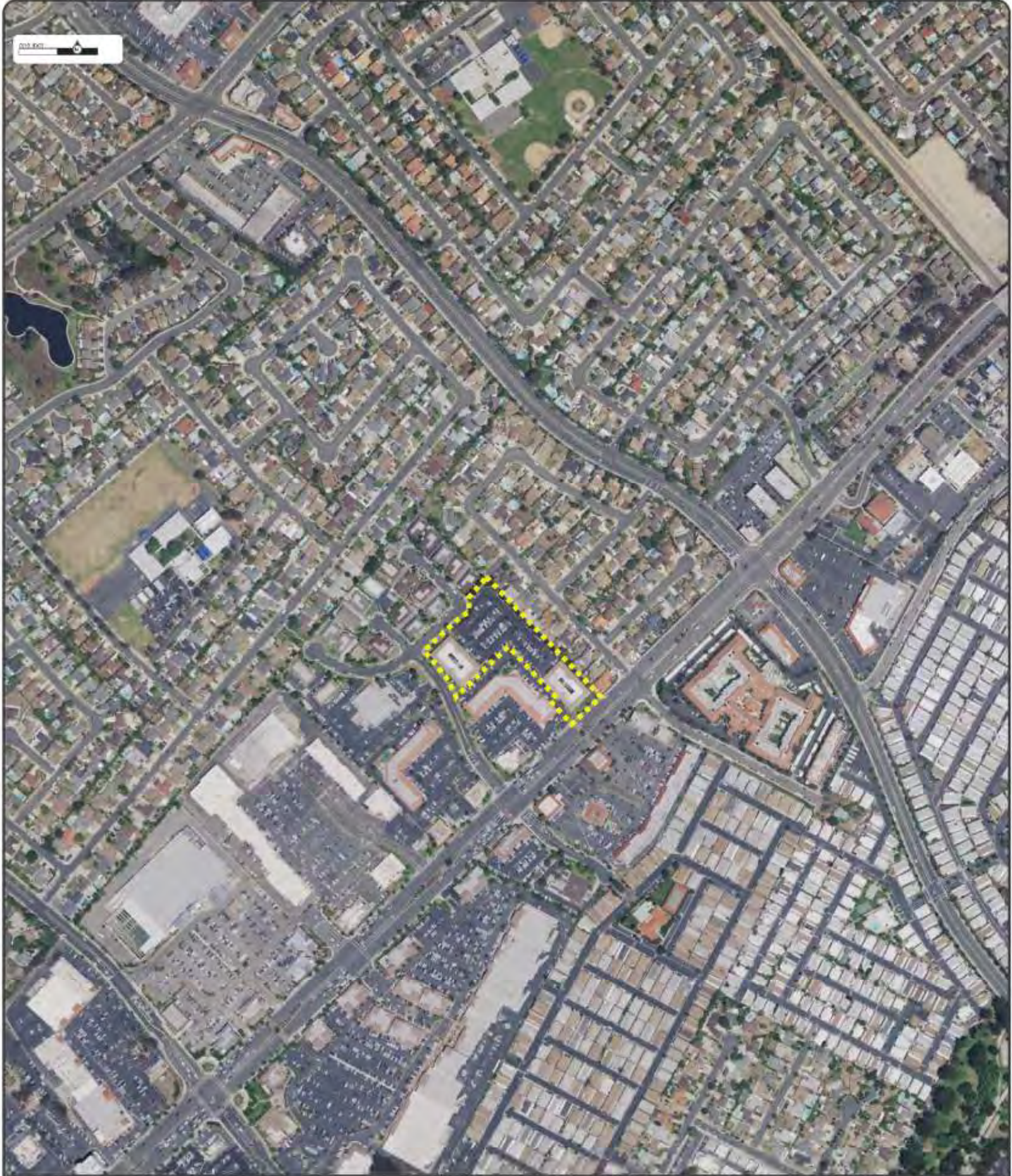
Site Address: 23591 El Tora Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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2016 NAIP



Year: 2016
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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2014 NAIP



Year: 2014
Source: NAIP
Scale: 1" to 500'
Comments:

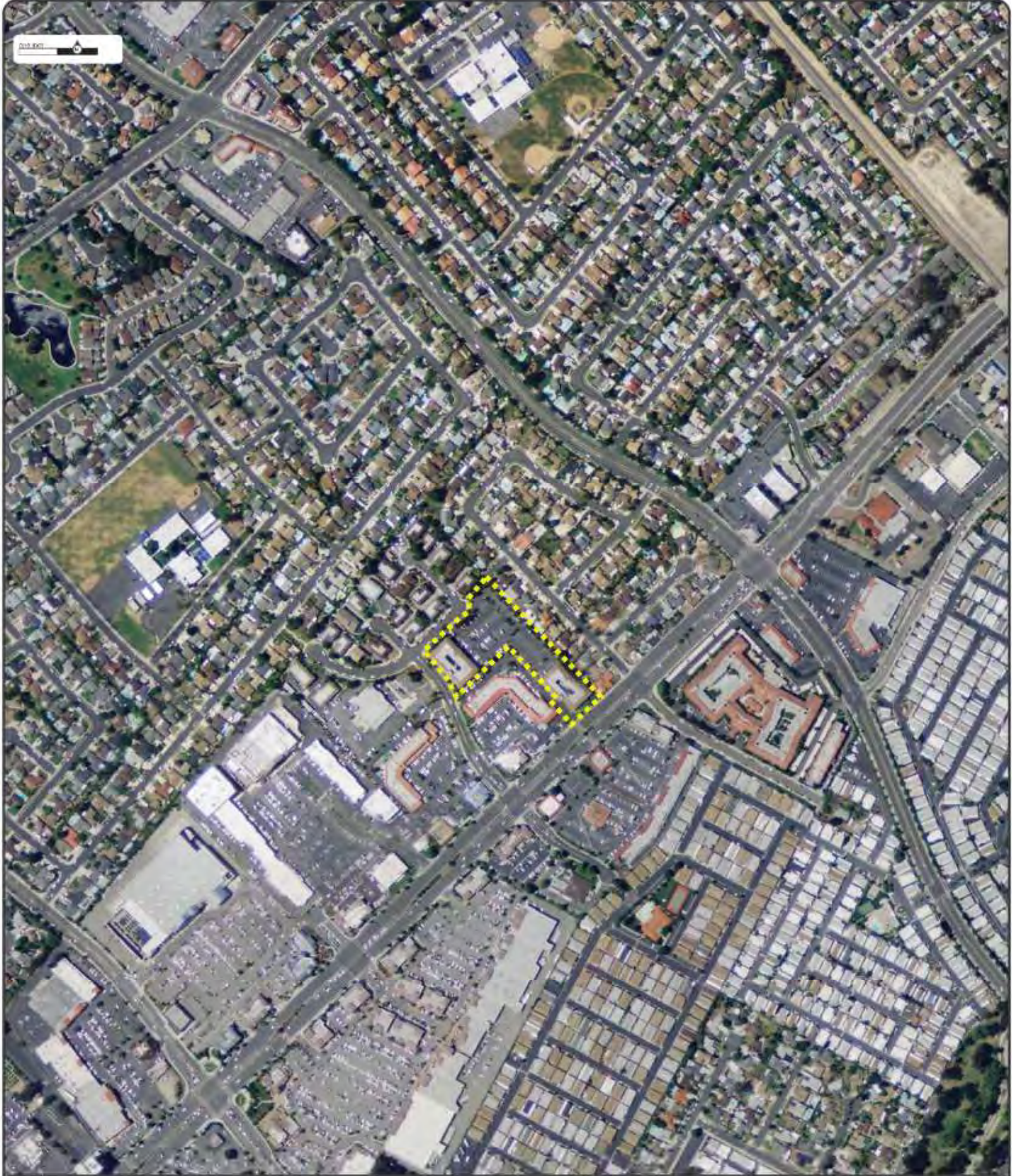
Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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212-901



Year: 2012
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 2010
Source: NAIP
Scale: 1" to 500'
Comments:

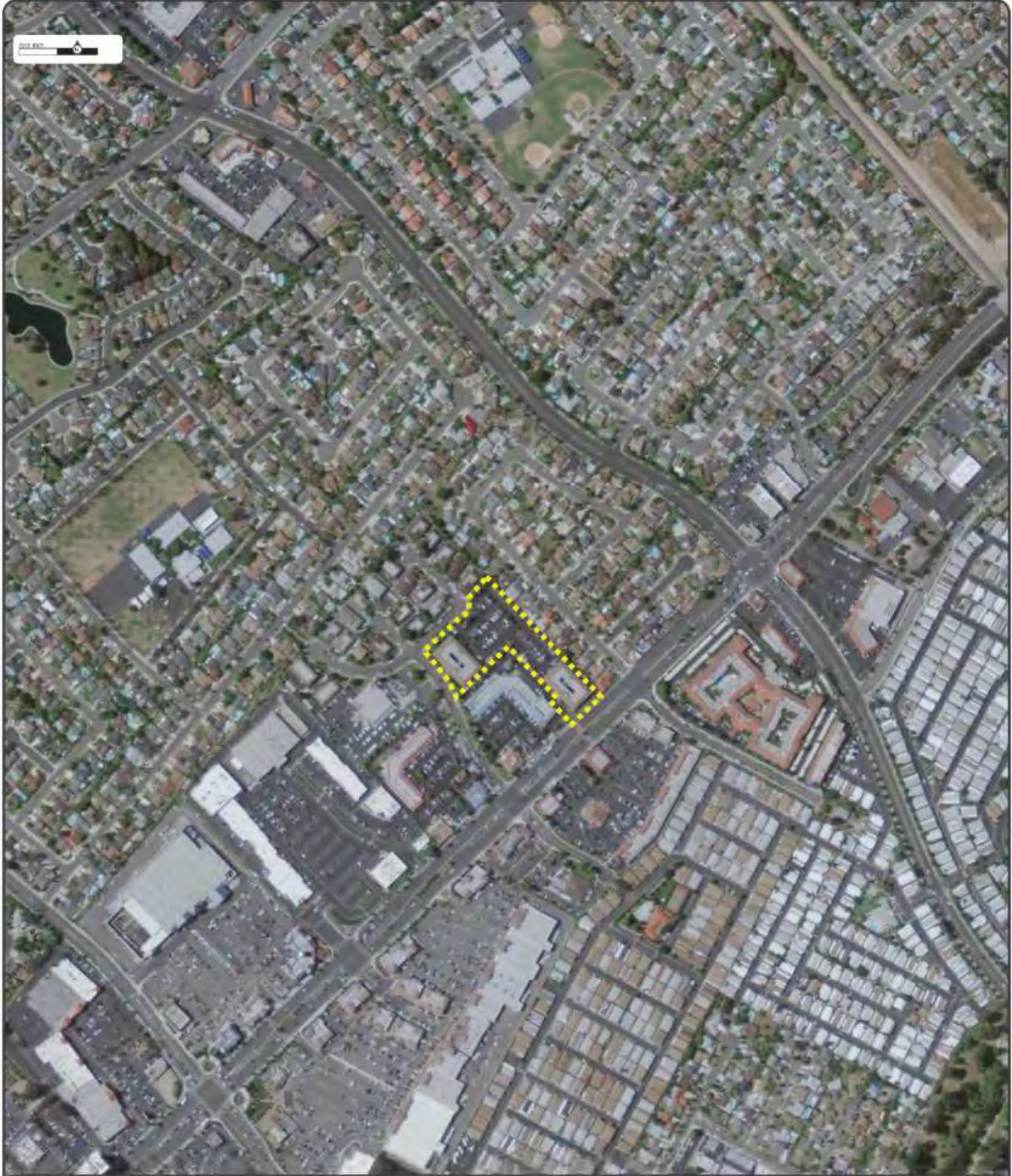
Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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210-901



Year: 2009
Source: NAIP
Scale: 1" to 500'
Comments:

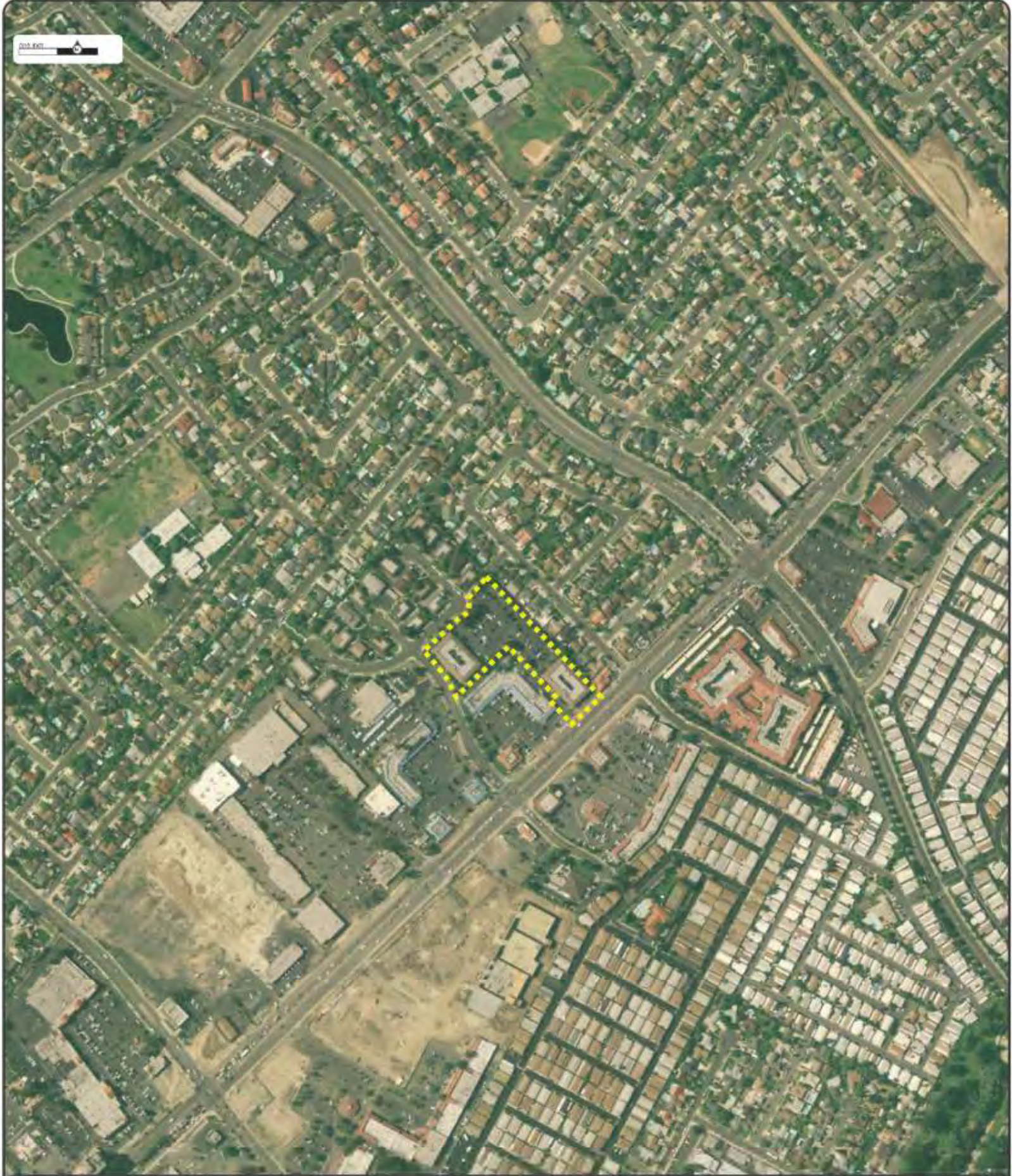
Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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010 500'



Year: 2005
Source: NAIP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 2002
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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200 Feet



Year: 1994
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 1988
Source: NHAP
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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200 Feet



Year: 1981
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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2019-001



Year: 1972
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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210 500'



Year: 1967
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 1963
Source: USGS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 1958
Source: FAIRCHILD
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 1952
Source: ASCS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 1946
Source: ASCS
Scale: 1" to 500'
Comments:

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



Year: 1939
Source: FAIRCHILD
Scale: 1" to 500'
Comments:

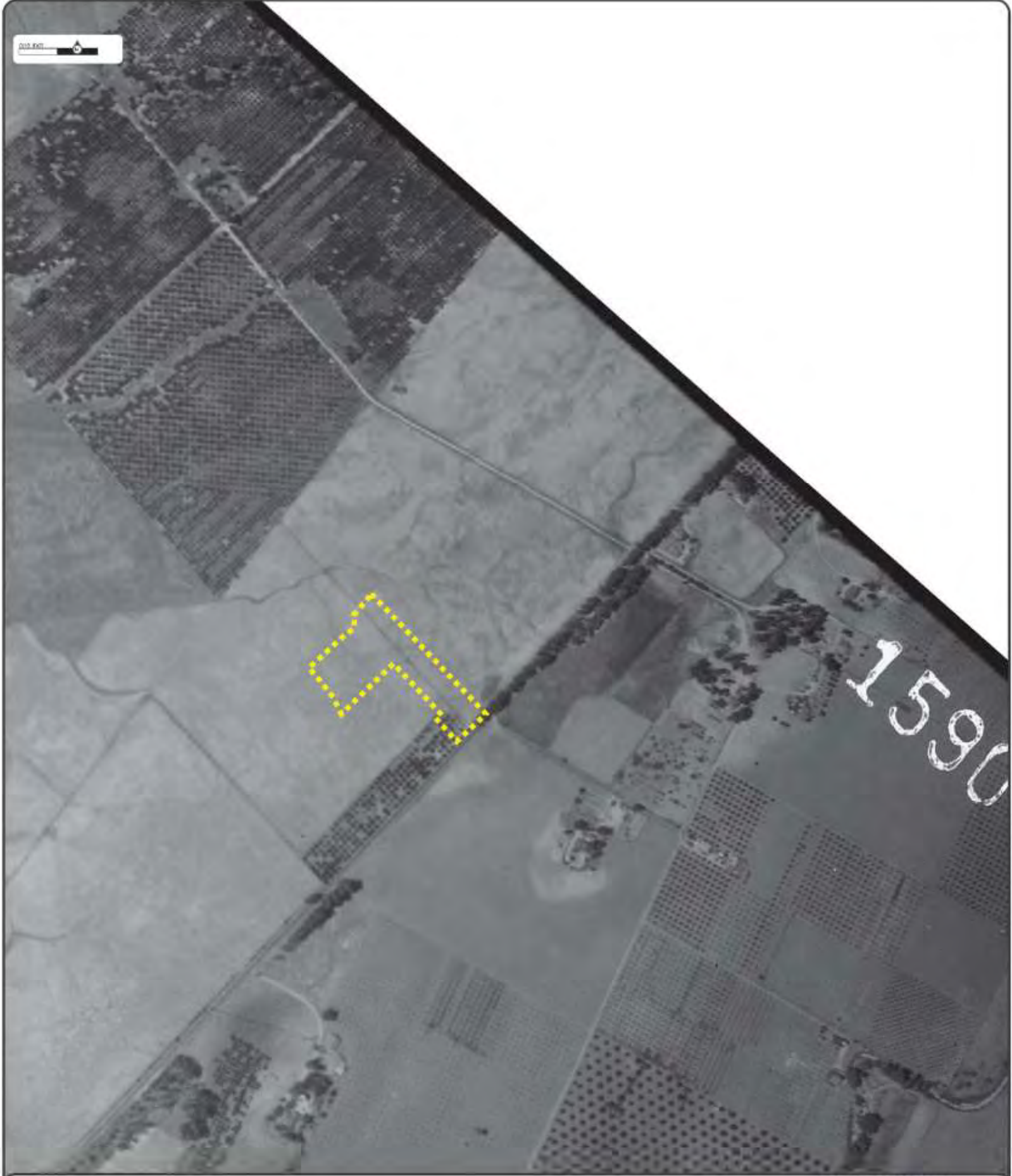
Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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0 100 200 Feet



1590

Year: 1931
Source: FAIRCHILD
Scale: 1" to 500'
Comments: BEST COPY AVAILABLE

Site Address: 23591 El Toro Road Lake Forest CA
Approx Center: 33.62222 / -117.7006

Order No: 20190618288



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ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



CITY
DIRECTORY

Project Property: *National CORE/El Toro Road
23591 El Toro Road
Lake Forest, CA 92630*

Project No: *19-42-162-01*

Requested By: *Converse Consultants*

Order No: *20190618288*

Date Completed: *June 24, 2019*

June 24, 2019
RE: CITY DIRECTORY RESEARCH
National CORE/El Toro Road
23591 El Toro Road Lake Forest, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:

23500-23600 of El Toro Road
24551-24602 of Raymond Way

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2014	DIGITAL BUSINESS DIRECTORY	
2010	DIGITAL BUSINESS DIRECTORY	
2005	DIGITAL BUSINESS DIRECTORY	
2000	HAINES	
1994	HAINES	
1989	HAINES	
1981	HAINES	
1974	HAINES	
1970	STREET ADDRESS DIRECTORY	
1964	STREET ADDRESS DIRECTORY	
1959	STREET ADDRESS DIRECTORY	
1955	STREET ADDRESS DIRECTORY	
1951	STREET ADDRESS DIRECTORY	

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166 total records. Part 1 of 4
 23501 SIZZLER...FOODS-CARRY OUT
 23501 SIZZLER...RESTAURANTS
 23501 SIZZLER...CAFES
 23505 MINATO SUSHI...RESTAURANTS
 23507 OMAR'S EXOTIC BIRDS...PET SERVICE
 23507 OMAR'S EXOTIC BIRDS...ECOMMERCE
 23507 OMAR'S EXOTIC BIRDS...BIRDS
 23507 OMAR'S EXOTIC BIRDS...DOG TRAININ
 23512 BIG SHOTS BILLIARD BAR GRILL...R
 23515 DENNY'S...RESTAURANTS
 23522 ABACUS APPLIANCE SVC CORP...APPLI
 23522 ABACUS APPLIANCE SVC CORP...APPLI
 23522 AFFORDABLE CARE GIVERS...HOME HEA
 23522 EL TORO GOURMET MEATS SEAFOOD...M
 23522 EL TORO GOURMET MEATS SEAFOOD...M
 23522 EL TORO GOURMET MEATS SEAFOOD...E
 23522 EL TORO GOURMET MEATS SEAFOOD...S
 23522 HARKINS CHIROPRACTIC...MASSAGE TH
 23522 HARKINS CHIROPRACTIC...SPORTS MED
 23522 HARKINS CHIROPRACTIC...CHIROPRACT
 23522 OVER THE TOP MARKETING CORP...INT
 23532 A A TOBACCO BARN PIPE SHOP...SMOK
 23532 A A TOBACCO BARN PIPE SHOP...FEDE
 23532 BEL AGE NAILS & SPA...MANICURING<
 23532 BEL AGE NAILS & SPA...BEAUTY SALO
 23532 BERUBE, KELLY...BEAUTY SALONS
 23532 CAFE MATINEE...RESTAURANTS
 23532 E MONEY EXPRESS INC...CHECK CASHI
 23532 EL TORO METRO GRGE DOOR REPAIR...
 23532 EUROPEAN TAILORS...TAILORS
 23532 EUROPEAN TAILORS...ALTERATIONS-CL
 23532 JEFFREY MICHAEL'S SALON & SPLS...
 23532 JEFFREY MICHAEL'S SALON & SPLS...
 23532 L G INSURANCE...INSURANCE
 23532 LA COCINA DE RICARDO...FOODSCARRY
 23532 LA COCINA DE RICARDO...RESTAURANT
 23532 MERCADO EL REY LAKE FOREST...FOOD
 23532 MOLINO DE ORO...RETAIL BAKERIES
 23532 NINA'S INDIAN GROCERIES...GROCERS
 23532 ON-SITE SPECIALISTS...DRAPERY & C
 23532 ORANGETREE PLAZA BARBERS...BARBER
 23532 RAHIMPOUR KOUROSH P C...RESUME SE
 23532 RAHIMPOUR, KOUROSH DDS...DENTISTS
 23532 RUSH BAR GRILL...RESTAURANTS
 23532 SALON CENTRIC...BEAUTY SALONS-EQU
 23532 SALON CENTRIC...BEAUTY SALONS-EQU
 23532 SPARKLEAN LAUNDRY...LAUNDRIES
 23532 SPARKLEAN LAUNDRY...CLEANERS
 23542 NINA'S INDIAN GROCERY...GROCERS-R
 23546 KWIKEY'S LOCK & KEY...LOCKS & LOC
 23552 ASIA BUFFET...RESTAURANTS
 23552 ASIA BUFFET...FOODSCARRY OUT
 23562 CITIBANK...BANKS

Part 2 of 4
 23562 CITIBANK...Diagnostic Imaging Centers<
 23562 CITIBANK...Real Estate Loans
 23572 CUPPA JUICE...Juices-retail
 23572 JALAEI, MORGAN DDS...Dentists<
 23572 JENNY CRAIG WEIGHT LOSS CTR...Weight C
 23572 JERSEY MIKE'S SUBS...Sandwiches
 23572 PANDA EXPRESS...Restaurants
 23572 PANDA EXPRESS...Cafes
 23572 PANDA EXPRESS...Foods-carry Out
 23572 PANDA EXPRESS...Foods-carry Out
 23572 WAHOO'S FISH TACO...Foodscarry Out
 23572 WAHOO'S FISH TACO...Restaurants
 23591 A STAR SVC...Appliances-household-majo
 23591 ACTFORENSIC.COM INC...Forensic Consult
 23591 ALL STAR LOANS & REALTY...Real Estate<
 23591 ALL STAR LOANS & REALTY...Loans
 23591 ALLSTATE FINANCIAL SVC...Independent F
 23591 AMERICAN OIL PRODUCTS INC...Oilslubric
 23591 AMERICAN OIL PRODUCTS INC...Lubricants
 23591 AMERICAN OIL PRODUCTS INC...Petroleum
 23591 AMERICAN OIL PRODUCTS INC...Petroleum
 23591 ASCENT NETWORK...Data Communications S
 23591 BEVNET.COM INC...Nonclassified Establi
 23591 BONDY, GAYLE...Counselors-licensed Pro
 23591 BRAD PALMER-ALLSTATE AGENT...Insurance
 23591 BRANSON, MARTHA L A CPA...Accountants<
 23591 BRIGHTSTAR CARE...Health Services-exte
 23591 BRIGHTSTAR CARE...Schools
 23591 BROTEMARKLE, FRODA GALE...Marriage & F
 23591 BUILDING FAMILIES INC...Social Service
 23591 CARE FIRST HOME CARE...Home Health Ser
 23591 CARE FIRST HOME CARE...Health Care Alt
 23591 CARELINE HOME CARE SVC...Home Health S
 23591 CASH FOR GOLD-LAKEFOREST...Gold Silver
 23591 CASH FOR GOLD-LAKEFOREST...Pawnbrokers
 23591 CENTER FOR CREATIVE TRNSTNS...Nonclass
 23591 DALY-SWARTZ PUBLIC RELATIONS...Public
 23591 DATA WORKS AGENCY...Data Processing Se
 23591 DEDICATED RETAIL SVC...Merchandising S
 23591 DEDICATED RETAIL SVC...Business Servic
 23591 DEDICATED RETAIL SVC...Business Manage
 23591 DIVERSIFIED INTERNATIONAL LLC...Sports
 23591 EMERGENCY LAKE FOREST GRGE DR...Doors
 23591 FARMERS INSURANCE...Insurance<
 23591 FINANCE FOR AMERICANS CORP...Financing
 23591 GOLF GUYS MARKETING MEDIA...Marketing
 23591 GOLF GUYS MARKETING & MEDIA...Marketin
 23591 GUARDIAN INSTALLATION INC...Installati
 23591 I LIKE VINYL...Vinyl-dealers
 23591 I LIKE VINYL...Vinyl-dealers
 23591 IDEAL ACCOUNTING TAX SVC...Accounting
 23591 IQUBZ...Computer Software
 23591 ISC TECHNOLOGY INC...Computer Software

Part 3 of 4

23591 JENNIFER DISTINCTIVE LANDSCAP...Landsca
 23591 KMR PROPERTY MGMT...Real Estate Manage
 23591 LA FAMILY CHIROPRACTIC...Nonclassified
 23591 MGREEN FINANCIAL...Nonclassified Estab
 23591 MISKULIN, DWAIN AGT...Insurance
 23591 NADKARNI, PRAVIN...Document Preparatio
 23591 OCAAC...Nonclassified Establishments
 23591 P L PERRIN ASSOC...Nonclassified Esta
 23591 PATH TO HEALING...Nonclassified Establ
 23591 PERMANENT HOME PRODUCTS INC...Home Dem
 23591 PLEXUS FINANCIAL GROUP INC...Financial
 23591 PNR TRANSPORT...Trucking
 23591 QOLITE INC...Nonclassified Establishme
 23591 RENEWABLE ENERGY INC...Energy Manageme
 23591 SABETI INSURANCE...Insurance
 23591 SEA-SHELL MOBILE HOMES...Mobile Homes-
 23591 SIGNODE PACKAGING SYSTEMS...Packaging
 23591 SIGNODE PACKAGING SYSTEMS...Federal Go
 23591 SOCAL COUNSELING SVC...Other Individua
 23591 SOLIMAN, AMANI M DDS...Dentists
 23591 STRAIGHT ENTERPRISES INC...Health Care
 23591 STRAIGHT ENTERPRISES INC...Home Health
 23591 STYLE TYPESETTING GRAPHICS...Typesett
 23591 TH2 TECHNOLOGIES...Computerssystem Des
 23591 TH2 TECHNOLOGIES...Custom Computer Pro
 23591 TITLE LOANS ORANGE COUNTY...Title Comp
 23591 TOXIC SOLUTIONS...Environmental & Ecol
 23591 WELLS, MELINDA OD...Contact Lenses-opt
 23591 WELLS, MELINDA OD...Optometrists Od
 23591 WESTERN HORIZON HOSPICE...Hospices
 23591 WESTERN HORIZON HOSPICE...Hospices
 23600 AMERICA'S BEST...Optical Goods-retail<
 23600 CASUAL MALE XL...Men's Clothing & Furn
 23600 CASUAL MALE XL...Clothing & Accessorie
 23600 COMPUTER TUTOR TECH...Computers-servic
 23600 DORN ELECTRIC...Electric Contractors
 23600 DYNA-LUX ELECTRIC...Electric Contracto
 23600 EXPERT COPY SVC...Copying Machines-ser
 23600 FINEST NAILS...Manicuring
 23600 FINEST NAILS...Beauty Salons
 23600 FINEST NAILS...Health Spas
 23600 FLEA STUFF...Flea Markets
 23600 GLOBAL CREDITORS NETWORK...Billing Ser
 23600 GLOBAL CREDITORS NETWORK...Collection
 23600 GREEN WORLD MASSAGE...Other Personal C
 23600 HERO BAIL BONDS...Bonds-bail
 23600 HR ONLY...Employment Agencies & Opport
 23600 JET GARAGE DOORS & GATES...Doors-garag
 23600 K KALKA HEATING PLUMBING AIR...Plumbi
 23600 OC SPA REPAIR...Furnacesheating (whls)
 23600 OC SPA REPAIR...Service Bureaus
 23600 OC SPA REPAIR...Heating Contractors

Part 4 of 4

23600 OC SPA REPAIR...Plumbing Contractors
 23600 OC SPA REPAIR...Water Heaters-repairin
 23600 ORANGE COUNTY SPECIAL EVENTS...Events-
 23600 PAMELA PEAK PRODUCTIONS...Unclassified
 23600 R & S SOIL PRODUCTS...Truckingdump
 23600 R & S SOIL PRODUCTS...Topsoil<
 23600 TABER INSURANCE...Insurance
 23600 WESTERN UNION...Money Transfer Service
 23600 WESTERN UNION...Money Order Service

103 total records. Part 1 of 2

24551 ABACUS APPLIANCE SVC...APPLIANCES
 24551 ASSISTING BETTER LIFE EXPRNCS...R
 24551 ASSISTING BETTER LIFE EXPRNCS...H
 24551 BETTER HEALTH & WELLNESS...EXERC
 24551 BRADFORD FINANCIAL CORP...FINANCI
 24551 DARCY GREENE M A LMFT...NONCLASSI
 24551 DEBT SETTLE SUPPORT...CREDIT & DE
 24551 EASTLAND, ALYSSA M...OFFICES-PHYS
 24551 EXECU-PHONE INC...FEDERAL GOVERN
 24551 EXECU-PHONE INC...TELECOMMUNICATI
 24551 EXECU-PHONE INC...TELEPHONE EQUIP
 24551 EXECU-PHONE INC...COMPUTERSNETWORK
 24551 EXTEND A HAND INC...CONSTRUCTION
 24551 EXTEND A HAND INC...SOCIAL SERVIC
 24551 EXTEND A HAND INC...FEDERAL GOVER
 24551 GARDNER, AARON...APPRAISERS
 24551 GARDNER, AARON...REAL ESTATE APPR
 24551 GOLF GUYS MARKETING MEDIA...MARK
 24551 LAKE CENTER CHIROPRACTIC...CHIROP
 24551 MAGENTA COMPUTER...INTERNET SVCS-
 24551 MITCHELL OWENS & ASSOC...REAL EST
 24551 MOBILITY PHYSICAL THERAPY...EXERC
 24551 MOBILITY PHYSICAL THERAPY...PHYSI
 24551 NEUBAUER, SCOTT DC...CHIROPRACTOR
 24551 O C FAMILY DIVORCE MEDIATION...DI
 24551 OHIO NATIONAL LIFE INS-REGL...INS
 24551 OMEGA MAGNUS...COMPUTER CONSULTAN
 24551 ORANGE COUNTY PSYCHOLOGICAL...PSY
 24551 PINNACLE GROUP...INSURANCE
 24551 PREMIER APPRAISAL MANAGEMENT...RE
 24551 SLICE UTILITIES...UTILITY CONTRAC
 24551 STATEWIDE LABOR CORP...EMPLOYMENT
 24551 STUDIO THREE SIXTY...MARKETING PR
 24551 TAX SETTLEMENT CTR...TAX RETURN P
 24551 THOMSON-PROMETRIC...NONCLASSIFIED
 24551 UTILITY SPECIALISTS...ENGINEERS-C
 24551 WORLD EYE CAM...CONTACT LENSES
 24551 WORLD EYE CAM...OPTOMETRISTS OD
 24551 WORLD EYE CAM...BURGLAR ALARM SYS
 24551 WORLD EYE CAM...SECURITY SYSTEMS<
 24551 ZACHARIAH, SUSAN MD...PHYSICIANS
 24551 ZACHARIAH, SUSAN MD...MEDICAL & S
 24552 KLEIN ELECTRIC...ELECTRIC CONTRAC
 24552 MAXEEMIZE...INTERNET SERVICE
 24552 MISSION ACCOMPLISHED INVESTIGA...
 24552 TEK RANGE...COMPUTER & EQUIPMENT D
 24552 US POST OFFICE...POST OFFICES
 24552 US POST OFFICE...STATE GOVERNMENT
 24601 ALISO BAKERY...BAKERS-RETAIL
 24601 BELL TOWER FLORIST & GIFTS...CAND
 24601 BELL TOWER FLORIST & GIFTS...FLOR
 24601 BELL TOWER FLORIST & GIFTS...FLOR
 24601 BELL TOWER FLORIST & GIFTS...WEDD

Part 2 of 2

24601 CASH MY CHECK...Loans
 24601 CASH MY CHECK...Check Cashing Service<
 24601 HAIR CLIPS...Beauty Salons
 24601 IMPRESSIONS BEAUTY SUPL & SLN...Beauty
 24601 MANILA FOOD MART...Restaurants
 24601 MICHALSKI, IRMA...Data Processing Serv
 24601 MICHALSKI, IRMA...Information Bureaus<
 24601 MINT SPA...Health Spas
 24601 MONTESSORI CHILDREN'S SCH HSE...Child
 24601 MONTESSORI CHILDREN'S SCHOOL...Montess
 24601 MONTESSORI CHILDREN'S SCHOOL...Schools
 24601 MONTESSORI CHILDREN'S SCHOOL...Tutorin
 24601 MONTESSORI CHILDREN'S SCHOOL...Schools
 24601 O'REILLY AUTO PARTS...Batteriesstorage
 24601 O'REILLY AUTO PARTS...Automobile Repai
 24601 O'REILLY AUTO PARTS...Automobile Parts
 24601 O'REILLY AUTO PARTS...Batteries-storag
 24601 PAYLESS CARPET & FLOORS...Carpet & Rug
 24601 RN HAIR & NAILS SALON...Health Spas
 24601 RN HAIR & NAILS SALON...Beauty Salons<
 24601 RN HAIR & NAILS SALON...Manicuring
 24601 SHAGGY 2 CHIC PET SPA...Pet Washing &
 24601 SONI'S BROW & BEAUTY...Beauty Salons
 24601 TACOS ENSENADA...Caterers
 24601 TACOS ENSENADA...Ice
 24601 TACOS ENSENADA...Foodscarry Out
 24601 TACOS ENSENADA...Restaurants
 24602 ACE A MONTESSORI PRESCHOOL...Schools-n
 24602 ATWOB CALM...Food Supplements<
 24602 BABY NUTRITIONAL CTR...Health & Diet F
 24602 CHOPSTICKS PHO RESTAURANT...Restaurant
 24602 CROWN GOWNS...Bridal Shops
 24602 CROWN GOWNS...Nonclassified Establishm
 24602 EL PROGRESO ARTICULOS PARA EL...Restau
 24602 GHOST WOLF TATTOO...Tattooing<
 24602 HIERRO'S MARKET...Grocers-retail
 24602 HOMELAND INSURANCE & AUTO SVC...Insura
 24602 JIM'S SHOE REPAIR...Shoe & Boot Repair
 24602 JUDITHS MONEY EXPRESS INC...Financial
 24602 LATINO'S BEAUTY SALON...Beauty Salons<
 24602 M S P WIRELESS I...Cellular Telephones
 24602 NARKHEDE, PANKAJ DDS...Dentists
 24602 PAL'S VACUUM SEWING CTR...Vacuum Clean
 24602 PAL'S VACUUM SEWING CTR...Sewing Machi
 24602 Q Z DAY SPA...Spas-beauty & Day
 24602 RAMIREZ, JESUS DDS...Dental Hygienists
 24602 RAMIREZ, JESUS DDS...Dentists<
 24602 RAMIREZ, MAYRA...Restaurant Management
 24602 STATINERY POINT INC...Nonclassified Es
 24602 UP IN SMOKE...Smoke Shops & Supplies

174 total records. Part 1 of 4
 23501 SIZZLER...FULL-SERVICE RESTAURANT
 23501 SIZZLER...FOODS-CARRY OUT
 23505 EL TORO GARAGE DOOR REPAIR SVC...
 23505 MINATO SUSHI...FULL-SERVICE RESTA
 23507 OMAR'S EXOTIC BIRDS...BIRDS
 23507 OMAR'S EXOTIC BIRDS...PET CARE, E
 23507 OMAR'S EXOTIC BIRDS...PET SUPPLIE
 23512 BIG SHOTS BILLIARD BAR GRILL...F
 23512 BIG SHOTS BILLIARD BAR & GRILL...
 23512 BIG SHOTS BILLIARD BAR & GRILL...
 23515 DENNY'S...FOODS-CARRY OUT
 23515 DENNY'S...FULL-SERVICE RESTAURANT
 23522 ABACUS APPLIANCE SVC CORP...APPLI
 23522 ABACUS APPLIANCE SVC CORP...APPLI
 23522 AFFORDABLE CARE GIVERS...HOME HEA
 23522 BRADFORD FINANCIAL CORP...FINANCI
 23522 BRADFORD REAL ESTATE FINANCE...OF
 23522 EL TORO GOURMET MEATS SEAFOOD...S
 23522 EL TORO GOURMET MEATS SEAFOOD...M
 23522 EL TORO GOURMET MEATS SEAFOOD...W
 23532 A A TOBACCO BARN PIPE SHOP...CIGA
 23532 A A TOBACCO BARN PIPE SHOP...TOBA
 23532 A A TOBACCO BARN PIPE SHOP...FEDE
 23532 A A TOBACCO BARN PIPE SHOP...E-CO
 23532 ATM...COMMERCIAL BANKING<
 23532 BEL AGE NAILS SPA...BEAUTY SALON
 23532 BEL AGE NAILS & SPA...MANICURING<
 23532 BOBBY D'S BAR GRILL...DRINKING P
 23532 BOBBY D'S BAR & GRILL...RESTAURAN
 23532 BRITTANY DURLACH HAIR STYLIST...B
 23532 CAFE MATINEE...FULL-SERVICE RESTA
 23532 CALLAHAN, KATIE...BEAUTY SALONS
 23532 E MONEY EXPRESS INC...FINANCIAL T
 23532 EL TORO METRO GRGE DOOR REPAIR...
 23532 EUROPEAN TAILORS...OTHER CLOTHING
 23532 GONZALEZ-LOPEZ INC...AUTOMOBILE D
 23532 HAIR BY JAMIE CANNON...BEAUTY SAL
 23532 HAIR MECHANICS...WEDDING SUPPLIES
 23532 JEFFREY MICHAEL'S SALON SPLS...B
 23532 LA COCINA DE RICARDO...FULL-SERVI
 23532 MERCADO EL REY LAKE FOREST...SUPE
 23532 MICHAEL MAX SALON...BEAUTY SALONS
 23532 MOLINO DE ORO...NONCLASSIFIED EST
 23532 MR DRAIN PLUMBING...PLUMBING & HV
 23532 NINA'S INDIAN GROCERIES...SUPERMA
 23532 ON-SITE SPECIALISTS...DRAPERY & C
 23532 ON-SITE SPECIALISTS...VENETIAN BL
 23532 ON-SITE SPECIALISTS...ALL OTHER S
 23532 ON-SITE SPECIALISTS...DRAPERIES &
 23532 ORANGE TREE CLEANERS...DRYCLEANIN
 23532 ORANGETREE PLAZA BARBERS...BARBER
 23532 SALON CENTRIC...WHOLESALE TRADE A
 23532 SALON CENTRIC...COSMETICS & PERFU

Part 2 of 4
 23532 SALON CENTRIC...Beauty Salons-equipmen
 23532 SPARKLEAN LAUNDRY...Drycleaning & Laun
 23532 SPARKLEAN LAUNDRY...Laundries-self Ser
 23532 SPARKLEAN LAUNDRY...Cleaners
 23532 THAI, JEANETTE DDS...Offices Of Dentis
 23542 NINA'S INDIAN GROCERY...Shopping Servi
 23542 NINA'S INDIAN GROCERY...Supermarkets &
 23546 KWIKEY'S LOCK KEY...Locksmiths
 23552 ASIA BUFFET...Full-service Restaurants
 23562 CITIBANK...Commercial Banking<
 23562 CITIBANK...Automated Teller Machines
 23562 CITIBANK ATM...Commercial Banking
 23572 GOLDEN SPOON...All Other Specialty Foo
 23572 GOLDEN SPOON...Ice Cream Parlors
 23572 GOLDEN SPOON...Restaurants
 23572 JALAEI, MORGAN DDS...Offices Of Dentis
 23572 JENNY CRAIG WEIGHT LOSS CTR...Diet & W
 23572 MORGAN DENTAL...Offices Of Dentists
 23572 PANDA EXPRESS...Full-service Restaura
 23572 PANDA EXPRESS...Foods-carry Out
 23572 WAHOO'S FISH TACO...Full-service Resta
 23591 A STAR SVC...Appliance Repair & Mainte
 23591 ALISO ALISO TAX ACCOUNTING...Tax Prep
 23591 ALL STAR LOANS REALTY...Offices Of Re
 23591 ALL STAR LOANS & REALTY...Loans
 23591 AMANI, SOLIMAN DDS...Offices Of Dentis
 23591 AMERICAN OIL PRODUCTS INC...Gas Compan
 23591 AMERICAN OIL PRODUCTS INC...Petroleum
 23591 AMERICAN OIL PRODUCTS INC...Lubricants
 23591 AMSBIO...Process & Logistics Consultin
 23591 BEHAVIOR CAPITAL INC...Misc Ambulatory
 23591 BONDY, GAYLE...Other Individual & Fami
 23591 BRAD PALMER-ALLSTATE AGENT...Insurance
 23591 BRANSON, MARTHA L A CPA...Offices Of C
 23591 BRIGHTSTAR CARE...Home Health Care Svc
 23591 BRIGHTSTAR CARE...Home Health & Health
 23591 BRIGHTSTAR CARE...Health Services-exte
 23591 BUILDING FAMILIES INC...Other Individu
 23591 CAREGIVERS R US...Misc Ambulatory Heal
 23591 CARELINE HOME CARE SVC...Home Health C
 23591 CASH FOR GOLD-LAKEFOREST...All Other N
 23591 CASH FOR GOLD-LAKEFOREST...Gold Silver
 23591 CVC REAL ESTATE GROUP...Offices Of Rea
 23591 DEDICATED RETAIL SVC...All Other Suppo
 23591 DIVERSIFIED INTERNATIONAL LLC...Other
 23591 DREXELIUS, RICHARD J MD...Offices Of P
 23591 EMERGENCY LAKE FOREST GRGE DR...Other
 23591 FARMERS INSURANCE...Insurance Agencies
 23591 FINANCE FOR AMERICANS CORP...Consumer
 23591 FINANCIAL ALTERNATIVE SLTNS...Real Est
 23591 FINANCIAL ALTERNATIVE SLTNS...Credit &
 23591 GALAXY CONTROL SYSTEMS...Nonclassified

Part 3 of 4

23591 GOLF GUYS MARKETING MEDIA...Marketing
 23591 IFR...Investment Advice
 23591 INDEPENDENT FINANCIAL SVC GRP...Real E
 23591 IQUBZ...Federal Government Contractors
 23591 IQUBZ...Computer Services
 23591 IQUBZ...Computer & Software Stores
 23591 ISBS GROUP...Other Heavy Construction<
 23591 ISC TECHNOLOGY INC...Computer Services
 23591 ISC TECHNOLOGY INC...Computer & Softwa
 23591 ISC TECHNOLOGY INC...Computer Training
 23591 KMR PROPERTY MGMT...Offices Of Real Es
 23591 MARINA DENTAL...Offices Of Dentists
 23591 MT ZONE...Records Tapes & Compact Disc
 23591 MT ZONE...Other Sound Recording Indust
 23591 NATIONAL DEFAULT SERVICING...Nonclassi
 23591 ORANGE COUNTY ARC...Social Security Co
 23591 ORANGE COUNTY ARC...Vocational Rehabil
 23591 PAKAGE MORTGAGE...Real Estate Credit
 23591 PATRICIA'S DOMESTIC AGENCY...Child Day
 23591 PLEXUS FINANCIAL GROUP INC...Financial
 23591 PLEXUS FINANCIAL GROUP INC...Investmen
 23591 PREFERRED AIR SVC CO...Plumbing & Hvac
 23591 QUALITY ESTATE PROPERTIES...Offices Of
 23591 R DE LA PENA ASSOC...Offices Of Real
 23591 S C JOHNSON & SON INC...Waste Disposal
 23591 SABETI INSURANCE...Insurance Agencies
 23591 SABETI INSURANCE SVC...Insurance-life
 23591 SABETI INSURANCE SVC...Insurance-healt
 23591 SEA-SHELL MOBILE HOMES...Manufactured,
 23591 SOLIMAN, AMANI M DDS...Offices Of Dent
 23591 SORENSEN, KERRY...Offices Of Lawyers
 23591 STRAIGHT ENTERPRISES INC...Home Health
 23591 TITLE LOANS ORANGE COUNTY...Title Abst
 23591 TOTH, CAROLYN...Misc Ambulatory Health
 23591 TRI CROWN LENDING...Loans
 23591 TRI CROWN LENDING...Real Estate Credit
 23591 WELLS, MELINDA OD...Contact Lenses-opt
 23591 WELLS, MELINDA OD...Opticians<
 23591 WELLS, MELINDA OD...Offices Of Optomet
 23600 ACDC FINANCE...Investment Advice
 23600 BULKY ITEMS COLLECTION...All Other Pro
 23600 CASUAL MALE XL...Clothing & Accessorie
 23600 CASUAL MALE XL...Men's Clothing Stores
 23600 CASUAL MALE XL...Shoes-retail<
 23600 COMPUTER TUTOR TECH...Computer & Offic
 23600 COMPUTER TUTOR TECH...Tutoring
 23600 CREATIVE RESOURCE SOLUTIONS...Nonclass
 23600 DAVIES, WILLIAM E MD...Offices Of Phys
 23600 DYNA-LUX ELECTRIC...Electrical Contrs<
 23600 EL TORO MAIL BOXES...Mail Box-rentals<
 23600 EL TORO MAIL BOXES...All Other Persona
 23600 EXPERT COPY SVC...Copying Machines-ser

Part 4 of 4

23600 FINEST NAILS...Manicuring
 23600 FINEST NAILS...Beauty Salons
 23600 GLOBAL CREDITORS NETWORK...Collection
 23600 HAIR CUTTERS...Beauty Salons
 23600 HERO BAIL BONDS...Direct Property & Ca
 23600 IMS MANAGEMENT SVC...Office Administra
 23600 JAY RODGERS MOBILE NOTARY...All Other
 23600 JET GARAGE DOORS GATES...Other Buildi
 23600 LAKE FOREST ORANGE COAST...Building In
 23600 LEGACY CONSTRUCTORS INC...New Single-f
 23600 OC SPA REPAIR...Other Technical Consu
 23600 OC SPA REPAIR...Hot Tubs & Spas-servic
 23600 R & S SOIL PRODUCTS...Topsoil<
 23600 TECHNOLOGY SUPPLY CHAIN...Hardware Sto
 23600 VACCINATION SERVICES...All Other Profe
 23600 WESTERN UNION...Money Order Service
 23600 WESTERN UNION...Financial Transaction

95 total records. Part 1 of 2

24551 ACM CORP...VOLUNTARY HEALTH ORGAN
 24551 ADVANCED CARE PHARMACY...PHARMACI
 24551 BETTER HEALTH & WELLNESS...EXERCI
 24551 DARCY GREENE M A LMFT...NONCLASSI
 24551 DEBT SETTLE SUPPORT...OTHER PERSO
 24551 EFFECTIVE REAL ESTATE SVC...OFFIC
 24551 EXECU-PHONE INC...RADIO, TV & OTH
 24551 EXECUTIVE ESCROW CO...TRUST, FIDU
 24551 EXTEND A HAND INC...FEDERAL GOVER
 24551 EXTEND A HAND INC...OTHER INDIVID
 24551 FIL-AM INTL SVC...ALL OTHER PROFE
 24551 GARDNER, AARON...APPRAISERS
 24551 GARDNER, AARON...OFFICES OF REAL
 24551 GREAT EXPECTATIONS...TRAVEL AGENC
 24551 LAKE CENTER CHIROPRACTIC...OFFICE
 24551 MAGENTA COMPUTER...COMPUTER SYSTE
 24551 MITCHELL OWENS ASSOC...OFFICES O
 24551 MOBILITY PHYSICAL THERAPY...OFFIC
 24551 MOBILITY PHYSICAL THERAPY...PHYSI
 24551 NEUBAUER, SCOTT DC...OFFICES OF C
 24551 OMEGA MAGNUS...COMPUTER & OFFICE
 24551 ORANGE COUNTY PSYCHOLOGICAL...OFF
 24551 PACIFIC HOME HEALTH SVC...HOME HE
 24551 PERMANENT HOME PRODUCTS INC...OTH
 24551 PINNACLE GROUP...INSURANCE AGENCI
 24551 PREMIER APPRAISAL MANAGEMENT...OF
 24551 PREMIER APPRAISAL MANAGEMENT...RE
 24551 STUDIO THREE SIXTY...MARKETING CO
 24551 TAX SETTLEMENT CTR...TAX PREPARAT
 24551 THOMSON-PROMETRIC...NONCLASSIFIED
 24551 UTILITY SPECIALISTS...ENGINEERING
 24551 WHITE HSE PROPERTY MGMT...OFFICES
 24551 WORLD EYE CAM...FEDERAL GOVERNMEN
 24551 WORLD EYE CAM...SECURITY CONTROL
 24551 WORLD EYE CAM...SECURITY SYSTEMS
 24551 WORLD EYE CAM...OPTOMETRISTS OD
 24551 ZACHARIAH, SUSAN MD...OFFICES OF
 24552 KLEIN ELECTRIC...ELECTRICAL CONTR
 24552 US POST OFFICE...POSTAL SVC
 24601 ALISO BAKERY...RETAIL BAKERIES
 24601 ATM...COMMERCIAL BANKING<
 24601 BELL TOWER FLORIST GIFTS...FLORI
 24601 BELL TOWER FLORIST & GIFTS...FLOR
 24601 BELL TOWER FLORIST & GIFTS...FEDE
 24601 BELL TOWER FLORIST & GIFTS...GIFT
 24601 CASH MY CHECK...FINANCIAL TRANSAC
 24601 CASH MY CHECK...LOANS
 24601 EFREN'S BAKERY...RETAIL BAKERIES<
 24601 HAIR CLIPS...BEAUTY SALONS
 24601 IMPRESSIONS BEAUTY SUPL SLN...BE
 24601 MANILA FOOD MART...FOOD MARKETS
 24601 MANILA FOOD MART...FULL-SERVICE R
 24601 MINT SPA...FITNESS & RECREATIONAL

Part 2 of 2

24601 MONTESSORI CHILDREN'S SCHOOL...Element
 24601 MONTESSORI CHILDREN'S SCHOOL...Schools
 24601 MONTESSORI CHILDREN'S SCHOOL...Child C
 24601 O'REILLY AUTO PARTS...Automotive Parts
 24601 O'REILLY AUTO PARTS...Automobile Parts
 24601 O'REILLY AUTO PARTS...Batteries-storage
 24601 O'REILLY AUTO PARTS...Engines-rebuildi
 24601 PAYLESS CARPET FLOORS...Floor Coverin
 24601 RN HAIR NAILS SALON...Beauty Salons
 24601 RN HAIR & NAILS SALON...Manicuring
 24601 RN HAIR & NAILS SALON...Barbers
 24601 RN HAIR & NAILS SALON...Skin Treatment
 24601 SHAGGY 2 CHIC PET SPA...Pet Care, Exce
 24601 SHINE GROUP ENTERPRISES INC...Nurses &
 24601 SHINE MEDICAL UNIFORM SUPLS...Home He
 24601 SHINE MEDICAL UNIFORM & SUPLS...Unifor
 24601 SONI'S BROW BEAUTY...Beauty Salons
 24601 TACOS ENSENADA...Caterers
 24601 TACOS ENSENADA...Full-service Restaura
 24601 TEXAS BARBEQUE GRILL...Full-service R
 24602 ACE A MONTESSORI PRESCHOOL...Child Day
 24602 BABY NUTRITIONAL CTR...Food, Health, S
 24602 EL PROGRESO ARTICULOS PARA EL...Full-s
 24602 EL PROGRESO MEXICAN RESTAURANT...Full-
 24602 EL PROGRESO MEXICAN RESTAURANT...House
 24602 FIASTA SARBICAS...Financial Transactio
 24602 GHOST WOLF TATTOO...All Other Personal
 24602 HIERRO'S MARKET...Supermarkets & Other
 24602 HOMELAND INSURANCE AUTO SVC...Insuran
 24602 JIM'S SHOE REPAIR...Footwear & Leather
 24602 LATINO'S BEAUTY SALON...Beauty Salons<
 24602 PAL'S VACUUM SEWING CTR...Household Ap
 24602 PAL'S VACUUM SEWING CTR...Vacuum Clean
 24602 PAL'S VACUUM SEWING CTR...Sewing Machi
 24602 PAL'S VACUUM SEWING CTR...Vacuum Clean
 24602 PINEAPPLE HILL INC...Drinking Places,
 24602 Q Z DAY SPA...Beauty Salons
 24602 RAMIREZ, JESUS DDS...Dental Hygienists
 24602 RAMIREZ, JESUS DDS...Offices Of Dentis
 24602 TOP NAILWRAP...Beauty Salons
 24602 UP IN SMOKE...Tobacco Stores
 24602 VORA, ASHA D DDS...Offices Of Dentists

88 total records. Part 1 of 2
 23505 MINATO SUSHI...FULL-SERVICE RESTA
 23507 OMARS EXOTIC BIRDS...PET & PET SU
 23512 BIG SHOTS BILLIARD BAR & GRILL...
 23522 AFFORDABLE CARE GIVERS...HOME HEA
 23522 EL TORO GOURMET MEATS SEAFOOD...M
 23522 ENJOY TRAVEL...TRAVEL AGENCIES
 23522 MOMMYWORKS INC...EMPLOYMENT PLACE
 23532 BEL AGE NAILS & SPA...BEAUTY SALO
 23532 BOBBY DS BAR & GRILL...DRINKING P
 23532 BRITTANY DURLACH HAIR STYLIST...B
 23532 CAFE MATINEE...FULL-SERVICE RESTA
 23532 EL TORO INKHOUSE...PRINTING INK M
 23532 HAIR BY JAMIE CANNON...BEAUTY SAL
 23532 HAIR BY TRINITY...BEAUTY SALONS
 23532 HAIR MECHANICS...STORE RETAILERS
 23532 JEFFREY MICHAELS BEAUTY SPLS...CL
 23532 JEFFREY MICHAELS SALON...BEAUTY S
 23532 LINDSEY AT JEFFREY MICHAELS...BEA
 23532 MALYS INC...COSMETIC & BEAUTY SUP
 23532 MELINDA RICCI HAIRSTYLING...BEAUT
 23532 MICHAEL MAX SALON...BEAUTY SALONS
 23532 NINAS INDIAN GROCERIES...SUPERMAR
 23532 ON-SITE SPECIALISTS...DRYCLEANING
 23532 ORANGE TREE CHRISTIAN...CHILD DAY
 23532 SPARKLEAN LAUNDRY...DRYCLEANING &
 23532 TEEN DRIVING ACADEMY...AUTOMOBILE
 23532 THAI, JEANETTE DDS...OFFICES OF D
 23552 ASIA BUFFET...FULL-SERVICE RESTAU
 23562 CITIBANK...COMMERCIAL BANKING
 23572 PANDA EXPRESS...FULL-SERVICE REST
 23591 ACM CORP...VOLUNTARY HEALTH ORGAN
 23591 APPLIED INTERVENTIONS...OFFICES O
 23591 BEACH CITIES COUNSELING...OTHER I
 23591 BRANSON, MARTHA L A CPA...OFFICES
 23591 BRIGHTSTAR HEALTHCARE...MISC AMBU
 23591 CAL USA DEVELOPMENTS INC...PREFAB
 23591 CARELINE HOME CARE SVC...HOME HEA
 23591 CENTER FOR CREATIVE TRANSITION...
 23591 CVC REAL ESTATE GROUP...OFFICES O
 23591 DALY-SWARTZ PUBLIC RELATIONS...PU
 23591 DEDICATED RETAIL SVC...ALL OTHER
 23591 DIMENSION PRINTER REPAIR...COMPUT
 23591 DOLPHIN BUSINESS CTR...OFFICES OF
 23591 DREXELIUS, RICHARD J MD...OFFICES
 23591 FARMERS INSURANCE GROUP...INSURAN
 23591 GALAXY CONTROL SYSTEMS...
 23591 GOLDENSTATE LENDING INC...REAL ES
 23591 HANNA, JAN...OTHER INDIVIDUAL & F
 23591 HEALING ODYSSEY...RESEARCH & DEVE
 23591 INTERACT BUSINESS GROUP...PROCESS
 23591 IQUBZ...
 23591 ISBS GROUP...OTHER HEAVY CONSTRUC
 23591 JOHNSON DIVERSEY INC...POLISH & O

Part 2 of 2
 23591 KMR PROPERTY MGMT...Offices Of Real Es
 23591 LEE DUBIN ART...Independent Artists, W
 23591 MARINA DENTAL...Offices Of Dentists
 23591 MT ZONE...Other Sound Recording Indust
 23591 NATIONAL DEFAULT SERVICING...<
 23591 NOBLES INSURANCE...Insurance Agencies
 23591 ORANGE COUNTY ARC...Offices Of Lawyers
 23591 PAKAGE MORTGAGE...Real Estate Credit
 23591 PALMER LANDSCAPE INSTALLATION...Landsc
 23591 PLEXUS FINANCIAL GROUP INC...Investmen
 23591 PREFERRED AIR SVC CO...Plumbing & Hvac
 23591 PRO SEARCH INTL...Employment Placement
 23591 R DE LA PENNA & ASSOC...Offices Of Lawy
 23591 SEA-SHELL MOBILE HOMES...Manufactured,
 23591 SHINE GROUP ENTERPRISES INC...Offices
 23591 SIMI REAL ESTATE...Offices Of Real Est
 23591 SIMPLY REALTY INC...Offices Of Real Es
 23591 SOLIMAN, AMANI DDS...Offices Of Dentis
 23591 SOLIMAN, ASHRAF DDS...Offices Of Denti
 23591 SOUTHERN CALIFORNIA ADVANCED...
 23591 SUN & MOON TUTORING...Exam Preparation
 23591 TECHNICAL CAREER INSTITUTE...Offices O
 23591 TOTH, CAROLYN...Misc Ambulatory Health
 23591 WELLS OPTOMETRY...Offices Of Optometri
 23600 CASUAL MALE XL...Men's Clothing Stores
 23600 EL TORO MAIL BOXES...All Other Persona
 23600 EXPERT COPY SVC...Office Equip Merchan
 23600 FINEST NAILS...Nail Salons
 23600 HAIR CUTTERS...Beauty Salons
 23600 JAY RODGERS MOBILE NOTARY...All Other
 23600 JJS TECHNOLOGIES...Commercial Machiner
 23600 LEE REAL ESTATE CO...Offices Of Real E
 23600 PEBBLE CREEK PONDS...Site Preparation
 23600 RADMAN THE HANDYMAN...Residential Remo
 23600 WESTERN UNION...Financial Transaction

24551 ADVANTAGE PHYSICAL THERAPY...Offices O
 24551 ALISO TAX...Tax Preparation Svcs
 24551 BUTLER COMMUNICATIONS...Electrical Con
 24551 CARE 4 LIFE COMPANION SVC...Home Health
 24551 CORE CHIROPRACTIC...Offices Of Chiropr
 24551 DOVE CEILINGS NORTH...Drywall & Insula
 24551 EXECU-PHONE INC...All Other Telecommun
 24551 EXECUTIVE ESCROW CO...Trust, Fiduciary
 24551 EXTEND A HAND INC...Other Individual &
 24551 FREE RANGE TECHNOLOGIES INC...Computer
 24551 GARDNER, AARON...Offices Of Real Estat
 24551 INSIGHT COUNSELING...Offices Of Mental
 24551 JOHNSON CHIROPRACTIC...Offices Of Chir
 24551 MAGENTA COMPUTER...Computer & Software
 24551 MITCHELL OWENS & ASSOC...Offices Of Re
 24551 OYZON INSURANCE...Insurance Agencies &
 24551 PENDUM INC...Investment Advice
 24551 PORTUGAL, GILBERT M DC...Offices Of Ch
 24551 R P MAGIC COURAGE...All Other Home Fur
 24551 SMITH, JASON A...Offices Of Lawyers
 24551 SOUTH COUNTY PSYCHO THERAPY...Offices
 24551 TAX SETTLEMENT CTR...Tax Preparation S
 24551 THOMSON-PROMETRIC...
 24551 WORLD EYE CAM...Offices Of Optometrist
 24551 Z ENGINEERING...Engineering Svcs
 24551 ZACHARIAH, SUSAN MD...Offices Of Phys
 24552 US POST OFFICE...Postal Svc
 24601 BELL TOWER FLORIST & GIFTS...Florists<
 24601 CASH MY CHECK...Financial Transaction
 24601 CHECK IN CASH OUT...Financial Transact
 24601 EFRENS BAKERY...Retail Bakeries
 24601 HAIR CLIPS...Beauty Salons
 24601 KRAGEN AUTO PARTS...Automotive Parts &
 24601 MANILA FOOD MART...Full-service Restau
 24601 MARKETA Y CARNICERIA LATINA...Meat Mar
 24601 OMALLEYS FLORIST...Florists
 24601 PALESS CARPET & FLOORING...Flooring Co
 24601 PAYLESS CARPET & FLOORS...Floor Coveri
 24601 TACOS ENSENADA...Full-service Restaura
 24601 TEXAS BARBEQUE & GRILL...Full-service
 24601 TIENDA LATINA...
 24602 CHILDS KINGDOM PRESCHOOL...Child Day C
 24602 CLEAR TECHNOLOGIES...
 24602 DE LA CUESTA, REG...Offices Of Real Es
 24602 DISTRIBUIDOR INDEPENDIENTE...Food, Hea
 24602 EL PROGRESO...All Other Home Furnishi
 24602 FIESTA AUTO INSURANCE CTR...Insurance
 24602 HIERRO MARKET...Supermarkets & Other G
 24602 JIMS SHOE REPAIR...Footwear & Leather
 24602 LATINOS BEAUTY SALON...Beauty Salons
 24602 MIRAGE DAY SPA...Other Personal Care S
 24602 NAILWRAP & HAIR...Beauty Salons
 24602 NUNO FIESTA GRILL...Full-service Resta
 24602 OCJC...
 24602 PALS VACUUM SEWING CTR...Household App
 24602 PRO CARE...Carpet & Upholstery Cleanin
 24602 REAL WIRELESS...Wireless Telecomm Carr
 24602 TOP NAILWRAP...Nail Salons
 24602 VORA, ASHA D DDS...Offices Of Dentists

23505 MINATO SUSHI...Steak And Barbecue Rest
 23507 MATTRESS GALLERY...
 23512 BIG SHOTS BILLIARD BAR & GRILL...Ridin
 23522 4 M JEWELER...Time Piece Repair Servic
 23522 AFFORDABLE CARE...
 23522 EL TORO GOURMET MEATS SEAFOOD...
 23522 VEHICLE REGISTRATION & TAX SVC...
 23532 BARBARA CHARETTE MANICURING...Beauty S
 23532 CAFE MATINEE...Steak And Barbecue Rest
 23532 CALIFORNIA HAIRWEST...
 23532 CHILD'S KINGDOM PRESCHOOL...
 23532 COAST FAMILY CHIROPRACTIC CTR...
 23532 D N TINKER JEWELERS...
 23532 DIGITOGRAPH STUDIO...
 23532 GLG FREIGHT...
 23532 GUY'S & GAL'S SUN TANNING...
 23532 HAIR MECHANICS...
 23532 HIMES ROBERT J DC...
 23532 JEFFREY MICHAEL SALON...
 23532 LA COCINA DE RICARDO...Steak And Barbe
 23532 NINA'S INDIAN GROCERIES...
 23532 PRIME TIME STEAK & SPORTS...Steak And
 23532 SHEETS TODD DC...
 23532 TEEN DRIVING ACADEMY...Educational Ser
 23532 VET CHARITIES OF ORANGE COUNTY...
 23532 WHALING THOMAS ATTY...
 23535 INK HOUSE...
 23542 NICKEL NICKEL FIVE CENT GAMES...
 23552 PUB...Bars And Lounges
 23582 PANDA PANDA...Steak And Barbecue Resta
 23582 QUIZNO'S CLASSIC SUBS...Steak And Barb
 23591 BASURTO & ASSOC...Business Services, N
 23591 BILLING MASTERS...
 23591 BRUGGEMAN MARY A PHD...
 23591 CALIFORNIA ENGLISH LANGUAGE...Colleges
 23591 CENTER FOR CREATIVE...Physical Therapi
 23591 DATA WORKS AGENCY...Computer Processin
 23591 DEDICATED RETAIL SVC...Business Servic
 23591 DOC 4 GOLF...
 23591 DOLPHIN BUSINESS CTR...Property Operat
 23591 DRACKETT PROFESSIONALS...Drycleaning P
 23591 FARMERS INSURANCE GROUP...
 23591 GARANDEL COMERCIAL MGMT INC...
 23591 MARINA DENTAL...Specialized Dental Pra
 23591 MONEYLINE LENDING...
 23591 ORICHALCUM...Computer Software Develop
 23591 PETRO BROTHERS CONSTRUCTION...
 23591 R J MAGUIRE & CO...
 23591 RADIANT HEALTH MASSAGE THERAPY...
 23591 SEA-SHELL MOBILE HOMES...
 23591 SHAH NAYANA MD...Internal Medicine Pra
 23591 SOLIMAN AMANI DDS...Specialized Dental
 23591 SOLIMAN ASHRAF DDS...Specialized Denta
 23591 THOMAS M BOROIAN INSURANCE...<
 23591 TOTAL SPORTS ART...
 23591 WINGS OF A DOVE HEALING CTR...

24551 BANTEK WEST INC...
 24551 COMPUTER EDUCATION INSTITUTE...
 24551 DOVE CEILINGS...*Acoustical And Insulat*
 24551 ELIVE INC...*Computer Software Develop<*
 24551 EXECUTIVE ESCROW CO...
 24551 GARDNER AARON...
 24551 IBC SPACE TRACK...*Computer Peripheral*
 24551 INTERNET COMMUNICATIONS TECH...
 24551 MITCHELL OWENS & ASSOC...
 24551 PHONE DIRECTORIES INC...*Periodicals, P*
 24551 PRIME YIELD...*Security Brokers And Dea*
 24551 RATE QUOTE...
 24551 SOUTH COUNTRY PSYCHOTHERAPY...
 24552 US POST OFFICE...
 24601 ABEL'S BAKERY...
 24601 AL MADANI MARKET...
 24601 BELL TOWER FLORIST...
 24601 HONEY BAKED HAM CO...*Pizza Restaurants*
 24601 KRAGEN AUTO PARTS...
 24601 MANILA FOOD MART...*Steak And Barbecue*
 24601 MC CULLOUGH MINISTRIES...
 24601 PAYLESS CARPET & FLOORS...
 24601 TACOS ENSENADA...*Steak And Barbecue Re*
 24602 ASHA D VORA DDS...*Specialized Dental P*
 24602 CIRCLE OF CHILDREN DEVELOPMENT...
 24602 CRUZ VIDEO...*Records, Audio Discs, And*
 24602 FINE JEWELRY...
 24602 HIERRO MARKET...
 24602 HIERRO'S TAQUERIA...*Steak And Barbecue*
 24602 IGLESIA NUEVA OBRA EN CRISTO...
 24602 JANN'S CARING HANDS...
 24602 JIM'S SHOE REPAIR...
 24602 MEDICINE SHOPPE PHARMACY...
 24602 NAILWRAP & HAIR...
 24602 PAL'S VACUUM SEWING CTR...*Miscellaneous*
 24602 PRO CARE...
 24602 PSYCHIC READINGS...
 24602 THAI CAFE...*Steak And Barbecue Restaur*
 24602 TIPS COMMUNITY DIRECTOR...
 24602 TOP NAILWRAP...*Beauty Schools<*
 24602 VORA ASHA DDS...*Specialized Dental Pra*

20562 XXXX 00
 22546 KWIKEY ' S LOCK & KEY 949 - 770 - 7456 9
 23532 TINKER ' S ON 949 - 462 - 3955 JEWELERS
 23532 TOBACCO BARN PPE 949 - 830 - 7110 SH
 23532 VIDEOTRON 949 - 458 - 3877 0
 23532 WHALING THOMAS M 949 - 472 - 1010 + 9 AT...
 23532 WORTH CORP 949 - 951 - 9564
 23542 NICKEL NICKEL FIVE 949 - 897 - 1020 + 9 CE...
 23552 DENNY ' S RESTAURANT 949 - 583 - 1484
 23552 PUB THE 949 - 206 - 0744 + 9
 23572 WENDYS 949 - 830 - 0205
 23580 XXXX
 23582 PANDA PANDA 949 - 588 - 3280 + 9
 23591 A STEP BEYOND 949 - 951 - 9230
 23591 AMER COAUTION FATHERS & CHILD 949 - 8...
 23591 ANGELO RETAIL MERCHANDISING CO 949 -...
 23591 ASSOCTO ELECTROLOGY 949 - 586 - 6181
 23591 BOROIAN THOMAS M INS AGENCY 949 - 859...
 23591 BUILDING
 23591 CALVARY COMMUNITY CHURCH 949 - 768 - ...
 23591 CORNELIUS R SCOTT ATTY AT LAW 949 - 38...
 23591 CORPORATE BENEFIT PLANNERS INC 949 - ...
 23591 CROCKER TIM HOME OFFICE 949 - 855 - 604...
 23591 DATACUBE IMAGING 949 - 855 - 6585 1
 23591 ENGEL MONICA RGSTRD ELCTRL GST 949 -...
 23591 EXCEL APPLIANCES 949 - 807 - 5410
 23591 FARMERS INS 949 - 855 - 05757
 23591 GALAXY CONTROL SYSTEMS 949 - 380 - 0858
 23591 GORDON MELODY MA CCH 949 - 770 - 2430 ...
 23591 GRUENBECK THOMAS ATTY 949 - 380 - 7101 +
 23591 JOHNSON JAMES D ATTY 949 - 380 - 7791
 23591 MAGUIRE R J & CO 949 - 768 - 3839
 23591 MAGUIRE ROBT JEA 949 - 768 - 3839
 23591 MARTIN PEGGY FLORES 949 - 586 - 6181
 23591 MERCHANT TODD ATTY AT LAW 949 - 380 - ...
 23591 MONEYLINE LENDING COMPANY INC 949 - 5...
 23591 NOBLES SHAWN N 949 - 959 - 99237
 23591 PETRO BROTHERS CONSTRUCTION 949 - 7...
 23591 RADIANT HEALTH MASSAGE THERAPY 949 ...
 23591 REYNOLDS DJANE 949 - 829 - 0359 + 9
 23591 SEA SHELL MOBILE HM 949 - 607 - 1212
 23591 SOUTHRN CA CREDITOR 949 - 455 - 1273
 23591 STAFFON G W DOS 949 - 770 - 5266
 23591 STEDMAN MEDICAL 949 - 897 - 9083 + 9
 23591 T & K DEVELOPMENT 949 - 45 - 12997
 23591 THE TAX COMPANY 949 - 206 - 1612 + 9
 23591 WESTVIEW VOCATIONAL SERVICES 949 - 9...
 23600 XXXX
 27601 EL POLLO LOCO 949 - 458 - 99996

24601 AMADAN MARET
 24601 BELL TOWER FLORSTOFTS
 24601 BUILDING
 24601 CAMERA CARE
 24601 CAMERA KARE
 24601 CHILDREN ' S SCHOOLHOUSE
 24601 CONSIGNMENT PLUS
 24601 CROWN ONE HOUR CLEANERS
 24601 HONEYBAKED HAM CO
 24601 KRAGEN AUTO PARTS
 24601 NEW IMAGE HAIR SALN
 24601 O'MALLEY'S FLORIST
 24601 SUPERCUTS
 24601 TACOS ENSENADA
 24602 ASHA VORA DOS
 24602 BUILDING M
 24602 CATHOLIC GIFT SHOP
 24602 CHILDREN'S DISCOVERY CENTER
 24602 DAVAL CONSULTANTS H9 - 454 - 1781 +
 24602 DISCOUNT SPOATS NUTRITION
 24602 FINE JEWELRY
 24602 FRAME N LENS EYEGLS
 24602 KATL MORTGAGE FUND
 24602 KILTER TERMITE CONTROL
 24602 LIJ FRANK C DDS
 24602 MEDICINE SHOPPE 049 - 630 - 8500
 24602 MINUTEMAN PRESS
 24602 NAJL WRAP & HAIR
 24602 NERRO MARKET
 24602 NODGEPOOGE BOOKS FOR CHILDREN
 24602 PAL'S
 24602 PROCARE
 24602 PSYCHIC READINGS
 24602 SION EXPRESSION
 24602 STERLING ESTATE SALES
 24602 STERLING STREET MALL
 24602 TMM PALACE CUISINE
 24602 TOP NAIL WRAP
 24602 UNIQUELY YOU
 24602 YORA ASHA DDS
 24672 ORG COLBRY BRANCH 949 - 855 - 8173
 24881 BUILDING
 24951 ADVANCED ATM
 24951 ANCHOR PUBLICATIONS NA
 24951 CAPITOL MODULAR INC
 24951 CARONEA MAON N
 24951 COMPUTER EDUCATION INSTITUTE
 24951 COMPUTER EDUCATION INSTITUTE -
 24951 EXECUTIVE ESCRON COMPANY
 24951 FIRST BENEFIT INSURANCE
 24951 MERITAGE CONSTRUCTION
 24951 NORTH AMERICAN FINANCIAL ADVSA 1
 24951 OWEN MITCHELL & ASSOC
 24951 PRIME VIELD
 24951 RATE QUOTE
 24951 URBANTECH CORPORATION
 24951 URBANTEON CORPORATON
 24972 ORG CO LBRY TOO 949 - 855 - 3729 +

88 total records. Part 1 of 2
 23501 SIZZLER RESTAURANTS 768 - 7340
 23505 BOOMIS TERIYAKI BWL 472 - 4547 + 4
 23507 SILK PLANTS WRHS 457 - 9060 2
 23512 BIG SHOTS BILLRD BR 830 - 2255 + 4
 23515 BAKERS SQUARE REST 770 - 8131 0
 23522 EL TORO MEATS FISH 855 - 0215 2
 23532 A A TOBACCO BARN 830 - 7110 + 4
 23532 ALGAE ALS AQUARIUM 458 - 9724 7
 23532 BECKER SURF & SPORT 458 - 5984 9
 23532 BUILDING
 23532 CA HAIRWEST 472 - 0168 + 4
 23532 CHARETTE BARBARA 768 - 06693
 23532 CHRISTIAN WONTESSRI 951 - 8837 - 4
 23532 COAST FMLY CHRPRCTC 380 - 7800 6
 23532 DIMITRIS RESTAURANT 768 - 2918 + 4
 23532 DOUMANI J BTY SALON 586 - 84507
 23532 DOUMANI WENS ORTRS 581 - 0790 0
 23532 EGGHEAD DISC SFTWRE 581 - 08629
 23532 ERICS FINE JEWELRY 770 - 2796
 23532 ESTRADA MIKE D 380 - 48852
 23532 EUROPEAN TAILORS 855 - 4215
 23532 GUYSA GALS TANNING 583 - 0373 8
 23532 HAIR DESIGN CAROL 830 - 79000
 23532 HAIR NETWORK ETC 380 - 8110 9
 23532 JACQUES DOUMANI BTY 586 - 84507
 23532 LAKEFOREST CUPTA CT 837 - 4284 + 4
 23532 LUTHRN THRIFT SHP 3 768 - 0405 51
 23532 MEL FOSTERS HAIR 581 - 0790 + 4
 23532 MENES GREEK FOOD 830 - 3228 61
 23532 MONTSSRI INNOVTN 951 - 8837 + 4
 23532 OAMI JAPANESE REST 770 - 6147
 23532 ORANGE TREE CLNRS 951 - 4900
 23532 ORANGETREE PLZ BRBR 770 - 2386
 23532 PROJECT FLASHLIGHT 588 - 7898 + 4 |
 23532 RAMOS A PRO ACNTNCY 837 - 8220
 23532 RAMOS GEORGE O 837 - 8220
 23532 REPUBLIC BOSNIA CTR 707 - 1115 + 4
 23532 SCHLINGMAN J W OC 380 - 78007
 23532 TOBACCO BARN PPE SH 8J0 - 7110 + 4
 23532 VIDEOTRON 458 - 3877 01
 23532 VT COMPUTER 472 - 5642 2
 23542 C & R CLOTHIERS 951 - 8333
 23546 COAST TO COAST LOCK 770 - 7456 + 4
 23552 DENNYS RESTAURANT 583 - 1464 9
 23562 CA FED BK 586 - 0900 + 4
 23572 WENDYS HAMBURGERS 830 - 02057
 23580 XXXX
 23582 XXXX
 23591 A A A CONTROLLA TAX 768 - 7397
 23591 A A SOOLBCK BKKPG 768 - 7397
 23591 A A TEEN DRYG ACOMY 768 - 6666 3
 23591 ACACIA TRAVEL 770 - 8628 2
 23591 ALEXIS CORP 587 - 0098 3

Part 2 of 2

23591 ASSOCTO ELECTROLOGY 586 - 6181
 23591 BEAUTIFUL PERSON 454 - 2856 3
 23591 BROWN NANCY R TAXES 768 - 2044 0
 23591 BUILDING
 23591 CONTROLLER TAX SERV 768 - 7397
 23591 CONVERSE COMMNCTNS 8J0 - 65723
 23591 ENGEL MONICA ELCTLG 586 - 6181 7
 23591 EXECUTIVE CELLULAR 830 - 6572 + 4
 23591 G T C 454 - 0233 3
 23591 GLASS DIVISON 380 - 1713 1
 23591 HYPNOTHERAPY CENTER 770 - 2430 2
 23591 KELLER PUBLISHING 855 - 0808 3
 23591 KIM RICHARD J POS 770 - 9955
 23591 KIM SOO BAIK DDS 770 - 1537
 23591 KIM SOO BAIK DDS 770 - 9355
 23591 KRISH CHARI EA 380 - 4328
 23591 MARTIN PEGGY FLORES 586 - 6181
 23591 MILTOPE CORP 859 - 9492
 23591 NU ATUM INC 859 - 0709
 23591 ORIENTAL MDCL CLNC837 - 9425
 23591 PARHAM STEVE DC 586 - 2138 3
 23591 PLAZA JARDIN SUITES 586 - 2400 5
 23591 PROFSNL ECONOMIC SV 768 - 73978
 23591 SADDLBCK VLY BKKPG 768 - 7397
 23591 SEA SHELL MOBILE HM 637 - 1212 3
 23591 SHAH NAYANA MD 583 - 0975 3
 23591 SOFT SENCE COMPUTNG 768 - 1113 0
 23591 SOUTHRN CA CREDITOR 455 - 1223 3
 23591 STAFFON G W ODS 770 - 5286
 23591 SUNDOWN PAINTING 458 - 6836 + 4
 23591 VORA SHOBHNA MD 583 - 0975 + 41
 23591 WE DELIVER 855 - 6004 + 413
 23591 WORCESTER CONTROLS 859 - 6960
 23600 XXXX
 23601 EL POLLO LOCO 459 - 37

24551 ADANS MRKTG ASC INC 581 - 0220 3
 24551 ALLIANCE WTRE AMERS 501 - 0317 3
 24551 AMER DATA RESOURCES 588 - 0314 3 |
 24551 ANGELO RETAL WOSE 768 - 6298 OL
 24551 ARMSTRONG INSURANCE 380 - 1333 0
 24551 BOROLAN TWINS AG 059 - 9958 0
 24551 BROWN BILL FRUR INS 951 - 0186 3
 24551 BUILDING UIU 707 - 324
 24551 CHAMPION CREDIT 454 - 07073
 24551 CORNELIUS RS ATTY 380 - 7791 3
 24551 EXECUTIVE ESCROW CO 586 - 5070
 24551 FARMERS INS 455 - 0575 0
 24551 GAHN HOLLY DR 859 - 96963
 24551 GAST RICHAROLASCT \$ 472 - 11309
 24551 JOHNSON JAMES ATTY 380 - 7791 3
 24551 L00 PAUL ASSOCIATES 380 - 3987 0
 24551 MAGUIRE ROBERT JEA 788 - 309
 24551 MAGURER JACO 764 - 3039
 24551 MISKE I FARVENS INS 454 - 0044 3
 24551 NOBLES SHAWN N
 24551 NORTH ANER SOFTWARE 457 - 99374 0
 24551 SIL VERBERG M EA CF 456 - 00554
 24551 WORNING STAR CHRSTN 70 - 41093
 24552 US POSTAL SERVICE 27 - 1220
 24601 AL MADAN VARKET 107 - 5403 + 4
 24601 BEL TOWER FLORIST 768 - 6789
 24601 BUILDING
 24601 CAMERA CARE \$ \$ 1 - 1100
 24601 CAMERA CARE 951 - 4100
 24601 CIDS KINGDON PRESC 380 - 02527
 24601 CONSIGNMENT PLUS \$ 81 - 3183
 24601 CROWN ONE HR CLNAS 355 - 3148
 24601 EL TORO TAILOR NC 951 - 0919
 24601 HONEY BAKED HAN CO 07 - 1622
 24601 NEW MAGE HAIR SALN 859 - 7580
 24601 OS VANS SPRTING GOOD 770 - 2759
 24601 SUPERCUTS 586 - 5110
 24601 TACOS SAN MARCOS 183 - 0028 3
 24602 BELL TOWER BROA SHP 899 - 46802
 24602 BUILDING
 24602 CATHOUC GET SHOP 770 - 9825
 24602 ENTENMANN'S BAKERY 170 - 2004
 24602 FALES STEVEN 150 - 403 - 4
 24602 FRANE N LENS FYTAS 1
 24602 FRANK C DOS 770 - 0966
 24602 KUSH FOOO1GFTS 454 - 3955 7
 24602 MEDICINE SHOPPE 30 - 45008
 24602 MINUTEVAN PRESS 786 - OS
 24602 PSYQUC READINGS 472 - 08089
 24602 QILDROXS OSCVRY CT 380 - 7110 9
 24602 ROUND TABLE PZZA 380 - 37626
 24602 THAI PALACE CUISINE 899 - 98891
 24602 TOP NAILS 991 - 10140
 24602 UNOVE Y YOU 854 - 1733 8
 24602 UNQUE HAIRUNALS 472 - 00 - 4
 24602 VOOR WAR DOS 770 - 20994

98 total records. Part 1 of 2
 23501 BAKERS SQUARE 770 - 3131 1
 23501 SZER RESTAURANTS 7 7340
 23505 XXXX
 23507 ADLER SHOES
 23512 CA YOUTH SHOWS
 23512 EL TORO MEATS
 23512 EL TORO MEATS
 23512 RODS FLOWER HOUSE
 23515 XXXX
 23522 PROOFSNL RESUME & WRTG
 23522 TIPS TO TRAVEL
 23532 ALGAE ALS AQUARIUN
 23532 BECKER SURF & SPORT
 23532 BUILDING
 23532 C A HAIRWEST
 23532 COAST FMLY CJRPRCTC
 23532 CONCA DORO
 23532 DOUMANI J BTY SALON
 23532 EGGNEAD DISC SFTWRE
 23532 ERICS FINE JEWELRY
 23532 EUROPEAN TAILONS
 23532 GUYS&GRLS TANNING
 23532 HAIR NETWORK ETC
 23532 INNOVATION MNTSSRI
 23532 JACOUSES DOUMANI BTY
 23532 LUTHRN SOCIAL SERV
 23532 LUTHRN THRIFT SH
 23532 MEAGANS TICKETS
 23532 MENES GREEK FOOD
 23532 MONTESSRI INNOVATN
 23532 NAVY RECRUITING STA
 23532 OAIN JAPANESE REST
 23532 ORANGE THREE CLEANRS
 23532 ORANGE TREE PLZ BRBR
 23532 PREFERRED TICKETS
 23532 RAMOS A PRO ACNTNCY
 23532 RAMOS GEORGE O
 23532 REEL VIDEO
 23532 SCHLNGMAN J W DC
 23532 TICKETS PREFFERED
 23532 US AF RECRTNG CNDR
 23532 US ARMY RERTNG OFC
 23532 US NAVY MRN RCRTNG
 23532 US NAVY RCRTNG STA
 23532 VANBUSKIRK SHIRLEY
 23542 BONDED ALARM CO
 23542 C & R CLOTHERS
 23546 XXXX
 23552 DENNY'S RESTAURANT
 23562 COAST SVFS &LDAN ASN
 23572 WENDY'S HAMBURGERS
 23580 XXXX
 23582 TWO WML TRUST AUTH

Part 2 of 2
 23591 ACACIA CT CHRPRCTC
 23591 AGLE LARRY CPA
 23591 ASSOCTD ELECTROLOGY
 23591 BENEFIELD ELANE
 23591 BOND REALTY
 23591 BRISENO LANDSCAPE
 23591 BROWN NANCY R TAXES
 23591 BUILDING
 23591 C W S WFO SERVICES
 23591 CONTROLLER FWCL SVS
 23591 CRITIKON
 23591 CRITIKON LA
 23591 DEKARVER & AGLE CPAS
 23591 DEKARVER MARTIN CPA
 23591 ENGEL MONICA ELCTLG 586 - 6181 1
 23591 EXTEL CORPORATION 855 - 0230 + 9
 23591 FAMILY DENTAL CARE 770 - 5266 6
 23591 FENTON FRED C 837 - 7750 8
 23591 FORD MARKETING CORP 770 - 2165 3
 23591 GYORKOS BKKPNG & TAX 637 - 7750
 23591 GYORKOS JOHN W 807 - 7750
 23591 GYORKOSEFENTON LAW 837 - 7750
 23591 INTERACTIVE CUPTR 770 - 53324
 23591 JAMIS ON PBLC ACCTNG 768 - 7397 + 9
 23591 KAREN K SAL CIDO 768 - 9283 6
 23591 KIM RICHARD J DDS 770 - 9355
 23591 KIM SOO BAIK DDS 770 - 9355
 23591 KOLSON INVESTMENT 837 - 0443 8
 23591 LINK TEL CONUNCTNS 931 - 60627
 23591 NELES INC 859 - 2046 + 9
 23591 OH DR GREGORY 855 - 8000 7
 23591 PAC CST TRUST DEEDS 768 - 1460
 23591 PAC SCNTFC CO MOTOR 859 - 45258
 23591 PERSONAL CARE HLTH 859 - 5881 6
 23591 PLAZA JARDIN SUITES 586 - 2400 5
 23591 PROFSNL ECONOMIC SY 768 - 7397 8
 23591 SADDLBCX VLY BKKPG 768 - 7397
 23591 SOFT CUPTR CONSLTNG 768 - 7397
 23591 SOFT SENSE COMPUTNG 855 - 9475 + 9
 23591 TREIBER H KEITH DOS770 - 5266 3
 23591 VARTIN P ELCTRL GST 586 - 6181 4
 23591 VISTA FINANCIAL GRP 380 - 9839 + 9
 23591 WORCESTER CONTROLS 859 - 69694
 23600 XXXX
 23601 EL POLLO LOCO

75 total records. Part 1 of 2

24062 BUILDINGS
 24551 ANKER PAC RL EST 770 - 40708
 24551 ANKER PAC RL EST 770 - 8073
 24551 BACK PAIN CNTR THE 581 - 77117
 24551 BOLER THOMAS M 586 61 7
 24551 BUILDING UCUN 583 - 7380 + 9
 24551 CA AUCTION SERVICES 355 - 43409
 24551 CITGO PETROLEUN 31 - 4044 6
 24551 COMMAND SECURITY CO 81 - 9444
 24551 ELECTRONC MONITORING 380 - 4115
 24551 EXECUTIVE ESCROW CO \$ 06 - 5070
 24551 FARBEST CORP ISS - 3381 6
 24551 FORD EQUIPMENT LSNG 456 - 10017
 24551 FORD WOTOR GLSS D 180 - 1713 -
 24551 GAST RICHAROLASCTS 412 - 11309
 24551 GENL NUTRITION OXTA 450 - 27008
 24551 LANNON DENNIS E OC S91 - 7711 8
 24551 MISSION WORTGAGE 031 - 15059
 24551 MONSANTO AGA PROO 770 - 2544 5
 24551 OH NATL LIFE INS 855 - 9021
 24551 PARKER HANK E DC
 24551 PROGASY MOSNG
 24551 SOUTHPOINTR FNCL SV
 24551 SYLVAN LEARNING CTR
 24551 UNIVRSL MORTGAGE
 24552 US POSTAL SERVICE 7 - 12201
 24601 BELL TOWER RORIST 780 - 5783
 24601 BULDING
 24601 CAMERA CARE
 24601 CAMERA CARE
 24601 CASTAWAY CONSIGNMENT 051 31 -- 3486 3100
 24601 CORSIDENT PLUS 91 - 3488
 24601 CROM ONE HOURS 8553144
 24601 DONNA
 24601 EL TORO TALOR INC 951 770 -- 0019 5215 0 4
 24601 HONEYBAKED HAM CO
 24601 KIDS KINGDON INC
 24601 NEW IMAGE HAIR SALN
 24601 OSHMANS SPRTNG GOOD
 24601 SPECTRUM BUSNS CTRS
 24601 SUPERCUTS
 24601 TAMS STATIONERS 10 505110 - 0062
 24601 VINTAGE THRIFT SHOP
 24601 WALLPAPER WORLD
 24602 A A TOBACCO BARN
 24602 ACACIA TRAVEL
 24602 ADVENTURES IN VIDEO
 24602 APPLIED DATAMETRICS
 24602 BELLSONICS INC
 24602 CATHOLIC GIFT SHOP
 24602 CHILDRENS DSCVRY CT
 24602 COMPUNET BUSNS CNTR
 24602 FRAME N LENS EYEGLS

Part 2 of 2

24602 FRAME N LENS OPTCL
 24602 GOLDEN LION
 24602 HELP U SELL MISSION
 24602 IVANOVICS E M DOS
 24602 KASH FOOD & GIFTS
 24602 KENS WIDE SHOES
 24602 LIU FRANK C DOS
 24602 MAGUIRE R JACO
 24602 MEDICINE SHOPPE
 24602 MINUTEMAN PRESS
 24602 MUTUAL LENDING SERV
 24602 PETERSON SHERWOOD
 24602 PYSCNIC READINGS
 24602 ROUND TABLE PIZZA
 24602 SADOLACK CHILDRENS CT
 24602 STANDRD COMPUTER
 24602 STARDUST MOTORS
 24602 STEWART CL VDE &ASCTS
 24602 TOBACCO BARN PPE SM
 24602 TOKTO MASSAGE
 24602 TOP NAILS
 24602 WALRATH S M CPA

75 total records. Part 1 of 2

23501 SAMBOS
 23501 SIZZLER FAMILY STEAK
 23505 TANGULTRU ELT 000 - 00000
 23507 VERAL SAVINGSIU 170 - 20
 23512 TORO FIS MCT 155 - 0215 + 1
 23515 XXXX
 23532 BONTESSORNOVT 051 - 2007 11
 23532 BUILDING
 23532 CCC
 23532 CONCA DORO
 23532 DO NJEVCUT 70 - 71 . 1
 23532 INNOVATION WONT 051 - 1971
 23532 ITS AS W OO 7 - 4801 0
 23532 MSC NOFU CO 770 - 41011
 23532 NATURAL MEASURES T10 - 12 - 11
 23532 ORANGETOP 770 - 2005 + 1
 23532 PARC MOL SER 051 - 8771 0
 23532 QEDRO DEPOT 081 - 24 0
 23532 QILDRENS MATTUNG 70 - 4801 0
 23532 SMALL WORLD HAIR 768 - 8901 0
 23532 SWEET KIDS 863 - 1180 + 1
 23532 TACKLE SHOP THE 951 - 8674 + 1
 23532 THE TACKLE SHOP 051 - 3874 + 1
 23532 TOUCH OF EUROPE INC 051 - 5864 + 1
 23532 TSUKASA RESTAURANT 051 - 9830 + 1
 23532 TSUKASA RESTAURANT 170 - 8147 + 1
 23532 UTTY LOVELY GIFTS A55 - 0156 1
 23532 WAZEE WATAT DACN 01 - 0300 + 1
 23532 WOWA NC 155 - 013 1
 23532 ZUYERS GUY ELT 951 - 2801 + 11
 23542 C & R CLOTHIERS ELT 031 - 8333 0
 23552 ELMERS RESTAURANT 951 - 5744 + 1
 23562 COAST FOR SVASELN 770 - 8006 0
 23572 GOLDEN BUN THE 800 - 9111 0
 23572 JOI AXE
 23580 XXXX
 23582 XXXX
 23591 ALL MORTGAGE SERV 586 - 6111 0
 23591 BLUE CARPET MBL MMS 170 - 4300
 23591 BRANSON ESCHOW CO 191 - 8100 9 |
 23591 BUILDING
 23591 CITICORP SERVICES 789 - 5153 + 1
 23591 DENNG KARTIN 951 - 8213 01
 23591 DEXUARVER MARTIN L 951 - 8082 + 1
 23591 DON ROBERTO 596 - 92000
 23591 DORNEY GENE E 051 - 799 0 1
 23591 ENCORE PERSONNEL 770 - 5321 + 11
 23591 EQUITABLE UFE AGCY 770 - 8211 9
 23591 FLORES PEGGY REGTR 586 - 8181 + 1
 23591 FOREWOST MCKESSON 030 - 6750 0
 23591 HABIB ALIASSOCIATES 855 - 1233 + 1
 23591 HABIB ALLASSOCIATES 8 . 55 - 1063 + 1 |
 23591 INSTITUTE CRV GRWTH855 - 4332 + 1

Part 2 of 2

23591 IRVINE VIEJO INS 7 70 - 4438 0
 23591 KIM SOO BAIK DOS 770 - 8055 9
 23591 KRATER GERALD M DOS 770 - 5266 0
 23591 M D ENTERPRISES 951 - 6213 0
 23591 MIEWALD ROSE REOST 586 - 6181 + 1
 23591 MILLER W M ASSOC 770 - 1140 + 1
 23591 MORGAN FNCLINS SV 770 - 6581 0
 23591 MUCKS LANDING INC 051 - 8820 + 1 |
 23591 NORTON CO PLSTC SYN 788 - 0073 + 1
 23591 ORANGE DEVELOPMENT 581 - 88900
 23591 REAL ESTATE SRVC 855 - 0365 + 1
 23591 RECREATIONL CNCPTS 855 - 0063 + 1
 23591 RECREATIONL FUNDNG 951 - 8831 + 1 |
 23591 RONDOU & ASSOCIATES 770 ¿ 7164 0
 23591 SADDLEBACK SEC SERY 770 - 1091 - 1
 23591 SALES BUILDERS 788 - 8042 + 1
 23591 SEARCH GROUP THE 951 - 0111 + 1
 23591 SHEAR LAWRENCE W MD 951 - 7637 01
 23591 WESTERN CMMRCL CNTR 768 - 1148 0 |
 23591 YOAK PLUMBING 588 - 8213 + 11
 23600 ALPHYS RSTRNTS ELT 768 - 9758 7
 23601 TOM SAWYERS CHICKEN 951 - 6816 + 1

24551 ARCHITECTURAL CONCR 837 - 3634 9
 24551 ASHWORTH MARK S 770 - 7012 + 1
 24551 BROWN LEE 770 - 7012 + 1
 24551 BUILDING
 24551 CARRIAGE COMPANY 770 - 8787 + 1
 24551 CERTIFIED LEASING 770 - 8787 + 1
 24551 CONTEMPO PERSNNL SV 770 - 2732 0
 24551 EXEC TV ESCROW CO 586 - 5070 9
 24551 EXECU CORP 586 - 5071 + 1
 24551 FINANCIAL ADVISORY 051 - 1426 0
 24551 G E C CFNCL SERV 581 - 69009
 24551 GOLD COAST LEASING 770 - 8787 9
 24551 HOMEMAKERS FINCE SY 591 - 6900 9
 24551 IMPACT FINANCIAL 586 - 2090 + 1
 24551 KING TONY T MD 770 - 8468 9
 24551 LEGAL EXECUTIVE SV 586 - 88300
 24551 LEWIS JAMES P 951 - 1426 0
 24551 MARSHALL & YEASTING 951 - 5752 + 1
 24551 PAM INC 951 - 5751 + 1
 24551 PATENT ANNUITY MNGM 951 - 5751 + 1
 24551 SMITH MARK ALAW 770 - 7012 + 1
 24551 WESTERN APPRAISERS 581 - 69909
 24551 YEAGER JAMES J 837 - 36340
 24552 US POSTAL SERVICE 837 - 1220 + 1
 24601 BELL TOWER FLORIST 768 - 6788 9
 24601 BUILDING
 24601 CINMAR CORP 770 - 3174 + 1
 24601 CLOTHES TIME 768 - 77759
 24601 COMPUTERLAND 770 - 0131 + 1
 24601 EL TORO TAILOR SHOP 951 - 0919 0
 24601 GOLDENWEST RL TSA ASC 770 - 2778 + 1
 24601 HONEY BAKED HAM INC 837 - 3822 8
 24601 HUGHES WALLPPR WRLD 768 - 5344 0
 24601 L & G SPORTING GOODS 770 - 27590
 24601 SUPERCUTS 586 - 5110 + 1
 24601 TYPEWRITER CITY 770 - 5528 9
 24601 VITAMIN VILLAGE 581 - 5051 0
 24601 WOODCELLAR THE 770 - 4444 9
 24602 A & A TOBACCO BARN 830 - 7110 + 1
 24602 AETNA FINANCE CO 770 - 0933 8
 24602 ANAHEIM SAVINGSELN 951 - 0181 0
 24602 AUNT HAZELS NTRL FD 581 - 5051 0
 24602 AVCO FINCL SERVICES 770 - 2544 9
 24602 BELL TWR TRVL 770 - 8628 9
 24602 BELVAS 951 - 1166 0
 24602 BONDS MICROWAVE CTR 830 - 8030 0
 24602 BUILDING
 24602 CALIF HOME SELLERS 770 - 9700 0
 24602 GOLDEN LION 770 - 2626 + 1
 24602 LIU FRANK CODS 770 - 0966 8
 24602 MARC & CO 830 - 4247 9
 24602 MINUTE MAN PRESS 768 - 6305
 24602 PANJOS PIZZA 770 - 52139
 24602 SHIRT CANNERY 768 - 41029
 24602 SMITH SMITH KEN 770 - 7131 0
 24602 SOFA BED STORE 051 - 5505 + 1
 24602 STATE FRM INS ELT 770 - 7131 0
 24602 TOBACCO BARN PIPE 830 - 7110 - 1
 24602 TRANSAMERICA FINNCL 581 - 2700 + 1
 24602 TRAVEL NETWORKS OFC 770 - 8628 0
 24602 VENUS DE MILO LADIE 768 - 4675 9
 24602 WEIGHT REDUCTN CLNC 051 - 83450

23461 XXXX
 23571 G & S TRANSMISSN CNTR830 - 1806 2
 23580 XXXX
 23582 US POSTAL SERVICE 837 - 1220 2
 23602 EL TORO CAR WASH 837 - 0600 3

STREET NOT LISTED

NO LISTINGS IN RANGE

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

STREET NOT LISTED

Appendix E - Regulatory Database Report

Appendix E





DATABASE REPORT

Project Property: *National CORE/El Toro Road
23591 El Toro Road
Lake Forest CA 92630*

Project No: *19-42-162-01*

Report Type: *Database Report*

Order No: *20190618288*

Requested by: *Converse Consultants*

Date Completed: *June 20, 2019*

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Executive Summary

Property Information:

Project Property: *National CORE/El Toro Road
23591 El Toro Road Lake Forest CA 92630*

Project No: *19-42-162-01*

Coordinates:

Latitude:	<i>33.622264</i>
Longitude:	<i>-117.701205</i>
UTM Northing:	<i>3,720,494.99</i>
UTM Easting:	<i>434,959.42</i>
UTM Zone:	<i>UTM Zone 11S</i>

Elevation: *400 FT*

Order Information:

Order No: *20190618288*

Date Requested: *June 18, 2019*

Requested by: *Converse Consultants*

Report Type: *Database Report*

Historicals/Products:

Aerial Photographs	<i>Historical Aerials (Boundaries)</i>
City Directory Search	<i>CD - 2 Street Search</i>
ERIS Xplorer	<u>ERIS Xplorer</u>
Excel Add-On	<i>Excel Add-On</i>
Fire Insurance Maps	<i>US Fire Insurance Maps</i>
Physical Setting Report (PSR)	<i>PSR</i>
Topographic Map	<i>Topographic Maps</i>

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	1	-	-	1
RCRA SQG	Y	.25	0	1	3	-	-	4
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	7	7	-	-	14
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	0	-	0
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	1	0	0	2	3
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
LDS	Y	.5	0	0	0	0	-	0
SWAT	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	1	12	-	13
DELISTED LST	Y	.5	0	0	0	0	-	0
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	0	-	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	1	-	-	1
AST	Y	.25	0	0	0	-	-	0
DELISTED TNK	Y	.25	0	0	1	-	-	1
CERS TANK	Y	.25	0	0	0	-	-	0
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	1	-	1
VCP	Y	.5	0	1	0	0	-	1
CLEANUP SITES	Y	.5	0	2	0	2	-	4
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	0	1	-	-	1
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
UST CLEANUP	Y	.5	0	0	0	0	-	0
ANAHEIM AST	Y	.25	0	0	0	-	-	0
ANAHEIM UST	Y	.25	0	0	0	-	-	0
ORANGE AST	Y	.25	0	0	0	-	-	0
ORANGE LOP	Y	.5	0	0	1	11	-	12
UST ORANGE CNTY	Y	.25	0	0	0	-	-	0

Additional Environmental Records

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Federal								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	1	-	-	1
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	7	6	-	-	13
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	1	1
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	5	3	-	-	-	8
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	5	-	-	-	5
DELISTED HAZ	Y	.5	0	0	0	1	-	1
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	5	1	-	-	6

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
CDL	Y	.125	0	1	-	-	-	1
Tribal <i>No Tribal additional environmental record sources available for this State.</i>								
County								
ORANGE ICP	Y	.25	0	2	1	-	-	3
ORANGE HW	Y	.125	0	1	-	-	-	1
Total:			5	36	25	27	3	96

* PO – Property Only

* 'Property and adjoining properties' database search radii are set at 0.25 miles.

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev Diff (ft)</i>	<i>Page Number</i>
1	HAZNET	DR STEVE PARHAM	23591 EL TORO SUITE 110 LAKE FOREST CA 926300000	-	0.00 / 0.00	5	33
1	HAZNET	TEKRANGE	23591 EL TORO RD STE 178 LAKE FOREST CA 92630	-	0.00 / 0.00	5	33
1	HAZNET	LAKE FOREST DENTAL GROUP	23591 EL TORO SUITE 120 LAKE FOREST CA 926300000	-	0.00 / 0.00	5	33
1	HAZNET	AMANI SOLIMAN DDS INC	23591 EL TORO RD STE 130 LAKE FOREST CA 92630	-	0.00 / 0.00	5	34
1	HAZNET	ASHRAF SOLIMAN DDS	23591 EL TORO RD STE 130 LAKE FOREST CA 926304704	-	0.00 / 0.00	5	34

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
2	HAZNET	CHOICE HEALTH CENTERS	24551 Raymond Way Lake Forest CA 926304400	SW	0.00 / 16.67	-4	35
2	HAZNET	CHOICE HEALTH CENTER	24551 RAYMOND WAY LAKE FOREST CA 926300000	SW	0.00 / 16.67	-4	35
3	HAZNET	UNITED STATES POSTAL SERVICE	24552 RAYMOND WAY LAKE FOREST CA 926309978	SSW	0.01 / 38.06	-2	36
4	DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD LAKE FOREST CA 926300000	ESE	0.02 / 105.65	5	36
4	DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO BLVD EL TORO CA 926300000	ESE	0.02 / 105.65	5	36
4	DRYCLEANERS	ORANGE TREE CLEANERS	23532 EL TORO RD #3 EL TORO CA 926300000	ESE	0.02 / 105.65	5	37
4	EMISSIONS	ORANGE TREE CLEANERS	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	5	37
4	EMISSIONS	ORANGE TREE CLEANERS, MICHAEL	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	5	37
4	ORANGE ICP	ORANGE TREE PLAZA CLEANERS	23532 EL TORO RD LAKE FOREST CA 92630-	ESE	0.02 / 105.65	5	38
4	RCRA NON GEN	SALONCENTRIC INC 6034	23532 EL TORO RD STE 6 LAKE FOREST CA 92630 <i>EPA Handler ID: CAL000394401</i>	ESE	0.02 / 105.65	5	38
4	RCRA SQG	ORANGE TREE PLAZA	23532 EL TORO ROAD UNIT #3 LAKE FOREST CA 92630 <i>EPA Handler ID: CAP000272310</i>	ESE	0.02 / 105.65	5	39
5	CERS HAZ	BIGSHOTS BILLIARDS BAR & GRILL	23512 EL TORO RD LAKE FOREST CA 92630	ESE	0.02 / 115.99	6	40

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
6	CERS HAZ	O'Reilly Auto Parts #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	2	43
6	DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY UNIT 15 EL TORO CA 926300000	S	0.03 / 161.26	2	46
6	DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	S	0.03 / 161.26	2	46
6	DRYCLEANERS	MOHAMMAD BANASHFAT DBA CROWN CLEANERS	24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	S	0.03 / 161.26	2	46
6	DRYCLEANERS	CROWN CLEANERS	24601 RAYMOND WAY EL TORO CA 926300000	S	0.03 / 161.26	2	47
6	EMISSIONS	CROWN 1 HOUR CLEANERS, A. TAHB	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	2	47
6	EMISSIONS	CROWN 1 HOUR CLEANERS	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	2	48
6	CLEANUP SITES	FORMER CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92603	S	0.03 / 161.26	2	48
Site Facility Type Status: CLEANUP PROGRAM SITE OPEN - ACTIVE							
6	ORANGE HW	OREILLY AUTO PARTS #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	2	58
6	ORANGE ICP	CARLEN PLAZA - CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92630-	S	0.03 / 161.26	2	58
6	RCRA NON GEN	O'REILLY AUTO PARTS STORE 2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	2	58
EPA Handler ID: CAL000392709							
7	CERS HAZ	Sizzler Restaurant #409	23501 EL TORO RD LAKE FOREST CA 92630	SE	0.03 / 169.40	0	59

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
7	EMISSIONS	SIZZLER-MORGAN MANAGEMENT	23501 EL TORO RD EL TORO CA 92630	SE	0.03 / 169.40	0	62
8	ENVIROSTOR	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	0	63
<i>Estor/EPA ID Cleanup Status: 60001482 REFER: LOCAL AGENCY AS OF 2/27/2013</i>							
8	VCP	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	0	64
<i>Estor/EPA ID Cleanup Status: 60001482 REFER: LOCAL AGENCY AS OF 2/27/2013</i>							
9	CLEANUP SITES	THE FORMER ORANGE TREE PLAZA DRY CLEANERS	23532 EL TORO ROAD LAKE FOREST CA	ESE	0.09 / 453.98	0	65
<i>Site Facility Type Status: CLEANUP PROGRAM SITE OPEN - ACTIVE</i>							
10	CERS HAZ	Panda Express #1586	23572 EL TORO RD STE A LAKE FOREST CA 92630	S	0.09 / 480.73	-5	83
11	RCRA NON GEN	JACQUELINE HUTCHINGS	23292 CAVANAUGH RD LAKE FOREST CA 92630-4405 <i>EPA Handler ID: CAC002990349</i>	NNW	0.10 / 535.58	-11	86
11	RCRA NON GEN	JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630 <i>EPA Handler ID: CAC002992197</i>	NNW	0.10 / 535.58	-11	87
11	RCRA NON GEN	JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630-4405 <i>EPA Handler ID: CAC003000143</i>	NNW	0.10 / 535.58	-11	88
12	RCRA NON GEN	LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630 <i>EPA Handler ID: CAC002979427</i>	NW	0.10 / 536.04	-13	89
12	RCRA NON GEN	LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630 <i>EPA Handler ID: CAC003000310</i>	NW	0.10 / 536.04	-13	90
13	CERS HAZ	FREEDOM VILLAGE HEALTH CARE CENTER	23442 EL TORO RD LAKE FOREST CA 92630	E	0.10 / 539.52	7	91
14	CDL		23242 CAVANAUGH STREET LAKE FOREST CA 92630	N	0.12 / 659.72	-9	95

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
15	RCRA NON GEN	STEVE DALAT	23236 CAVANAUGH RD LAKE FOREST CA 92630-4405 <i>EPA Handler ID:</i> CAC002968612	N	0.13 / 700.95	-9	95
16	DELISTED TNK	BEACON BAY AUTO WASH	23602 EL TORO RD LAKE FOREST CA 92630	S	0.15 / 811.69	-7	96
16	HHSS	EL TORO AUTO WASH	23602 EL TORD ROAD ROCKFIELD EL TORO CA 92630	S	0.15 / 811.69	-7	96
16	HIST TANK	EL TORO AUTO WASH	23602 EL TORO ROAD EL TORO CA	S	0.15 / 811.69	-7	96
16	ORANGE LOP	BEACON BAY AUTO WASH #06	23602 EL TORO RD LAKE FOREST CA 92630 <i>Record ID Case Closed Date Type of Closure:</i> RO0001881	S	0.15 / 811.69	-7	97
16	LUST	BEACON BAY AUTO WASH #06	23602 EL TORO LAKE FOREST CA 92630 <i>Global ID Status Status Date:</i> T0605902112 OPEN - REMEDIATION 2003-12-18 00:00:00	S	0.15 / 811.69	-7	97
16	RCRA NON GEN	MEDICAL MANAGEMENT INTERNATIONAL INC DBA BANFIELD PET HOSPITAL #1291	23602 EL TORO RD LAKE FOREST CA 92630-4786 <i>EPA Handler ID:</i> CAL000313984	S	0.15 / 811.69	-7	110
16	RCRA NON GEN	PETSMART #1291	23602 EL TORO RD LAKE FOREST CA 92630 <i>EPA Handler ID:</i> CAL000400880	S	0.15 / 811.69	-7	111
17	RCRA NON GEN	ULTA BEAUTY 467	23608 EL TORO RD LAKE FOREST CA 92630-4786 <i>EPA Handler ID:</i> CAL000388889	S	0.17 / 895.66	-7	112
18	RCRA NON GEN	GARY & SHELLIE SHAUL	24471 REDLEN ST LAKE FOREST CA 92630 <i>EPA Handler ID:</i> CAC002977553	NW	0.18 / 941.60	-20	113
19	RCRA NON GEN	HOMEGOODS 0366	23614 EL TORO RD LAKE FOREST CA 92630-4786 <i>EPA Handler ID:</i> CAL000401807	S	0.19 / 986.85	-9	115
20	DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	7	116
20	DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	7	116

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
20	DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 926300000	ENE	0.19 / 999.86	7	116
20	EMISSIONS	SPIC 'N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	7	116
20	FED DRYCLEANERS	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 92630	ENE	0.19 / 999.86	7	117
20	ORANGE ICP	SPIC N SPAN CLEANERS & LAUNDRY	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	7	117
20	RCRA SQG	SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 92630 <i>EPA Handler ID: CAD983588708</i>	ENE	0.19 / 999.86	7	117
21	RCRA NON GEN	AARON BROTHERS #0308	23622 EL TORO RD STE A LAKE FOREST CA 92630- 4786 <i>EPA Handler ID: CAL000407538</i>	SSW	0.20 / 1,037.65	-10	118
22	RCRA LQG	CVS PHARMACY # 9541	23330 EL TORO ROAD LAKE FOREST CA 92630 <i>EPA Handler ID: CAR000236927</i>	ENE	0.21 / 1,133.85	8	119
23	DRYCLEANERS	XPRESS CLEANERS	23635 EL TORO RD STE H1 LAGUNA HILLS CA 92630	SSW	0.24 / 1,276.42	-12	123
23	DRYCLEANERS	XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 926300000	SSW	0.24 / 1,276.42	-12	124
23	DRYCLEANERS	XPRESS CLEANERS	23635 EL TORO RD STE H1 EL TORO CA 926304748	SSW	0.24 / 1,276.42	-12	124
23	RCRA SQG	XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 92630 <i>EPA Handler ID: CAD983581729</i>	SSW	0.24 / 1,276.42	-12	124
24	RCRA SQG	ACC BEST 1 HOUR PHOTO	23615 EL TORO RD #S EL TORO CA 92630 <i>EPA Handler ID: CAD982503849</i>	SSW	0.25 / 1,298.98	-12	125
25	LUST	UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	N	0.28 / 1,453.33	-17	126

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
							129
26	CLEANUP SITES	THE ORCHARD SHOPPING CENTER, FORMER SILVER CLEANERS	23684 EL TORO ROAD LAKE FOREST CA 92630	SSW	0.29 / 1,507.98	-11	129
27	LUST	TEXACO	23751 EL TORO LAKE FOREST CA 92630	SSW	0.31 / 1,613.98	-11	153
28	LUST	SHELL OIL	23751 EL TORO LAKE FOREST CA 92630	SSW	0.35 / 1,831.42	-11	155
29	ORANGE LOP	SHELL OIL	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	-12	166
29	ORANGE LOP	TEXACO	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	-12	166
30	ORANGE LOP	ARCO #3013	23742 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	-12	167
30	LUST	ARCO #3013	23742 EL TORO LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	-12	167
31	LUST	KENITA ENTERPRISES	24961 WHISLER DR LAKE FOREST CA 92630	ENE	0.39 / 2,064.04	24	186
32	ORANGE LOP	MOBIL #18-378	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	187
32	ORANGE LOP	MOBIL OIL	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	187
32	LUST	MOBIL OIL	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	188
32	LUST	MOBIL #18-378	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	-16	189
33	ORANGE LOP	UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	NNW	0.42 / 2,239.75	-31	211

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number	
			<i>Record ID Case Closed Date Type of Closure:</i> RO0002900 6/21/1994 Closure certification issued					
34	LUST	CHEVRON #9-0884	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,262.68	-29	211	
			<i>Global ID Status Status Date:</i> T0605979060 COMPLETED - CASE CLOSED 2015-01-15 00:00:00					
35	LUST	CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,284.90	-28	224	
			<i>Global ID Status Status Date:</i> T0605902054 COMPLETED - CASE CLOSED 1998-06-03 00:00:00					
36	ORANGE LOP	CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	-31	226	
			<i>Record ID Case Closed Date Type of Closure:</i> RO0001283 6/3/1998 Closure certification issued					
36	ORANGE LOP	CHEVRON #9-0884	22942 RIDGE ROUTE DR LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	-31	227	
			<i>Record ID Case Closed Date Type of Closure:</i> RO0003116 1/15/2015 Closure certification issued					
37	DELISTED HAZ	7-Eleven 33626	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	-25	227	
37	ORANGE LOP	SHELL OIL	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	-25	227	
			<i>Record ID Case Closed Date Type of Closure:</i> RO0001822 9/29/2005 Closure certification issued					
37	LUST	SHELL OIL	23842 EL TORO LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	-25	227	
			<i>Global ID Status Status Date:</i> T0605902278 COMPLETED - CASE CLOSED 2005-09-29 00:00:00					
38	DEED	THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	-26	230	
38	CLEANUP SITES	THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	-26	230	
			<i>Site Facility Type Status:</i> CLEANUP PROGRAM SITE OPEN - REMEDIATION					
39	ORANGE LOP	EXXON	23852 EL TORO RD LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	266	
			<i>Record ID Case Closed Date Type of Closure:</i> RO0002476 8/19/2004 Closure certification issued					
39	ORANGE LOP	USA PETROLEUM #825	23852 EL TORO RD LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	266	
			<i>Record ID Case Closed Date Type of Closure:</i> RO0003205 12/14/2005 Closure certification issued					
39	LUST	EXXON	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	266	
			<i>Global ID Status Status Date:</i> T0605900965 COMPLETED - CASE CLOSED 2004-09-20 00:00:00					
39	LUST	USA PETROLEUM #825	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	-27	278	

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number	
			<i>Global ID Status Status Date:</i> T0605936712 COMPLETED - CASE CLOSED 2005-12-14 00:00:00					
40	ENVIROSTOR	LAKE FOREST TOWN CENTER / DRY CLEANER	22641 LAKE FOREST DRIVE LAKE FOREST CA 92630	NNW	0.92 / 4,856.83	-58	281	
			<i>Estor/EPA ID Cleanup Status:</i> 60002373 ACTIVE AS OF 6/14/2016					
41	ENVIROSTOR	SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	51	285	
			<i>Estor/EPA ID Cleanup Status:</i> 70000058 NO ACTION REQUIRED AS OF 11/1/2005					
41	SCH	SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	51	285	
			<i>Estor/EPA ID Cleanup Status:</i> 70000058 NO ACTION REQUIRED AS OF 11/1/2005					

Executive Summary: Summary by Data Source

Standard

Federal

RCRA LQG - RCRA Generator List

A search of the RCRA LQG database, dated Mar 4, 2019 has found that there are 1 RCRA LQG site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
CVS PHARMACY # 9541	23330 EL TORO ROAD LAKE FOREST CA 92630 <i>EPA Handler ID: CAR000236927</i>	ENE	0.21 / 1,133.85	22

RCRA SQG - RCRA Small Quantity Generators List

A search of the RCRA SQG database, dated Mar 4, 2019 has found that there are 4 RCRA SQG site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ORANGE TREE PLAZA	23532 EL TORO ROAD UNIT #3 LAKE FOREST CA 92630 <i>EPA Handler ID: CAP000272310</i>	ESE	0.02 / 105.65	4
SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 92630 <i>EPA Handler ID: CAD983588708</i>	ENE	0.19 / 999.86	20
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 92630 <i>EPA Handler ID: CAD983581729</i>	SSW	0.24 / 1,276.42	23
ACC BEST 1 HOUR PHOTO	23615 EL TORO RD #S EL TORO CA 92630 <i>EPA Handler ID: CAD982503849</i>	SSW	0.25 / 1,298.98	24

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Mar 4, 2019 has found that there are 14 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
SALONCENTRIC INC 6034	23532 EL TORO RD STE 6 LAKE FOREST CA 92630 <i>EPA Handler ID: CAL000394401</i>	ESE	0.02 / 105.65	4

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
O'REILLY AUTO PARTS STORE 2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	6
	<i>EPA Handler ID: CAL000392709</i>			
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630-4405	NNW	0.10 / 535.58	11
	<i>EPA Handler ID: CAC003000143</i>			
JACQUELINE HUTCHINGS	23292 CAVANAUGH ROAD LAKE FOREST CA 92630	NNW	0.10 / 535.58	11
	<i>EPA Handler ID: CAC002992197</i>			
JACQUELINE HUTCHINGS	23292 CAVANAUGH RD LAKE FOREST CA 92630-4405	NNW	0.10 / 535.58	11
	<i>EPA Handler ID: CAC002990349</i>			
LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630	NW	0.10 / 536.04	12
	<i>EPA Handler ID: CAC002979427</i>			
LOUGHRY, STEVE	23312 CAVANAUGH ROAD LAKE FOREST CA 92630	NW	0.10 / 536.04	12
	<i>EPA Handler ID: CAC003000310</i>			
STEVE DALAT	23236 CAVANAUGH RD LAKE FOREST CA 92630-4405	N	0.13 / 700.95	15
	<i>EPA Handler ID: CAC002968612</i>			
PETSMART #1291	23602 EL TORO RD LAKE FOREST CA 92630	S	0.15 / 811.69	16
	<i>EPA Handler ID: CAL000400880</i>			
MEDICAL MANAGEMENT INTERNATIONAL INC DBA BANFIELD PET HOSPITAL #1291	23602 EL TORO RD LAKE FOREST CA 92630-4786	S	0.15 / 811.69	16
	<i>EPA Handler ID: CAL000313984</i>			
ULTA BEAUTY 467	23608 EL TORO RD LAKE FOREST CA 92630-4786	S	0.17 / 895.66	17
	<i>EPA Handler ID: CAL000388889</i>			
GARY & SHELLIE SHAUL	24471 REDLEN ST LAKE FOREST CA 92630	NW	0.18 / 941.60	18
	<i>EPA Handler ID: CAC002977553</i>			
HOMEGOODS 0366	23614 EL TORO RD LAKE FOREST CA 92630-4786	S	0.19 / 986.85	19
	<i>EPA Handler ID: CAL000401807</i>			

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
AARON BROTHERS #0308	23622 EL TORO RD STE A LAKE FOREST CA 92630-4786	SSW	0.20 / 1,037.65	21
<i>EPA Handler ID: CAL000407538</i>				

State

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated Mar 11, 2019 has found that there are 3 ENVIROSTOR site(s) within approximately 1.00 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	41
<i>Estor/EPA ID Cleanup Status: 70000058 NO ACTION REQUIRED AS OF 11/1/2005</i>				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	8
<i>Estor/EPA ID Cleanup Status: 60001482 REFER: LOCAL AGENCY AS OF 2/27/2013</i>				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
LAKE FOREST TOWN CENTER / DRY CLEANER	22641 LAKE FOREST DRIVE LAKE FOREST CA 92630	NNW	0.92 / 4,856.83	40
<i>Estor/EPA ID Cleanup Status: 60002373 ACTIVE AS OF 6/14/2016</i>				

LUST - Leaking Underground Fuel Tank Reports

A search of the LUST database, dated Apr 10, 2019 has found that there are 13 LUST site(s) within approximately 0.50 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
KENITA ENTERPRISES	24961 WHISLER DR LAKE FOREST CA 92630	ENE	0.39 / 2,064.04	31
<i>Global ID Status Status Date: T0605902476 COMPLETED - CASE CLOSED 1989-05-19 00:00:00</i>				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
BEACON BAY AUTO WASH #06	23602 EL TORO LAKE FOREST CA 92630	S	0.15 / 811.69	16
<i>Global ID Status Status Date: T0605902112 OPEN - REMEDIATION 2003-12-18 00:00:00</i>				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	N	0.28 / 1,453.33	25
<i>Global ID Status Status Date: T0605901205 COMPLETED - CASE CLOSED 1994-06-21 00:00:00</i>				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
TEXACO	23751 EL TORO LAKE FOREST CA 92630	SSW	0.31 / 1,613.98	27
<i>Global ID Status Status Date: T0605900581 COMPLETED - CASE CLOSED 1991-05-06 00:00:00</i>				

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
SHELL OIL	23751 EL TORO LAKE FOREST CA 92630	SSW	0.35 / 1,831.42	28
<i>Global ID Status Status Date: T0605986985 COMPLETED - CASE CLOSED 2013-01-10 00:00:00</i>				
ARCO #3013	23742 EL TORO LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	30
<i>Global ID Status Status Date: T0605901431 OPEN - SITE ASSESSMENT 2014-10-27 00:00:00</i>				
MOBIL OIL	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
<i>Global ID Status Status Date: T0605900211 COMPLETED - CASE CLOSED 1986-09-02 00:00:00</i>				
MOBIL #18-378	23771 EL TORO LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
<i>Global ID Status Status Date: T0605902221 OPEN - SITE ASSESSMENT 2009-03-10 00:00:00</i>				
CHEVRON #9-0884	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,262.68	34
<i>Global ID Status Status Date: T0605979060 COMPLETED - CASE CLOSED 2015-01-15 00:00:00</i>				
CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.43 / 2,284.90	35
<i>Global ID Status Status Date: T0605902054 COMPLETED - CASE CLOSED 1998-06-03 00:00:00</i>				
SHELL OIL	23842 EL TORO LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	37
<i>Global ID Status Status Date: T0605902278 COMPLETED - CASE CLOSED 2005-09-29 00:00:00</i>				
EXXON	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	39
<i>Global ID Status Status Date: T0605900965 COMPLETED - CASE CLOSED 2004-09-20 00:00:00</i>				
USA PETROLEUM #825	23852 EL TORO LAKE FOREST CA 92630	SSW	0.49 / 2,583.88	39
<i>Global ID Status Status Date: T0605936712 COMPLETED - CASE CLOSED 2005-12-14 00:00:00</i>				

HHSS - Historical Hazardous Substance Storage Information Database

A search of the HHSS database, dated Aug 27, 2015 has found that there are 1 HHSS site(s) within approximately 0.25 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
EL TORO AUTO WASH	23602 EL TORO ROAD ROCKFIELD EL TORO CA 92630	S	0.15 / 811.69	16

DELISTED TNK - Delisted Storage Tanks

A search of the DELISTED TNK database, dated May 1, 2019 has found that there are 1 DELISTED TNK site(s) within approximately 0.25 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
BEACON BAY AUTO WASH	23602 EL TORO RD LAKE FOREST CA 92630	S	0.15 / 811.69	16

DEED - Deed Restrictions and Land Use Restrictions

A search of the DEED database, dated Apr 17, 2019 has found that there are 1 DEED site(s) within approximately 0.50 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	38

VCP - Voluntary Cleanup Program

A search of the VCP database, dated Mar 11, 2019 has found that there are 1 VCP site(s) within approximately 0.50 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE)	23512-23532 EL TORO ROAD LAKE FOREST CA 92630	ESE	0.07 / 369.11	8

Estor/EPA ID | Cleanup Status: 60001482 | REFER: LOCAL AGENCY AS OF 2/27/2013

CLEANUP SITES - GeoTracker Cleanup Program Sites

A search of the CLEANUP SITES database, dated Apr 17, 2019 has found that there are 4 CLEANUP SITES site(s) within approximately 0.50 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
FORMER CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92603	S	0.03 / 161.26	6

Site Facility Type | Status: CLEANUP PROGRAM SITE | OPEN - ACTIVE

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
THE FORMER ORANGE TREE PLAZA DRY CLEANERS	23532 EL TORO ROAD LAKE FOREST CA	ESE	0.09 / 453.98	9

Site Facility Type | Status: CLEANUP PROGRAM SITE | OPEN - ACTIVE

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
THE ORCHARD SHOPPING CENTER, FORMER SILVER CLEANERS	23684 EL TORO ROAD LAKE FOREST CA 92630	SSW	0.29 / 1,507.98	26

Site Facility Type | Status: CLEANUP PROGRAM SITE | OPEN - SITE ASSESSMENT

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
THE SHOPS AT LAKE FOREST SHOPPING CENTER	24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	SSW	0.47 / 2,497.58	38

Site Facility Type | Status: CLEANUP PROGRAM SITE | OPEN - REMEDIATION

HIST TANK - Historical Hazardous Substance Storage Container Information - Facility Summary

A search of the HIST TANK database, dated May 27, 1988 has found that there are 1 HIST TANK site(s) within approximately 0.25

miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
EL TORO AUTO WASH	23602 EL TORO ROAD EL TORO CA	S	0.15 / 811.69	16

County

ORANGE LOP - Orange County - LOP Lead Cases List

A search of the ORANGE LOP database, dated May 1, 2019 has found that there are 12 ORANGE LOP site(s) within approximately 0.50 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
BEACON BAY AUTO WASH #06	23602 EL TORO RD LAKE FOREST CA 92630	S	0.15 / 811.69	16
<i>Record ID Case Closed Date Type of Closure: RO0001881 </i>				
TEXACO	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	29
<i>Record ID Case Closed Date Type of Closure: RO0001124 5/6/1991 Closure certification issued</i>				
SHELL OIL	23751 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,897.21	29
<i>Record ID Case Closed Date Type of Closure: RO0003195 5/17/2013 Closure certification issued</i>				
ARCO #3013	23742 EL TORO RD LAKE FOREST CA 92630	SSW	0.36 / 1,913.69	30
<i>Record ID Case Closed Date Type of Closure: RO0002116 </i>				
MOBIL OIL	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
<i>Record ID Case Closed Date Type of Closure: RO0002874 9/2/1986 Closure certification issued</i>				
MOBIL #18-378	23771 EL TORO RD LAKE FOREST CA 92630	SW	0.40 / 2,095.40	32
<i>Record ID Case Closed Date Type of Closure: RO0000891 </i>				
UNOCAL #6186	24382 MUIRLANDS LAKE FOREST CA 92630	NNW	0.42 / 2,239.75	33
<i>Record ID Case Closed Date Type of Closure: RO0002900 6/21/1994 Closure certification issued</i>				
CHEVRON #9-0884	22942 RIDGE ROUTE DR LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	36
<i>Record ID Case Closed Date Type of Closure: RO0003116 1/15/2015 Closure certification issued</i>				
CHEVRON	22942 RIDGE ROUTE LAKE FOREST CA 92630	NNW	0.45 / 2,391.12	36
<i>Record ID Case Closed Date Type of Closure: RO0001283 6/3/1998 Closure certification issued</i>				
SHELL OIL	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	37

Lower Elevation**Address****Direction****Distance (mi/ft)****Map Key***Record ID | Case Closed Date | Type of Closure: RO0001822 | 9/29/2005 | Closure certification issued*

USA PETROLEUM #825

23852 EL TORO RD
LAKE FOREST CA 92630

SSW

0.49 / 2,583.88

[39](#)*Record ID | Case Closed Date | Type of Closure: RO0003205 | 12/14/2005 | Closure certification issued*

EXXON

23852 EL TORO RD
LAKE FOREST CA 92630

SSW

0.49 / 2,583.88

[39](#)*Record ID | Case Closed Date | Type of Closure: RO0002476 | 8/19/2004 | Closure certification issued***Non Standard****Federal****FED DRYCLEANERS - Drycleaner Facilities**

A search of the FED DRYCLEANERS database, dated May 29, 2018 has found that there are 1 FED DRYCLEANERS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation**Address****Direction****Distance (mi/ft)****Map Key**

SPIC N SPAN CLEANERS

23374 EL TORO RD
EL TORO CA 92630

ENE

0.19 / 999.86

[20](#)**State****DRYCLEANERS - Dry Cleaning Facilities**

A search of the DRYCLEANERS database, dated Apr 16, 2019 has found that there are 13 DRYCLEANERS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation**Address****Direction****Distance (mi/ft)****Map Key**

ORANGE TREE CLEANERS

23532 EL TORO RD
LAKE FOREST CA 926300000

ESE

0.02 / 105.65

[4](#)

ORANGE TREE CLEANERS

23532 EL TORO RD #3
EL TORO CA 926300000

ESE

0.02 / 105.65

[4](#)

ORANGE TREE CLEANERS

23532 EL TORO BLVD
EL TORO CA 926300000

ESE

0.02 / 105.65

[4](#)

CROWN CLEANERS

24601 RAYMOND WAY STE 15
LAKE FOREST CA 926304460

S

0.03 / 161.26

[6](#)

CROWN CLEANERS

24601 RAYMOND WAY UNIT 15
EL TORO CA 926300000

S

0.03 / 161.26

[6](#)

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
CROWN CLEANERS	24601 RAYMOND WAY EL TORO CA 926300000	S	0.03 / 161.26	6
MOHAMMAD BANASHFAT DBA CROWN CLEANERS	24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	S	0.03 / 161.26	6
SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	20
SPIC N SPAN CLEANERS	23374 EL TORO RD EL TORO CA 926300000	ENE	0.19 / 999.86	20
SPIC N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 926300000	ENE	0.19 / 999.86	20

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
XPRESS CLEANERS	23635 EL TORO RD STE H1 LAGUNA HILLS CA 92630	SSW	0.24 / 1,276.42	23
XPRESS CLEANERS	23635 EL TORO RD EL TORO CA 926300000	SSW	0.24 / 1,276.42	23
XPRESS CLEANERS	23635 EL TORO RD STE H1 EL TORO CA 926304748	SSW	0.24 / 1,276.42	23

SCH - School Property Evaluation Program Sites

A search of the SCH database, dated Mar 11, 2019 has found that there are 1 SCH site(s) within approximately 1.00 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
SILVERADO CONTINUATION HIGH SCHOOL	25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	E	0.96 / 5,076.66	41

Estor/EPA ID | Cleanup Status: 70000058 | NO ACTION REQUIRED AS OF 11/1/2005

HAZNET - Hazardous Waste Manifest Data

A search of the HAZNET database, dated Oct 24, 2016 has found that there are 8 HAZNET site(s) within approximately 0.02 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
TEKRANGE	23591 EL TORO RD STE 178 LAKE FOREST CA 92630	-	0.00 / 0.00	1
DR STEVE PARHAM	23591 EL TORO SUITE 110 LAKE FOREST CA 926300000	-	0.00 / 0.00	1
ASHRAF SOLIMAN DDS	23591 EL TORO RD STE 130 LAKE FOREST CA 926304704	-	0.00 / 0.00	1
AMANI SOLIMAN DDS INC	23591 EL TORO RD STE 130 LAKE FOREST CA 92630	-	0.00 / 0.00	1
LAKE FOREST DENTAL GROUP	23591 EL TORO SUITE 120 LAKE FOREST CA 926300000	-	0.00 / 0.00	1

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
CHOICE HEALTH CENTER	24551 RAYMOND WAY LAKE FOREST CA 926300000	SW	0.00 / 16.67	2
CHOICE HEALTH CENTERS	24551 Raymond Way Lake Forest CA 926304400	SW	0.00 / 16.67	2
UNITED STATES POSTAL SERVICE	24552 RAYMOND WAY LAKE FOREST CA 926309978	SSW	0.01 / 38.06	3

CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the CERS HAZ database, dated May 6, 2019 has found that there are 5 CERS HAZ site(s) within approximately 0.12 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
BIGSHOTS BILLIARDS BAR & GRILL	23512 EL TORO RD LAKE FOREST CA 92630	ESE	0.02 / 115.99	5
O'Reilly Auto Parts #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	6
Sizzler Restaurant #409	23501 EL TORO RD LAKE FOREST CA 92630	SE	0.03 / 169.40	7

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
FREEDOM VILLAGE HEALTH CARE CENTER	23442 EL TORO RD LAKE FOREST CA 92630	E	0.10 / 539.52	13

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
Panda Express #1586	23572 EL TORO RD STE A LAKE FOREST CA 92630	S	0.09 / 480.73	10

DELISTED HAZ - Delisted Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the DELISTED HAZ database, dated Nov 29, 2018 has found that there are 1 DELISTED HAZ site(s) within approximately 0.50 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
7-Eleven 33626	23842 EL TORO RD LAKE FOREST CA 92630	SSW	0.46 / 2,440.52	37

EMISSIONS - Toxic Pollutant Emissions Facilities

A search of the EMISSIONS database, dated Dec 31, 2017 has found that there are 6 EMISSIONS site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ORANGE TREE CLEANERS, MICHAEL	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	4
ORANGE TREE CLEANERS	23532 EL TORO RD, #3 EL TORO CA 92630	ESE	0.02 / 105.65	4
CROWN 1 HOUR CLEANERS	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	6
CROWN 1 HOUR CLEANERS, A. TAHB	24601 RAYMOND WAY #15 EL TORO CA 92630	S	0.03 / 161.26	6
SIZZLER-MORGAN MANAGEMENT	23501 EL TORO RD EL TORO CA 92630	SE	0.03 / 169.40	7
SPIC 'N SPAN CLEANERS	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	20

CDL - Clandestine Drug Lab Sites

A search of the CDL database, dated Dec 31, 2017 has found that there are 1 CDL site(s) within approximately 0.12 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
	23242 CAVANAUGH STREET LAKE FOREST CA 92630	N	0.12 / 659.72	14

County

ORANGE ICP - Orange County - Industrial Cleanup Program Cases Listing

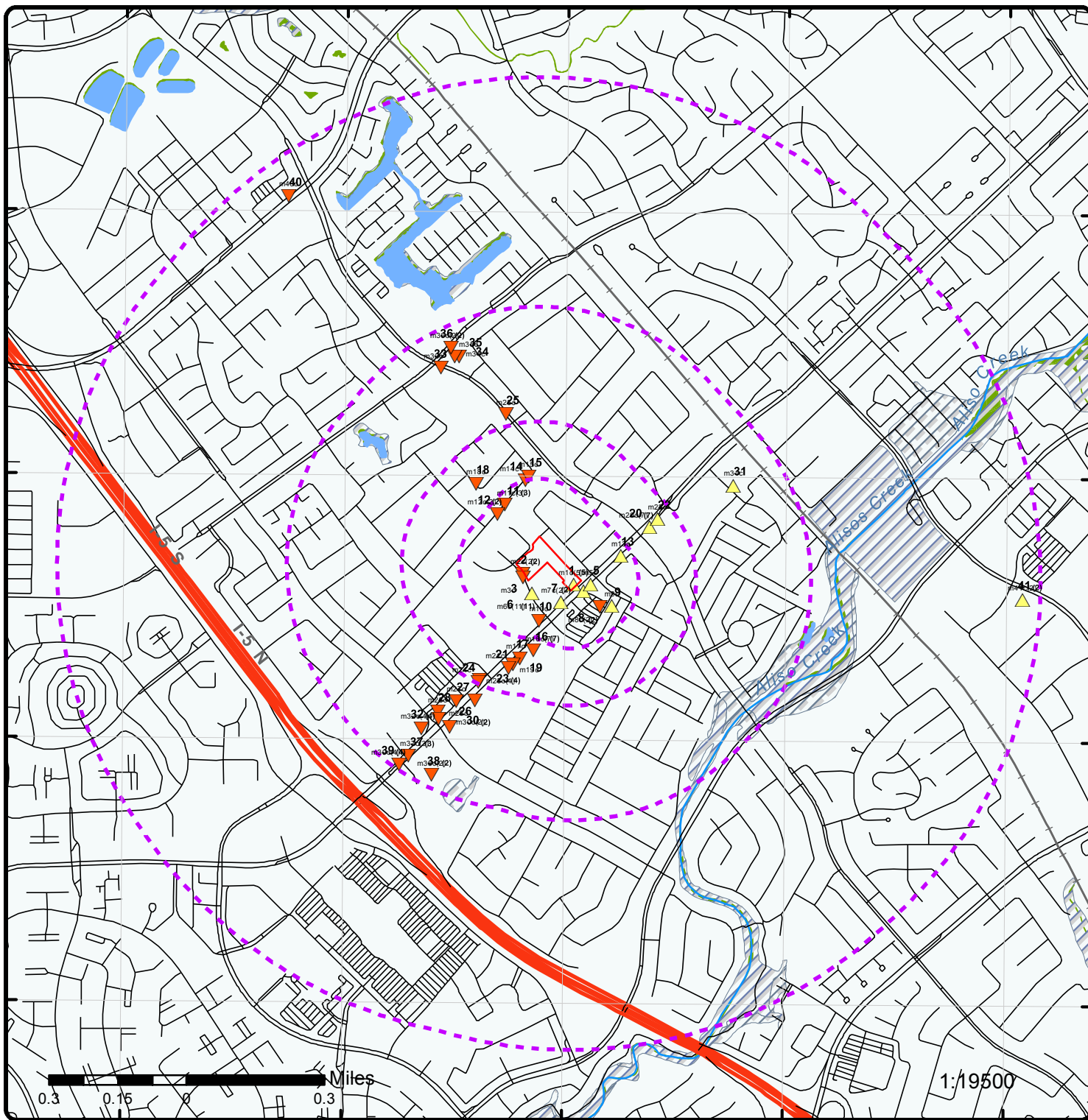
A search of the ORANGE ICP database, dated May 1, 2019 has found that there are 3 ORANGE ICP site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
ORANGE TREE PLAZA CLEANERS	23532 EL TORO RD LAKE FOREST CA 92630-	ESE	0.02 / 105.65	4
CARLEN PLAZA - CROWN CLEANERS	24601 RAYMOND WAY LAKE FOREST CA 92630-	S	0.03 / 161.26	6
SPIC N SPAN CLEANERS & LAUNDRY	23374 EL TORO RD LAKE FOREST CA 92630	ENE	0.19 / 999.86	20

ORANGE HW - Orange County - Hazardous Waste Facilities

A search of the ORANGE HW database, dated May 1, 2019 has found that there are 1 ORANGE HW site(s) within approximately 0.12 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
OREILLY AUTO PARTS #2940	24601 RAYMOND WAY LAKE FOREST CA 92630	S	0.03 / 161.26	6



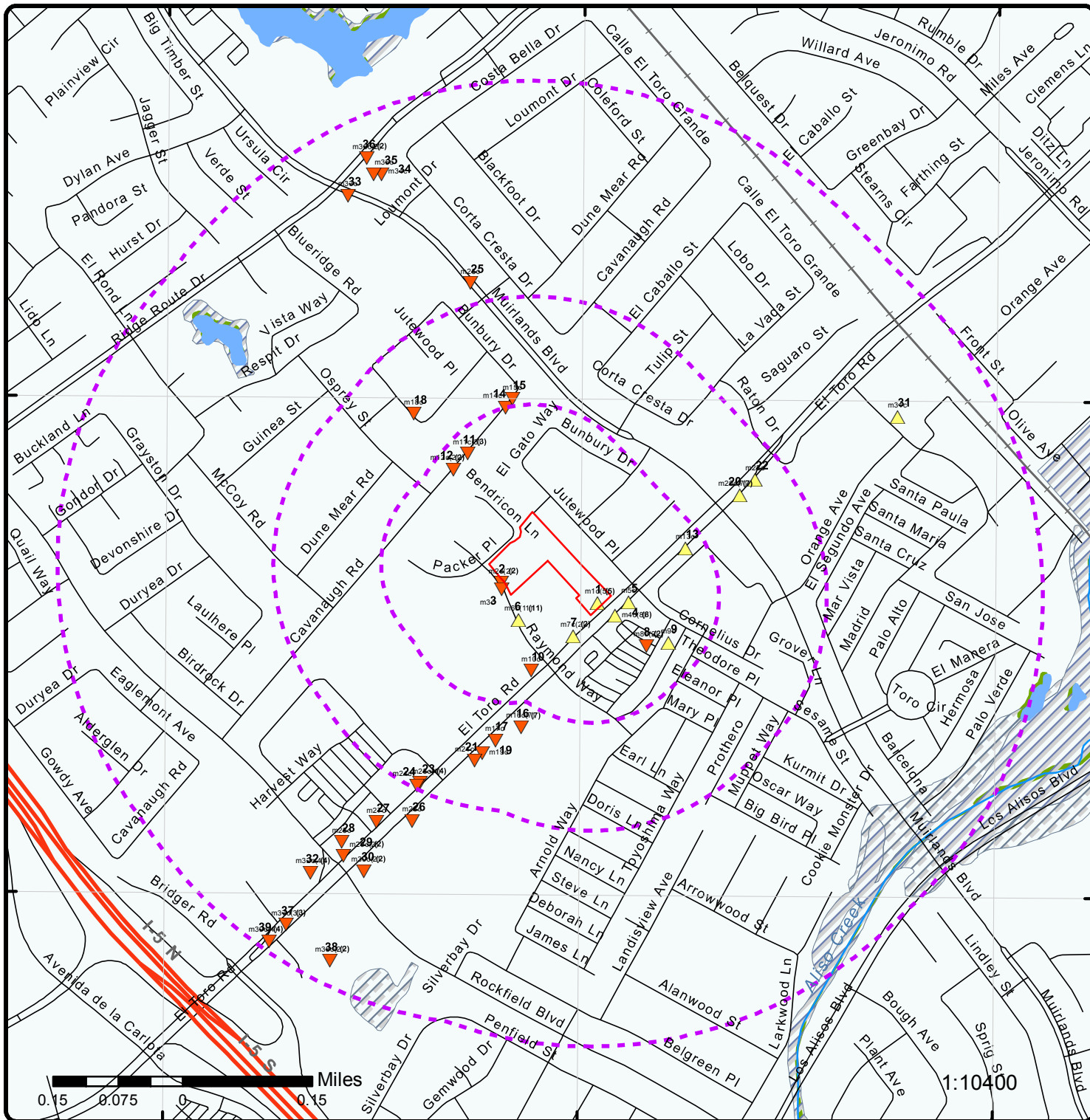
Map : 1 Mile Radius

Order No: 20190618288

Address: 23591 El Toro Road, Lake Forest, CA, 92630



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas: Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas: NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



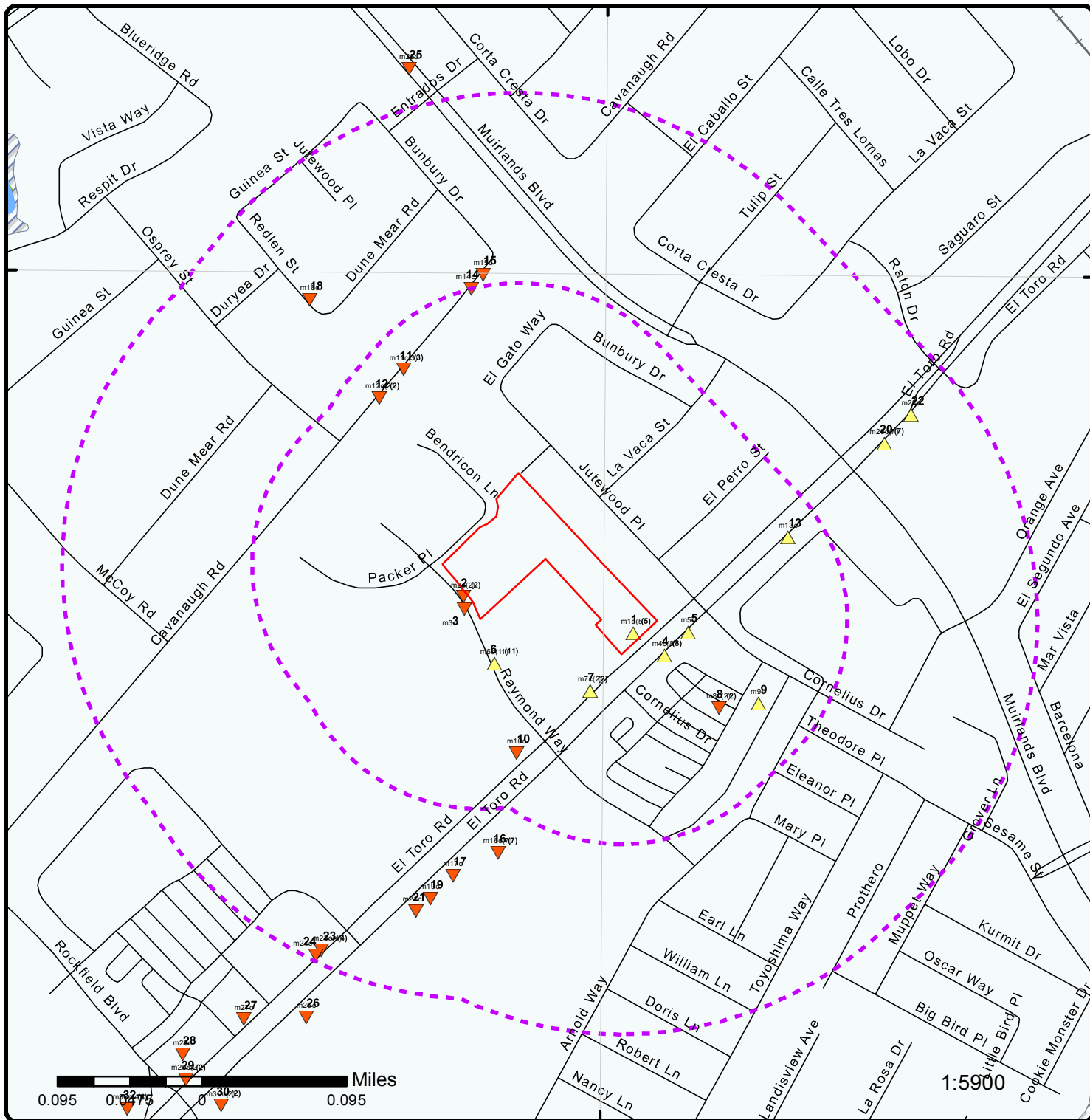
Map : 0.5 Mile Radius

Order No: 20190618288

Address: 23591 El Toro Road, Lake Forest, CA, 92630



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



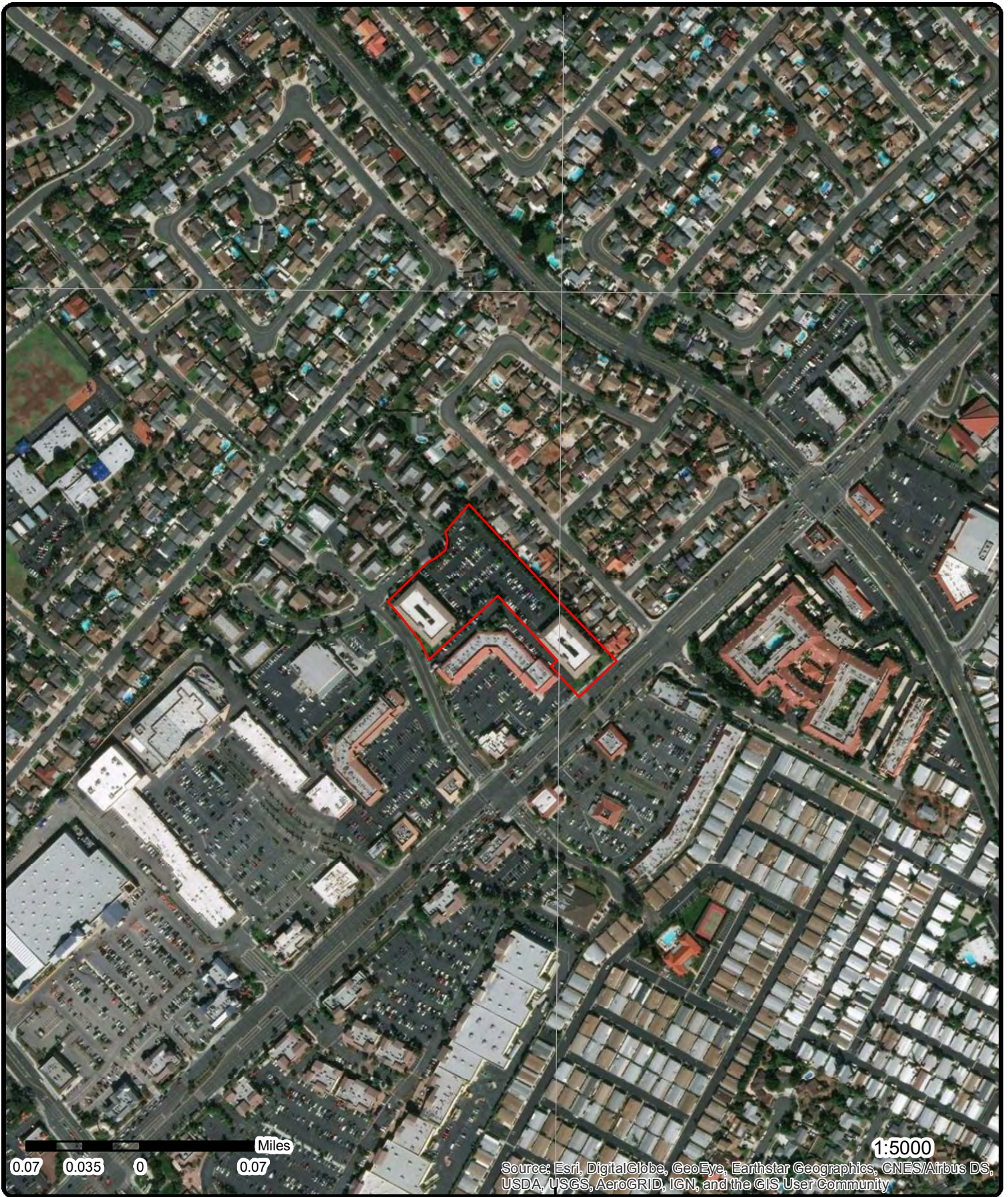
Map : 0.25 Mile Radius

Order No: 20190618288

Address: 23591 El Toro Road, Lake Forest, CA, 92630



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



Aerial (2016)

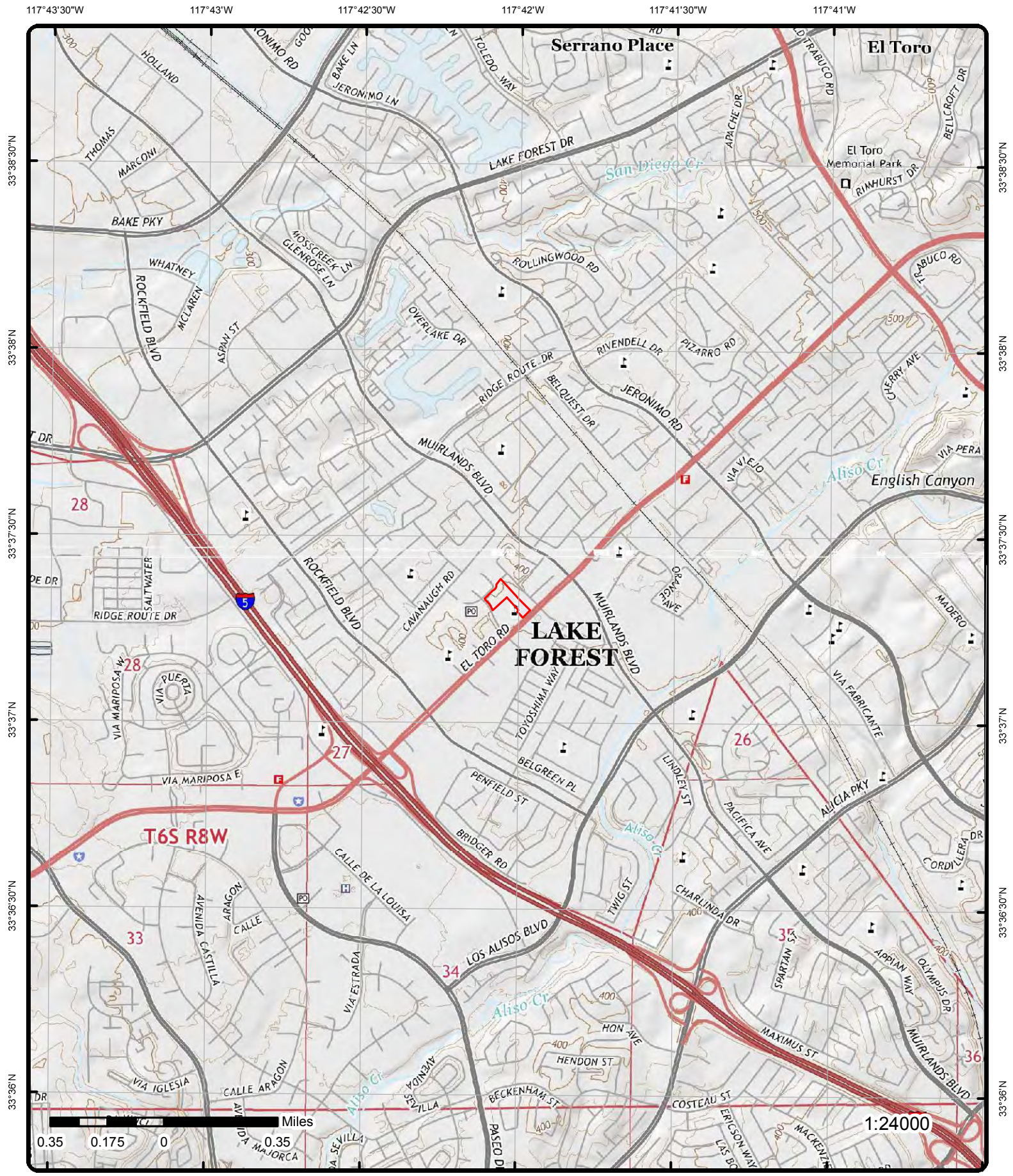
Address: 23591 El Toro Road, Lake Forest, CA, 92630

Source: ESRI World Imagery

Order No: 20190618288



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Topographic Map (2015)

Address: 23591 El Toro Road, Lake Forest, CA, 92630

Quadrangle(s): San Juan Capistrano, CA; Lake Forest, CA;

Source: USGS Topographic Map

Order No: 20190618288



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Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
<u>1</u>	1 of 5	-	0.00 / 0.00	405.56 / 5	DR STEVE PARHAM 23591 EL TORO SUITE 110 LAKE FOREST CA 926300000	HAZNET
SIC Code: NAICS Code: EPA ID: CAL000110001 Create Date: 1/29/1993 Fac Act Ind: No Inact Date: 1/1/1996 County Code: 30 County Name: Orange Mail Name: Mailing Addr 1: 23591 EL TORO SUITE 110 Mailing Addr 2: Owner Fax:		Mailing City: LAKE FOREST Mailing State: CA Mailing Zip: 926300000 Region Code: 4 Owner Name: STEVE/CYNTHIA PARHAM Owner Addr 1: 23591 EL TORO SUITE 110 Owner Addr 2: Owner City: LAKE FOREST Owner State: CA Owner Zip: 926300000 Owner Phone: 7145862138				
Contact Information						
--		--		--		--
Contact Name:		--		--		--
Street Address 1:		23591 EL TORO SUITE 110		--		--
Street Address 2:		--		--		--
City:		LAKE FOREST		--		--
State:		CA		--		--
Zip:		926300000		--		--
Phone:		7145862138		--		--
--		--		--		--
<u>1</u>	2 of 5	-	0.00 / 0.00	405.56 / 5	TEK RANGE 23591 EL TORO RD STE 178 LAKE FOREST CA 92630	HAZNET
SIC Code: 9999 NAICS Code: 99999 EPA ID: CAL000367708 Create Date: 9/21/2011 Fac Act Ind: Yes Inact Date: County Code: 30 County Name: Orange Mail Name: Mailing Addr 1: 23591 EL TORO RD STE 178 Mailing Addr 2: Owner Fax: 9496007091		Mailing City: LAKE FOREST Mailing State: CA Mailing Zip: 926300000 Region Code: 4 Owner Name: JOE HEATHERTON Owner Addr 1: 23591 EL TORO RD STE 178 Owner Addr 2: Owner City: LAKE FOREST Owner State: CA Owner Zip: 926300000 Owner Phone: 9496007090				
Contact Information						
--		--		--		--
Contact Name:		JOE HEATHERTON		--		--
Street Address 1:		23591 EL TORO RD STE 178		--		--
Street Address 2:		--		--		--
City:		LAKE FOREST		--		--
State:		CA		--		--
Zip:		926300000		--		--
Phone:		9496007090		--		--
--		--		--		--
<u>1</u>	3 of 5	-	0.00 /	405.56 /	LAKE FOREST DENTAL GROUP	HAZNET

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
			0.00	5	23591 EL TORO SUITE 120 LAKE FOREST CA 926300000	
SIC Code: NAICS Code: EPA ID: CAL000196550 Create Date: 10/16/1998 Fac Act Ind: No Inact Date: 6/30/2001 County Code: 30 County Name: Orange Mail Name: Mailing Addr 1: 23082-A RIDGE ROUTE DR Mailing Addr 2: Owner Fax:		Mailing City: LAKE FOREST Mailing State: CA Mailing Zip: 926300000 Region Code: 4 Owner Name: 23082 - A RIDGE ROUTE DR Owner Addr 1: 23591 EL TORO SUITE 120 Owner Addr 2: Owner City: LAKE FOREST Owner State: CA Owner Zip: 926300000 Owner Phone: 9497709355				
Contact Information						
--		--				
Contact Name:		DR MERHVARZI				
Street Address 1:		INACTIVE PER VQ01 - BMI				
Street Address 2:						
City:		LAKE FOREST				
State:		CA				
Zip:		926300000				
Phone:		9497709355				
--		--				
<u>1</u>	4 of 5	-	0.00 / 0.00	405.56 / 5	AMANI SOLIMAN DDS INC 23591 EL TORO RD STE 130 LAKE FOREST CA 92630	HAZNET
SIC Code: 8021 NAICS Code: 62121 EPA ID: CAL000365515 Create Date: 7/11/2011 Fac Act Ind: No Inact Date: 6/30/2015 County Code: 30 County Name: Orange Mail Name: Mailing Addr 1: 23591 EL TORO RD STE 130 Mailing Addr 2: Owner Fax: 9692069308		Mailing City: LAKE FOREST Mailing State: CA Mailing Zip: 926300000 Region Code: 4 Owner Name: AMANI SOLIMAN DDS INC Owner Addr 1: 23591 EL TORO RD STE 130 Owner Addr 2: Owner City: LAKE FOREST Owner State: CA Owner Zip: 926300000 Owner Phone: 9692069508				
Contact Information						
--		--				
Contact Name:		AMANI SOLIMAN				
Street Address 1:		23591 EL TORO RD STE 130				
Street Address 2:						
City:		LAKE FOREST				
State:		CA				
Zip:		926300000				
Phone:		9492069508				
--		--				
<u>1</u>	5 of 5	-	0.00 / 0.00	405.56 / 5	ASHRAF SOLIMAN DDS 23591 EL TORO RD STE 130 LAKE FOREST CA 926304704	HAZNET
SIC Code: 8021 NAICS Code: 62121 EPA ID: CAL000258080 Create Date: 8/22/2002 9:40:50 AM Fac Act Ind: No Inact Date: 6/30/2011 County Code: 30 County Name: Orange		Mailing City: LAKE FOREST Mailing State: CA Mailing Zip: 926304704 Region Code: 4 Owner Name: Ashraf Soliman DDS Owner Addr 1: 23591 EL TORO RD STE 130 Owner Addr 2: Owner City: LAKE FOREST				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Mail Name:					Owner State:	CA
Mailing Addr 1:	23591 EL TORO RD STE 130				Owner Zip:	926304704
Mailing Addr 2:					Owner Phone:	9495978808
Owner Fax:	0000000000					

Contact Information

Contact Name:	Ashraf Soliman DDS
Street Address 1:	23591 EL TORO RD STE 130
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926304704
Phone:	9495978808

<u>2</u>	1 of 2	SW	0.00 / 16.67	396.70 / -4	CHOICE HEALTH CENTERS 24551 Raymond Way Lake Forest CA 926304400	HAZNET
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SIC Code:		Mailing City:	LAKE FOREST
NAICS Code:		Mailing State:	CA
EPA ID:	CAL000082316	Mailing Zip:	000000000
Create Date:	4/2/1993	Region Code:	4
Fac Act Ind:	No	Owner Name:	ROBERT SHERMAN TOLLEY
Inact Date:	6/30/1993	Owner Addr 1:	21061 BRAIRWOOD LANE
County Code:	30	Owner Addr 2:	
County Name:	Orange	Owner City:	TRABUCO CANYON
Mail Name:		Owner State:	CA
Mailing Addr 1:	24551 RAYMOND WAY	Owner Zip:	926790000
Mailing Addr 2:		Owner Phone:	7148584343
Owner Fax:			

Contact Information

Contact Name:	INACTIVE PER FEES 6/93
Street Address 1:	24551 RAYMOND WAY
Street Address 2:	
City:	LAKE FOREST
State:	CA
Zip:	926300000
Phone:	7145817711

<u>2</u>	2 of 2	SW	0.00 / 16.67	396.70 / -4	CHOICE HEALTH CENTER 24551 RAYMOND WAY LAKE FOREST CA 926300000	HAZNET
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SIC Code:		Mailing City:	LAKE FOREST
NAICS Code:		Mailing State:	CA
EPA ID:	CAL000080634	Mailing Zip:	926300000
Create Date:	7/28/1993	Region Code:	4
Fac Act Ind:	No	Owner Name:	--
Inact Date:	12/31/1899	Owner Addr 1:	--
County Code:	30	Owner Addr 2:	--
County Name:	Orange	Owner City:	--
Mail Name:		Owner State:	99
Mailing Addr 1:	24551 RAYMOND WAY	Owner Zip:	--
Mailing Addr 2:		Owner Phone:	0000000000
Owner Fax:			

Contact Information

Contact Name:	INACTIVE BUSINESS MOVED
Street Address 1:	ACTIVE #CAL000110563
Street Address 2:	
City:	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
State:		99				
Zip:		--				
Phone:		--				
--		--				

3	1 of 1	SSW	0.01 / 38.06	398.13 / -2	UNITED STATES POSTAL SERVICE 24552 RAYMOND WAY LAKE FOREST CA 926309978	HAZNET
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SIC Code:		Mailing City:	SANTA ANA
NAICS Code:		Mailing State:	CA
EPA ID:	CAC001265040	Mailing Zip:	927117184
Create Date:	6/9/1997	Region Code:	4
Fac Act Ind:	No	Owner Name:	USPS
Inact Date:	10/25/2000	Owner Addr 1:	PO BOX 21184
County Code:	30	Owner Addr 2:	
County Name:	Orange	Owner City:	SANTA ANA
Mail Name:	ADMINISTRATIVE SERVICES	Owner State:	CA
Mailing Addr 1:	PO BOX 21184	Owner Zip:	927117184
Mailing Addr 2:		Owner Phone:	7146676765
Owner Fax:			

Contact Information

--

Contact Name: ED VANDER WOUDE
Street Address 1: PO BOX 21184
Street Address 2:
City: SANTA ANA
State: CA
Zip: 927117184
Phone: 7146676765
--

4	1 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE CLEANERS 23532 EL TORO RD LAKE FOREST CA 926300000	DRYCLEANERS
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EPA ID:	CAL000138320	Owner Phone:	9499514900
Create Date:	7/10/1995	Owner Fax:	0000000000
Facility Act Ind:	No	Contact Name:	GEORGE BAHOU-OWNER
Inact Date:	6/30/2014	Contact Street 1:	23532 EL TORO RD STE 3
Reason:	SIC/NAICS	Contact Street 2:	
County Name:	Orange	Contact City:	LAKE FOREST
Region Code:	4	Contact State:	CA
Owner Name:	GEORGE BAHOU	Contact Zip:	926304703
Owner Street 1:	23532 EL TORO RD STE 3	Contact Phone:	9499514900
Owner Street 2:		Mail Name:	
Owner City:	LAKE FOREST	DD Latitude:	33.620767
Owner State:	CA	DD Longitude:	-117.699867
Owner Zip:	926304703		

NAICS Details

NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7211
SIC Description: Power Laundries, Family and Commercial

4	2 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE CLEANERS 23532 EL TORO BLVD EL TORO CA 926300000	DRYCLEANERS
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EPA ID:	CAL000026234	Owner Phone:	0000000000
Create Date:	5/10/1990	Owner Fax:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Facility Act Ind:	No				Contact Name: DEACT NON-DELIV. PER 95 FEES -	
Inact Date:	6/30/1995				Contact Street 1: P.H.	
Reason:	Cleaners				Contact Street 2:	
County Name:	Orange				Contact City: --	
Region Code:	4				Contact State: 99	
Owner Name:	BAHOU MICHEAL E				Contact Zip: --	
Owner Street 1:	--				Contact Phone: --	
Owner Street 2:	--				Mail Name:	
Owner City:	--				DD Latitude:	
Owner State:	99				DD Longitude:	
Owner Zip:	--					

4 3 of 8 **ESE** 0.02 / 105.65 405.40 / 5 **ORANGE TREE CLEANERS** **DRYCLEANERS**
23532 EL TORO RD #3
EL TORO CA 92630000

EPA ID:	CAL000009640	Owner Phone:	0000000000
Create Date:	11/14/1989	Owner Fax:	
Facility Act Ind:	No	Contact Name:	--
Inact Date:	6/30/1998	Contact Street 1:	INACT PER NONDELIVERABLE VQ98 NK
Reason:	Cleaners	Contact Street 2:	
County Name:	Orange	Contact City:	--
Region Code:	4	Contact State:	99
Owner Name:	BAHOU MICHAEL	Contact Zip:	--
Owner Street 1:	--	Contact Phone:	--
Owner Street 2:	--	Mail Name:	
Owner City:	--	DD Latitude:	
Owner State:	99	DD Longitude:	
Owner Zip:	--		

4 4 of 8 **ESE** 0.02 / 105.65 405.40 / 5 **ORANGE TREE CLEANERS** **EMISSIONS**
23532 EL TORO RD, #3
EL TORO CA 92630

1987 Criteria Data

Facility ID:	35785	CERR Code:	
Facility SIC Code:	7216	TOGT:	0
CO:	30	ROGT:	0
Air Basin:	SC	COT:	
District:	SC	NOXT:	
COID:	ORA	SOXT:	
DISN:	SOUTH COAST AQMD	PMT:	
CHAPIS:		PM10T:	

1987 Toxic Data

Facility ID:	35785	COID:	ORA
Facility SIC Code:	7216	DISN:	SOUTH COAST AQMD
CO:	30	CHAPIS:	
Air Basin:	SC	CERR Code:	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

4 5 of 8 **ESE** 0.02 / 105.65 405.40 / 5 **ORANGE TREE CLEANERS,** **EMISSIONS**
MICHAEL
23532 EL TORO RD, #3
EL TORO CA 92630

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
---------	-------------------	-----------	------------------	----------------	------	----

1990 Criteria Data

Facility ID:	81366	CERR Code:	
Facility SIC Code:	7216	TOGT:	1.9
CO:	30	ROGT:	0
Air Basin:	SC	COT:	
District:	SC	NOXT:	
COID:	ORA	SOXT:	
DISN:	SOUTH COAST AQMD	PMT:	
CHAPIS:		PM10T:	

1990 Toxic Data

Facility ID:	81366	COID:	ORA
Facility SIC Code:	7216	DISN:	SOUTH COAST AQMD
CO:	30	CHAPIS:	
Air Basin:	SC	CERR Code:	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

<u>4</u>	6 of 8	ESE	0.02 / 105.65	405.40 / 5	ORANGE TREE PLAZA CLEANERS 23532 EL TORO RD LAKE FOREST CA 92630-	ORANGE ICP
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Record ID:	RO0003590	Status Description:	CLOSED
Case ID:	13IC001	Case Closed Date:	5/31/2016
Released Substance(s):			
Type of Closure:	Referred to Regional Board		

<u>4</u>	7 of 8	ESE	0.02 / 105.65	405.40 / 5	SALONCENTRIC INC 6034 23532 EL TORO RD STE 6 LAKE FOREST CA 92630	RCRA NON GEN
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EPA Handler ID:	CAL000394401
Gen Status Universe:	No Report
Contact Name:	JUAN CARLOS BOBEA
Contact Address:	28145 W. HARRISON PARKWAY , , VALENCIA , CA, 91355 ,
Contact Phone No and Ext:	661-295-4887
Contact Email:	JBOBEARIVAS@SALONCENTRIC.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20140226

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Underground Injection Activity:	No					
Commercial TSD:	No					
Used Oil Transporter:	No					
Used Oil Transfer Facility:	No					
Used Oil Processor:	No					
Used Oil Refiner:	No					
Used Oil Burner:	No					
Used Oil Market Burner:	No					
Used Oil Spec Marketer:	No					

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20140226
Handler Name: SALONCENTRIC INC 6034
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner	Street No:
Type: Other	Street 1: 10101 DR MARTIN LUTHER KING ST
Name: SALONCENTRIC INC	Street 2: SUITE 100
Date Became Current:	City: ST. PETERSBURG
Date Ended Current:	State: FL
Phone: 727-369-2623	Country:
Source Type: Implementer	Zip Code: 33716-0000

Owner/Operator Ind: Current Operator	Street No:
Type: Other	Street 1: 28145 W. HARRISON PARKWAY
Name: JUAN CARLOS BOBEA	Street 2:
Date Became Current:	City: VALENCIA
Date Ended Current:	State: CA
Phone: 661-295-4887	Country:
Source Type: Implementer	Zip Code: 91355

[4](#) 8 of 8 **ESE** **0.02 / 105.65** **405.40 / 5** **ORANGE TREE PLAZA**
23532 EL TORO ROAD UNIT #3 **RCRA SQG**
LAKE FOREST CA 92630

EPA Handler ID: CAP000272310
Gen Status Universe: Small Quantity Generator
Contact Name: THOMAS R BROWN
Contact Address: 4305 , TORRANCE BLVD # 100 , , TORRANCE , CA, 90503 , US
Contact Phone No and Ext: 310-241-0000
Contact Email: BROMOHAM@MSN.COM
Contact Country: US
County Name: ORANGE
EPA Region: 09
Land Type: Private
Receive Date: 20170427

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Onsite Burner Exemption:		No				
Furnace Exemption:		No				
Underground Injection Activity:		No				
Commercial TSD:		No				
Used Oil Transporter:		No				
Used Oil Transfer Facility:		No				
Used Oil Processor:		No				
Used Oil Refiner:		No				
Used Oil Burner:		No				
Used Oil Market Burner:		No				
Used Oil Spec Marketer:		No				

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20170427
 Handler Name: ORANGE TREE PLAZA
 Generator Status Universe: Small Quantity Generator
 Source Type: Temporary

Waste Code Details

Hazardous Waste Code: 352
 Waste Code Description: Other organic solids
 Hazardous Waste Code: D039
 Waste Code Description: TETRACHLOROETHYLENE

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	2125
Type:	Private	Street 1:	EAST KATELLA AVE STE 100
Name:	ORANGE TREE PLAZA	Street 2:	
Date Became Current:	19850101	City:	ANAHEIM
Date Ended Current:		State:	CA
Phone:	310-214-0000	Country:	US
Source Type:	Temporary	Zip Code:	92806

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Private	Street 1:	
Name:	DR. THOMAS R BROWN	Street 2:	
Date Became Current:	19850101	City:	
Date Ended Current:		State:	
Phone:		Country:	
Source Type:	Temporary	Zip Code:	

<u>5</u>	1 of 1	ESE	0.02 / 115.99	406.77 / 6	BIGSHOTS BILLIARDS BAR & GRILL 23512 EL TORO RD LAKE FOREST CA 92630	CERS HAZ
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Site ID: 413199
 Latitude: 33.621322
 Longitude: -117.699341

Regulated Programs

EI Description: Chemical Storage Facilities EI ID: 10717639

Evaluations

Eval Date: 10/15/2014

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Kristen Kelly called owner to get permission for inspection to be conducted since he was not on site. He talked to me and granted consent to conduct inspection. I let owner know that he will receive email from E-submit after I review and prepare comments. I walked through the facility, perimeter and inspected hazardous materials storage room where the Carbon Dioxide (400 pound dewar and two smaller cylinders) is stored. All required documents have been electronically submitted to E-submit and are being reviewed by this Agency. The location of storm drains and fire hydrants on site maps that have been submitted are not correct and were discussed with Ms. Kelly. A copy of the map with comments of what needs to be added/revised was left on site for owner. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/18/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Annual certification documents submitted to CERS on 1/4/18 were reviewed and accepted.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/24/2017
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Joe Waitman granted consent to conduct inspection. I walked through the facility and inspected hazardous material storage area outside building. There has been no changes in types and/or volumes of the hazardous material stored on site since last inspection or previous reporting period. Liquid Carbon Dioxide dewar is in a locked room in the back of building/behind kitchen. Dewar is bolted to the ground and filled from the outside. Hazardous materials management training is provided upon employment and annually thereafter. Last training was conducted on 10/17/17. Emergency contact information in maintained in kitchen area. Fire extinguishers observed throughout the facility are not shown on site map submitted electronically. Please add fire extinguishers and north arrow to site map and submit revised map during next annual certification period from January [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/19/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed annual certification documents submitted to CERS on 1/18/17 and did not accept it since Fire Code Hazard Classes and is not listed.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/21/2016
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Submitted RUR to change status of site from "04" to "01."; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/22/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted revised site map that included north arrow and location of fire extinguishers.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/20/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Accepted revised documents submitted to CERS on 1/20/17.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 23512 EL TORO RD
City: LAKE FOREST
State: CA
Country:
Zip Code: 92630
Phone:

Affil Type Desc: Legal Owner
Entity Name: BETOR INC
Entity Title:
Address: 27362 LOST COLT
City: LA HABRA
State: CA
Country: United States
Zip Code: 90631
Phone: (949) 422-3845

Affil Type Desc: Document Preparer
Entity Name: Chance Betor
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer RoadSuite 120
City: Santa Ana
State: CA
Country:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Identification Signer
Entity Name: Chance Betor
Entity Title: Pres
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Chance Betor
Entity Title:
Address: 27362 Lost Colt
City: Laguna Hills
State: CA
Country:
Zip Code: 92653
Phone:

Affil Type Desc: Operator
Entity Name: Chance Betor
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (949) 422-3845

Affil Type Desc: Parent Corporation
Entity Name: BIGSHOTS BILLIARDS BAR & GRILL
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

<u>6</u>	1 of 11	S	0.03 / 161.26	402.71 / 2	O'Reilly Auto Parts #2940 24601 RAYMOND WAY LAKE FOREST CA 92630	CERS HAZ
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Site ID: 139250
Latitude: 33.621483
Longitude: -117.700607

Regulated Programs

El Description:	Hazardous Waste Generator	EI ID:	10435219
El Description:	Chemical Storage Facilities	EI ID:	10435219

Evaluations

Eval Date: 05/24/2016
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Eval Notes:

The purpose of this visit is to conduct a routine Hazardous Materials Disclosure inspection. Met with Grant Figueroa. During the inspection the following was observed: Reviewed list of chemicals stored onsite and online. Reviewed training records onsite and online. The facility representative onsite stated that staff are trained at least yearly on emergency response procedures and hazardous waste management. The operator is also aware that new staff must be trained on emergency response within six months of employment and then yearly after that. Reviewed Business Emergency Plan / Plot Plan online. Completely reviewed and approved online CUPA form submittal on California Environmental Reporting System (CERS) For more information regarding Hazardous Materials Disclosure, or to sign up for our eNewsletter please visit <http://www.occupainfo.com/> ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 04/16/2016
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

2016 review: CERS - 2 HazMat = HW - accepted; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 05/24/2016
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Onsite to conduct a routine hazardous waste inspection. Met with Grant Figueroa. Inspected used oil, drained used oil/fuel filters, absorbent, waste returns and product breaks. Drums were provided with a lid, stored in a secure manner and appear to be in good condition. The operator completes a maintenance inspection on the drums on a weekly basis. A Hazardous Waste label was noted on all drums with the required identification. Municipal dumpster area does not appear to contain any hazardous waste. Perimeter of facility inspected - did not observe any water runoff or staining at this time. Hazardous Waste Emergency Response plan was available for review. Manifests and bills of lading for all hazardous waste streams were reviewed today. Ensure all hazardous waste manifests/disposal documents are maintained on site for at least three years from the date of transport and are available for review during normal business hours. Please continue to ensure all [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 03/25/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

CERS 10435219 Accepted 2017 Annual Certification for the following elements: Facility Information Chemical Inventory Emergency Response and Training Plan ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: Verisk 3E, Regulatory Dept./O'Reilly Auto, 3207 Grey Hawk Ct, Ste 200
City: Carlsbad
State: CA
Country:
Zip Code: 92010
Phone:

Affil Type Desc: Parent Corporation
Entity Name: O'Reilly Auto Parts

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Document Preparer
Entity Name: Erin Baltazar, Agent for O'Reilly Auto Enterprises, L.L.C.
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer Road Suite 120
City: Santa Ana
State: CA
Country:
Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Environmental Contact
Entity Name: Verisk 3E, Regulatory Department/O'Reilly Auto Parts
Entity Title:
Address: 3207 Grey Hawk Court, Suite 200
City: Carlsbad
State: CA
Country:
Zip Code: 92010
Phone:

Affil Type Desc: Legal Owner
Entity Name: O'Reilly Auto Enterprises, L.L.C.
Entity Title:
Address: 702 E. Bethany Home Road
City: Phoenix
State: AZ
Country: United States
Zip Code: 85014
Phone: (417) 862-3333

Affil Type Desc: Identification Signer
Entity Name: Erin Baltazar, Agent for O'Reilly Auto Enterprises, L.L.C.
Entity Title: Regulatory Compliance Specialist, Verisk 3E
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: O'Reilly Auto Enterprises, L.L.C.
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (417) 862-3333

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Coordinates

Env Int Type Code:	HWG	Longitude:	-117.700610
Program ID:	10435219	Coord Name:	
Latitude:	33.621480	Ref Point Type Desc:	Center of a facility or station.

6	2 of 11	S	0.03 / 161.26	402.71 / 2	CROWN CLEANERS 24601 RAYMOND WAY UNIT 15 EL TORO CA 926300000	DRYCLEANERS
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EPA ID:	CAL000225344	Owner Phone:	9498553148
Create Date:	11/15/2001	Owner Fax:	
Facility Act Ind:	No	Contact Name:	MOHAMMED DANESHFAR
Inact Date:	6/30/2005 10:01:00 AM	Contact Street 1:	24601 RAYMOND WAY UNIT 15
Reason:	SIC/NAICS	Contact Street 2:	
County Name:	Orange	Contact City:	EL TORO
Region Code:	4	Contact State:	CA
Owner Name:	M DANESHFAR	Contact Zip:	926300000
Owner Street 1:	24601 RAYMOND WAY STE 15	Contact Phone:	9498553148
Owner Street 2:		Mail Name:	MOHAMMED DANESHFAR
Owner City:	EL TORO	DD Latitude:	33.621693
Owner State:	CA	DD Longitude:	-117.701502
Owner Zip:	926300000		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

6	3 of 11	S	0.03 / 161.26	402.71 / 2	CROWN CLEANERS 24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	DRYCLEANERS
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EPA ID:	CAL000300257	Owner Phone:	9498553148
Create Date:	11/10/2005 9:40:44 AM	Owner Fax:	
Facility Act Ind:	No	Contact Name:	ARMINDA ZAVALA
Inact Date:	6/30/2009	Contact Street 1:	1222 MAPLE ST
Reason:	SIC/NAICS	Contact Street 2:	
County Name:	Orange	Contact City:	SANTA ANA
Region Code:	4	Contact State:	CA
Owner Name:	JAVIER ZAVALA	Contact Zip:	927071304
Owner Street 1:	1222 MAPLE ST	Contact Phone:	9498553148
Owner Street 2:		Mail Name:	
Owner City:	SANTA ANA	DD Latitude:	33.621674
Owner State:	CA	DD Longitude:	-117.701467
Owner Zip:	927071304		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

6	4 of 11	S	0.03 / 161.26	402.71 / 2	MOHAMMAD BANASHFAT DBA CROWN CLEANERS 24601 RAYMOND WAY STE 15 LAKE FOREST CA 926304460	DRYCLEANERS
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EPA ID:	CAL000235952	Owner Phone:	9498553148
Create Date:	12/24/2001	Owner Fax:	
Facility Act Ind:	No	Contact Name:	MOHAMMAD BANASHFAT

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Inact Date:	6/30/2002				Contact Street 1: 24601 RAYMOND WAY STE 15	
Reason:	SIC/NAICS				Contact Street 2:	
County Name:	Orange				Contact City: LAKE FOREST	
Region Code:	4				Contact State: CA	
Owner Name:	MOHAMMAD BANASHFAT				Contact Zip: 926304460	
Owner Street 1:	24601 RAYMOND WAY STE 15				Contact Phone: 9498553148	
Owner Street 2:					Mail Name: MOHAMMAD BANASHFAT	
Owner City:	LAKE FOREST				DD Latitude: 33.622036	
Owner State:	CA				DD Longitude: -117.701778	
Owner Zip:	926304460					

NAICS Details

NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7211
SIC Description: Power Laundries, Family and Commercial

<u>6</u>	5 of 11	S	0.03 / 161.26	402.71 / 2	CROWN CLEANERS 24601 RAYMOND WAY EL TORO CA 926300000	DRYCLEANERS
EPA ID:	CAL000171875				Owner Phone: 9498553148	
Create Date:	1/28/1998				Owner Fax:	
Facility Act Ind:	No				Contact Name: ZHALEH AFRAS/PARTNER	
Inact Date:	6/30/2001				Contact Street 1: NEW OWNER VQ01,MB	
Reason:	Cleaners				Contact Street 2:	
County Name:	Orange				Contact City: EL TORO	
Region Code:	4				Contact State: CA	
Owner Name:	AFRAS CORP DBA CROWN CLEANERS				Contact Zip: 926300000	
Owner Street 1:	24601 RAYMOND #15				Contact Phone: 7148553148	
Owner Street 2:					Mail Name:	
Owner City:	LAKE FOREST				DD Latitude:	
Owner State:	CA				DD Longitude:	
Owner Zip:	926300000					

<u>6</u>	6 of 11	S	0.03 / 161.26	402.71 / 2	CROWN 1 HOUR CLEANERS, A. TAHB 24601 RAYMOND WAY #15 EL TORO CA 92630	EMISSIONS
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1990 Criteria Data

Facility ID: 54258	CERR Code:	
Facility SIC Code: 7216	TOGT:	.8
CO: 30	ROGT:	0
Air Basin: SC	COT:	
District: SC	NOXT:	
COID: ORA	SOXT:	
DISN: SOUTH COAST AQMD	PMT:	
CHAPIS:	PM10T:	

1990 Toxic Data

Facility ID: 54258	COID: ORA
Facility SIC Code: 7216	DISN: SOUTH COAST AQMD
CO: 30	CHAPIS:
Air Basin: SC	CERR Code:
District: SC	
TS:	
Health Risk Asmt:	
Non-Cancer Chronic Haz Ind:	
Non-Cancer Acute Haz Ind:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
<u>6</u>	7 of 11	S	0.03 / 161.26	402.71 / 2	CROWN 1 HOUR CLEANERS 24601 RAYMOND WAY #15 EL TORO CA 92630	EMISSIONS

1987 Criteria Data

Facility ID:	54258	CERR Code:	
Facility SIC Code:	7216	TOGT:	.8
CO:	30	ROGT:	0
Air Basin:	SC	COT:	
District:	SC	NOXT:	
COID:	ORA	SOXT:	
DISN:	SOUTH COAST AQMD	PMT:	
CHAPIS:		PM10T:	

1987 Toxic Data

Facility ID:	54258	COID:	ORA
Facility SIC Code:	7216	DISN:	SOUTH COAST AQMD
CO:	30	CHAPIS:	
Air Basin:	SC	CERR Code:	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

<u>6</u>	8 of 11	S	0.03 / 161.26	402.71 / 2	FORMER CROWN CLEANERS 24601 RAYMOND WAY LAKE FOREST CA 92603	CLEANUP SITES
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Global ID:	T10000009409	Site Facility Type:	CLEANUP PROGRAM SITE
Status:	OPEN - ACTIVE	County:	ORANGE
Status Date:	2016-09-26 00:00:00	Latitude:	33.6217236041589
Site Code:		Longitude:	-117.700267406082
Data Source:	Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download		

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:	2080155	CUF Case:	NO
Local Case Number:		Case Worker:	MB
Begin Date:	2016-09-23 00:00:00	File Location:	Regional Board
Stop Method:			
Lead Agency:	SANTA ANA RWQCB (REGION 8)		
Local Agency:			
Potential COC:	Tetrachloroethylene (PCE)		
Potential Media of Concern:	Other Groundwater (uses other than drinking water), Soil		
How Discovered:			
How Discovered Description:			
Stop Description:			
Calwater Watershed Name:	Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)		
DWR GW Subbasin Name:	Coastal Plain Of Orange County (8-001)		
Disadvantaged Community:			
Site History:			

The site is located in 24601 RAYMOND WAY LAKE FOREST , CA 92603. Bell Tower Shopping Center contains eighteen tenant spaces one of which (Unit 15) has operated as a dry cleaners from approximately 1978 to present. Based upon information from the California Department of Water Resources and nearby groundwater monitoring wells, groundwater was estimated to be less than 35 feet below grade.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Acitivity

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2018-07-05 00:00:00				
Action:		Annual Estimation Letter				
Action Type:		ENFORCEMENT				
Date :		2017-11-16 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2017-11-09 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2017-09-28 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2017-08-29 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2017-05-26 00:00:00				
Action:		Notice to Comply				
Action Type:		ENFORCEMENT				
Date :		2017-05-12 00:00:00				
Action:		Letter - Notice				
Action Type:		ENFORCEMENT				
Date :		2017-05-09 00:00:00				
Action:		Letter - Notice				
Action Type:		ENFORCEMENT				
Date :		2017-03-03 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2017-03-02 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2017-01-25 00:00:00				
Action:		Letter - Notice				
Action Type:		ENFORCEMENT				
Date :		2017-01-12 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2016-12-22 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2016-09-26 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2016-09-23 00:00:00				
Action:		Cost Recovery Agreement / N. of Reimbursement				
Action Type:		RESPONSE				
Date :		2016-08-08 00:00:00				
Action:		Monitoring Report - Quarterly				

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Open - Active

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Status Date: 2016-09-26 00:00:00
Status: Open - Case Begin Date
Status Date: 2016-09-23 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: Mona Behrooz
Phone Number: 9517823237
Organization Name: SANTA ANA RWQCB (REGION 8)
Email: mehrmoosh.behrooz@waterboards.ca.gov
Address: 3737 Main St, Suite 500
City: RIVERSIDE

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status: **WDR Place Type:**
CUF Claim: **WDR File:**
CUF Priority Assign: **WDR Order:**
CUF Amount Paid: **File Location:** REGIONAL BOARD
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T10000009409
Cleanup Status Detail: OPEN - ACTIVE AS OF 9/26/2016
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000009409&tabname=regulatoryhistory
Potential COC: TETRACHLOROETHYLENE (PCE)
Potential Media Of Concern: OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER), SOIL
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 2080155
CASEWORKER: Mona Behrooz

Site History:

The site is located in 24601 RAYMOND WAY LAKE FOREST , CA 92603. Bell Tower Shopping Center contains eighteen tenant spaces one of which (Unit 15) has operated as a dry cleaners from approximately 1978 to present. Based upon information from the California Department of Water Resources and nearby groundwater monitoring wells, groundwater was estimated to be less than 35 feet below grade.

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 7/5/2018
Received Issue Date: 7/5/2018
Action: Annual Estimation Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6363207&temp_table=ENFORCEMENT

Title Description Comments:

Former Crown Cleaners Annual Cost Recovery Program

Action Type: Other Regulatory Actions
Action Date: 11/16/2017
Received Issue Date: 11/16/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6341671&temp_table=ENFORCEMENT

Title Description Comments:

RE RE 3rd QRT Groundwater Monitoring Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		Other Regulatory Actions				
Action Date:		11/16/2017				
Received Issue Date:		11/16/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6341669&temp_table=ENFORCEMENT				
Title Description Comments:						
RE CRown Cleaners Well Installation						
Action Type:		Other Regulatory Actions				
Action Date:		11/9/2017				
Received Issue Date:		11/9/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6340721&temp_table=ENFORCEMENT				
Title Description Comments:						
RE 3rd QRT 2017 Groundwater Monitoring Report						
Action Type:		Other Regulatory Actions				
Action Date:		9/28/2017				
Received Issue Date:		9/28/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6337630&temp_table=ENFORCEMENT				
Title Description Comments:						
RE Well Installation Work Plan						
Action Type:		Other Regulatory Actions				
Action Date:		8/29/2017				
Received Issue Date:		8/29/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6335082&temp_table=ENFORCEMENT				
Title Description Comments:						
RE Groundwater Investigation Report						
Action Type:		Enforcement/Orders				
Action Date:		5/26/2017				
Received Issue Date:		5/26/2017				
Action:		Notice to Comply				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6321230&temp_table=ENFORCEMENT				
Title Description Comments:						
Crown_Cleaners_NOTICE OF NON_COMPLIANCE						
Action Type:		Notices				
Action Date:		5/12/2017				
Received Issue Date:		5/12/2017				
Action:		Letter - Notice				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319777&temp_table=ENFORCEMENT				
Title Description Comments:						
Annual Cost Estimate						
Action Type:		Notices				
Action Date:		5/9/2017				
Received Issue Date:		5/9/2017				
Action:		Letter - Notice				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319450&temp_table=ENFORCEMENT				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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table=ENFORCEMENT

Title Description Comments:

Crown_Cleaners_Communication_Request

Action Type: Other Regulatory Actions
Action Date: 3/3/2017
Received Issue Date: 3/3/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313273&temp_table=ENFORCEMENT

Title Description Comments:

RE Groundwater Investigation Work Plan

Action Type: Other Regulatory Actions
Action Date: 3/3/2017
Received Issue Date: 3/3/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313271&temp_table=ENFORCEMENT

Title Description Comments:

RE Soil Vapor Mitigation Plan

Action Type: Other Regulatory Actions
Action Date: 3/2/2017
Received Issue Date: 3/2/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313267&temp_table=ENFORCEMENT

Title Description Comments:

Crown cleaner-GW Monitoring Program

Action Type: Notices
Action Date: 1/25/2017
Received Issue Date: 1/25/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6309744&temp_table=ENFORCEMENT

Title Description Comments:

Crown Cleaners Meeting Summary_Jan25_2017

Action Type: Other Regulatory Actions
Action Date: 1/12/2017
Received Issue Date: 1/12/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6307069&temp_table=ENFORCEMENT

Title Description Comments:

Request for Reports

Action Type: Other Regulatory Actions
Action Date: 12/22/2016
Received Issue Date: 12/22/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6307069&temp_table=ENFORCEMENT

Title Description Comments:

Crown_Cleaners_Comments_CSM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type: Other Regulatory Actions
Action Date: 9/26/2016
Received Issue Date: 9/26/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299227&temp_table=ENFORCEMENT

Title Description Comments:
 Former Crown Cleaners-Preliminary CSM

Action Type: Agreements
Action Date: 9/23/2016
Received Issue Date: 9/23/2016
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299117&temp_table=ENFORCEMENT

Title Description Comments:
 Cost Recovery Agreement

Action Type: Response Requested - Reports
Action Date: 8/8/2016
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009409&doc_id=5905715

Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Monitoring Reports
Document Date:
Size : 21,407 KB
Title: UNKNOWN - 2nd QUARTER 2016 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/8249943375/2Q2016%2E080816%2Epdf
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports
Document Date: 1/15/2019
Size : 7,416 KB
Title: 4TH QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6615591883/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports
Document Date: 10/15/2018
Size : 11,346 KB
Title: 3RD QTR 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4501685023/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Monitoring Reports
Document Date: 7/15/2018
Size : 11,043 KB
Title: 2ND QUARTER 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4393057703/T10000009409.PDF
Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents
Document Date: 7/5/2018
Size :
Title: FORMER CROWN CLEANERS ANNUAL COST RECOVERY PROGRAM
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6363207
Type: ANNUAL ESTIMATION LETTER

Document Type: Monitoring Reports
Document Date: 4/14/2018
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Size :	10,470 KB					
Title:					1ST QUARTER 2018 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9285333454/T1000009409.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	1/15/2018				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	11,550 KB					
Title:					4TH QUARTER 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7157030105/T1000009409.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	1/2/2018				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	3,582 KB					
Title:					GROUNDWATER WELL INSTALLATION REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5653724372/T1000009409.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Site Documents				Submitted:	
Document Date:	11/16/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE CROWN CLEANERS WELL INSTALLATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009409&enforcement_id=6341669	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	11/16/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE RE 3RD QRT GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009409&enforcement_id=6341671	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	11/9/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE 3RD QRT 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009409&enforcement_id=6340721	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/12/2017				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	9,452 KB					
Title:					3RD QTR 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7494787812/T1000009409.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Site Documents				Submitted:	
Document Date:	9/28/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE WELL INSTALLATION WORK PLAN	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009409&enforcement_id=6337630	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	8/29/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE GROUNDWATER INVESTIGATION REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009409&enforcement_id=6335082	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	7/14/2017				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	9,488 KB					
Title:					2ND QUARTER 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4053918659/T1000009409.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Site Documents				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date: Size : Title: Title Link: Type:	7/14/2017 7,465 KB				Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
					SOIL GAS INVESTIGATION REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8279594123/T10000009409.PDF SOIL VAPOR INTRUSION INVESTIGATION REPORT	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 6/19/2017 6,252 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
					GROUNDWATER INVESTIGATION REPORT FORMER CROWN CLEANERS http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2924789667/T10000009409.PDF OTHER REPORT / DOCUMENT	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/26/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					CROWN_CLEANERS_NOTICE OF NON_COMPLIANCE http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6321230 NOTICE TO COMPLY	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/12/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					ANNUAL COST ESTIMATE http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319777 LETTER - NOTICE	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/9/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					CROWN_CLEANERS_COMMUNICATION_REQUEST http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6319450 LETTER - NOTICE	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 4/20/2017 5,122 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
					1ST QUARTER 2017, GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3136034011/T10000009409.PDF MONITORING REPORT - QUARTERLY	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 3/3/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE SOIL VAPOR MITIGATION PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313271 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 3/3/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE GROUNDWATER INVESTIGATION WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313273 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 3/2/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					CROWN CLEANER-GW MONITORING PROGRAM http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6313267 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 2/17/2017 2,274 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
					SOIL VAPOR MITIGATION PLAN http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4878296136/T10000009409.PDF SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 2/17/2017 4,070 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Title: Title Link: Type:	GROUNDWATER INVESTIGATION WORK PLAN http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1881669998/T10000009409.PDF SITE INVESTIGATION WORKPLAN					
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 2/17/2017 2,048 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Title: Title Link: Type:	GROUNDWATER MONITORING PLAN http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6772681891/T10000009409.PDF GROUNDWATER MONITORING PLAN					
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 1/25/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Title: Title Link: Type:	CROWN CLEANERS MEETING SUMMARY_JAN25_2017 http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6309744 LETTER - NOTICE					
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 1/24/2017 8,886 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Title: Title Link: Type:	4TH QUARTER 2016 GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1091926276/T10000009409.PDF MONITORING REPORT - QUARTERLY					
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 12/22/2016				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Title: Title Link: Type:	CROWN_CLEANERS_COMMENTS_CSM http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6307069 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 11/14/2016 2,219 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Title: Title Link: Type:	PRELIMINARY CONCEPTUAL SITE MODEL http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9658790290/T10000009409.PDF CONCEPTUAL SITE MODEL					
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 10/31/2016 5,790 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Title: Title Link: Type:	3RD QUARTER 2016 GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3741995453/T10000009409.PDF MONITORING REPORT - QUARTERLY					
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 9/26/2016				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Title: Title Link: Type:	FORMER CROWN CLEANERS-PRELIMINARY CSM http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299227 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 9/23/2016				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Title: Title Link: Type:	COST RECOVERY AGREEMENT http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009409&enforcement_id=6299117 COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT					
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 8/8/2016 21,407 KB				Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Title: Title Link: Type:	2ND QTR 2016 GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2673097610/T10000009409.PDF MONITORING REPORT - QUARTERLY					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/18/2016				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	16,923 KB					
Title:	1ST QUARTER 2016 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8309051752/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	1/27/2016				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	19,566 KB					
Title:	4TH QUARTER 2015 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7701654791/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	8/20/2015				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	7,419 KB					
Title:	2ND QUARTER 2015 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5396859943/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	5/1/2015				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	8,507 KB					
Title:	1ST QUARTER 2015 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8284639358/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	12/1/2014				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	9,031 KB					
Title:	3RD QTR 2014 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6819648444/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	5/5/2014				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	3,320 KB					
Title:	1ST QUARTER 2014 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4847017288/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/24/2013				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	5,321 KB					
Title:	3RD QTR 2013 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6294714391/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	7/19/2013				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	3,123 KB					
Title:	2ND QUARTER 2013 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4453605353/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/17/2013				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	2,340 KB					
Title:	1ST QUARTER 2013 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5810171723/T10000009409.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/30/2012				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Size :	10,790 KB					
Title:	1ST QUARTER 2012 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7111162185/T10000009409.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Type: MONITORING REPORT - QUARTERLY

Document Type: Site Documents
 Document Date: 8/11/2011
 Size: 11,172 KB
 Title: SUBSURFACE ENVIRONMENTAL INVESTIGATION, GROUNDWATER MONITORING WELL INSTALLATION
 Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3745566010/T10000009409.PDF
 Type: WELL INSTALLATION REPORT
 Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)

Document Type: Site Documents
 Document Date: 12/20/2010
 Size: 9,100 KB
 Title: PHASE II ENVIRONMENTAL ASSESSMENT
 Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7684713959/T10000009409.PDF
 Type: SITE INVESTIGATION
 Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
 Size: 74 KB
 Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1766226649/T10000009409.PDF
 Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
 Submitted: 1/11/2018

Title: MW-12 (MW-12)
 Size: 102 KB
 Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3099952399/T10000009409.PDF
 Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
 Submitted: 1/11/2018

Title: MW-11 (MW-11)
 Size: 102 KB
 Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5264212906/T10000009409.PDF
 Submitted: Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
 Submitted: 1/11/2018

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Active
 Date: 9/26/2016
 Status: Open - Case Begin Date
 Date: 9/23/2016

6	9 of 11	S	0.03 / 161.26	402.71 / 2	OREILLY AUTO PARTS #2940 24601 RAYMOND WAY LAKE FOREST CA 92630	ORANGE HW
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Facility ID: FA0058199

6	10 of 11	S	0.03 / 161.26	402.71 / 2	CARLEN PLAZA - CROWN CLEANERS 24601 RAYMOND WAY LAKE FOREST CA 92630-	ORANGE ICP
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Record ID: RO0003553
 Case ID: 111C001
 Released Substance(s):
 Type of Closure: Referred to Regional Board
 Status Description: CLOSED
 Case Closed Date: 8/18/2016

6	11 of 11	S	0.03 / 161.26	402.71 / 2	O'REILLY AUTO PARTS STORE 2940 24601 RAYMOND WAY LAKE FOREST CA 92630	RCRA NON GEN
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EPA Handler ID: CAL000392709
 Gen Status Universe: No Report
 Contact Name: JOHN BOUNDS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Contact Address:		233 S. PATTERSON AVE. , , SPRINGFIELD , MO, 65802 ,				
Contact Phone No and Ext:		417-520-4589				
Contact Email:		JBOUNDS2@OREILLYAUTO.COM				
Contact Country:						
County Name:		ORANGE				
EPA Region:		09				
Land Type:						
Receive Date:		20140110				

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20140110
Handler Name:	O'REILLY AUTO PARTS STORE 2940
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	233 S PATTERSON
Name:	O'REILLY AUTO PARTS	Street 2:	
Date Became Current:		City:	SPRINGFIELD
Date Ended Current:		State:	MO
Phone:	417-862-3333	Country:	
Source Type:	Implementer	Zip Code:	65802-0000
Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	233 S. PATTERSON AVE.
Name:	JOHN BOUNDS	Street 2:	
Date Became Current:		City:	SPRINGFIELD
Date Ended Current:		State:	MO
Phone:	417-520-4589	Country:	
Source Type:	Implementer	Zip Code:	65802

7	1 of 2	SE	0.03 / 169.40	400.73 / 0	Sizzler Restaurant #409 23501 EL TORO RD LAKE FOREST CA 92630	CERS HAZ
Site ID:		153899				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Latitude:		33.620946				
Longitude:		-117.700205				

Regulated Programs

EI Description: Chemical Storage Facilities **EI ID:** 10472596

Evaluations

Eval Date: 01/24/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted annual certification documents submitted to CERS on 1/19/17.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 07/11/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Documents submitted to CERS on 5/20/15 were reviewed and accepted.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 05/07/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. I walked through the facility and inspected hazardous material storage area in back of building/next to kitchen area. There has been no changes in types and/or volumes of the hazardous material stored on site since last inspection or previous reporting period. Business has seven (76 pounds/616 cubic feet) cylinders of carbon dioxide gas. Cylinders are chained to the wall. Hazardous materials management training is provided annually and training records are available on site. Emergency contact information is posted in manager's office. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 06/02/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted Facility Information documents submitted to CERS on 6/1/17. Updated contact information in EC.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 02/17/2016
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted annual certification documents submitted to CERS on 2/16/16.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 04/28/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector Comments: I walked through the facility and inspected hazardous materials storage area. Christina Slack granted consent to conduct inspection. I verified the location of carbon dioxide cylinder and fire extinguishers as reported in CERS. Facility has four managers that are trained on how to shut off carbon dioxide cylinder if necessary.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 01/17/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Annual certification documents submitted to CERS on 12/29/17 were reviewed and conditionally accepted with request to update inventory forms with new Federal Hazard Categories and add location of fire hydrant (one observed at corner of El Toro Rd. and Raymond) on site map.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer Road Suite 120
City: Santa Ana
State: CA
Country:
Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 43172 Business Park Dr Ste 101
City: Temecula
State: CA
Country:
Zip Code: 92590
Phone:

Affil Type Desc: Document Preparer
Entity Name: Roxie Roque
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Affil Type Desc:		Identification Signer				
Entity Name:		Roxie Roque				
Entity Title:		Accounts Payable				
Address:						
City:						
State:						
Country:						
Zip Code:						
Phone:						
Affil Type Desc:		Legal Owner				
Entity Name:		Gary W Myers				
Entity Title:						
Address:		43172 Business Park Dr ste 101				
City:		Temecula				
State:		CA				
Country:		United States				
Zip Code:		92590				
Phone:		(951) 676-8616				
Affil Type Desc:		Parent Corporation				
Entity Name:		BMW Management, Inc.				
Entity Title:						
Address:						
City:						
State:						
Country:						
Zip Code:						
Phone:						
Affil Type Desc:		Environmental Contact				
Entity Name:		JESUS SANDOVAL				
Entity Title:						
Address:		43172 Business Park Dr ste 101				
City:		Temecula				
State:		CA				
Country:						
Zip Code:		92590				
Phone:						
Affil Type Desc:		Operator				
Entity Name:		BMW Management, Inc				
Entity Title:						
Address:						
City:						
State:						
Country:						
Zip Code:						
Phone:		(951) 676-8616				

Coordinates

Env Int Type Code:	HMBP	Longitude:	-117.699100
Program ID:	10472596	Coord Name:	
Latitude:	33.621850	Ref Point Type Desc:	Center of a facility or station.

<u>7</u>	2 of 2	SE	0.03 / 169.40	400.73 / 0	SIZZLER-MORGAN MANAGEMENT 23501 EL TORO RD EL TORO CA 92630	EMISSIONS
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1990 Criteria Data

Facility ID:	64771	CERR Code:	
Facility SIC Code:	5812	TOGT:	.1

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
CO:	30				ROGT:	.04223
Air Basin:	SC				COT:	
District:	SC				NOXT:	
COID:	ORA				SOXT:	
DISN:	SOUTH COAST AQMD				PMT:	.4
CHAPIS:					PM10T:	.38

1990 Toxic Data

Facility ID:	64771	COID:	ORA
Facility SIC Code:	5812	DISN:	SOUTH COAST AQMD
CO:	30	CHAPIS:	
Air Basin:	SC	CERR Code:	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

8 1 of 2 **ESE** 0.07 / 369.11 400.35 / 0 **PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE) 23512-23532 EL TORO ROAD LAKE FOREST CA 92630** **ENVIROSTOR**

Estor/EPA ID:	60001482	Permit Renewal Lead:	
Site Code:	401582	Project Manager:	
Nat Priority List:	NO	Supervisor:	
Acres:	0.25 ACRES	Public Partici Splst:	
Special Program:	VOLUNTARY CLEANUP PROGRAM	Census Tract:	6059032014
Funding:	SITE PROPONENT	County:	ORANGE
Assembly District:	68	Latitude:	33.620864
Senate District:	37	Longitude:	-117.698652
School District:			
APN:	NONE SPECIFIED		
Cleanup Status:	REFER: LOCAL AGENCY AS OF 2/27/2013		
Cleanup Oversight Agencies:	DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY		
Site Type:	VOLUNTARY CLEANUP		
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH		
Past Use that Caused Contam:	DRY CLEANING		
Potential Media Affected:	INDOOR AIR, SOIL VAPOR, UNDER INVESTIGATION		
Potential Contamin of Concern:			

TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)

Site History:

The Site is located within the Orange Tree Plaza shopping center, in a commercial and residential area of Lake Forest. The subject property has been utilized as a dry cleaning facility since 1979.

Based on DTSC's evaluation of the data, hazardous substances that pose a threat to public health or the environment under an unrestricted land use were detected at the Site. Therefore, DTSC concurred with the conclusion of the Report that further environmental investigation of the Site is warranted. DTSC recommended the collection of additional soil gas data across the site to give a more accurate and current understanding of the potential risk at the Site.

The data in the Report confirms a release of hazardous substances into the environment and that the level of hazardous constituents in soil and groundwater detected near the Site pose unacceptable risk to human health and the environment. Such a release constitutes violation of Health and Safety Code Chapters 6.5 and 6.8 and Title 22 California Code of Regulations, Division 4.5, Chapter 12. Article 3.

On July 19, 2011 DTSC completed scope of work under consultative agreement. The status has been changed to "Inactive-Action Required" as this was deemed to be the closest match for "Further Action". Thereafter, the responsible party elected to conduct investigation/cleanup under the Orange County CUPA. DTSC did not object to local agency oversight and the project was discussed with CUPA staff involved in the project..

Anthony Martinez from CUPA informed DTSC (Thru e-mail) on February 19, 2013 that the RP executed an oversight agreement with the County to oversee the investigation.

Status: REFER: LOCAL AGENCY
Program Type: VOLUNTARY CLEANUP

CalEnviroScreen Score: 61-65%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60001482

Completed Activities

Title: Investigation Report (PEA Equivalent)
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&doc_id=60269735
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 7/19/2011
Comments: DTSC determined that further investigation is necessary at the site.

Title: 10-T1153 Prothero Enterprises Reimbursement Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&enforcement_id=60269731
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Reimbursement Agreement
Date Completed: 6/22/2011
Comments: Agreement fully executed.

<u>8</u>	2 of 2	ESE	0.07 / 369.11	400.35 / 0	PROTHERO ENTERPRISES INC. (ORANGE TREE PLAZA SITE) 23512-23532 EL TORO ROAD LAKE FOREST CA 92630	VCP
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Estor/EPA ID: 60001482	Permit Renewal Lead:
Site Code: 401582	Project Manager:
Nat Priority List: NO	Supervisor:
Acres: 0.25 ACRES	Public Partici Spclst:
Special Program: VOLUNTARY CLEANUP PROGRAM	Census Tract: 6059032014
Funding: SITE PROPONENT	County: ORANGE
Assembly District: 68	Latitude: 33.620864
Senate District: 37	Longitude: -117.698652
School District:	
APN: NONE SPECIFIED	
Cleanup Status: REFER: LOCAL AGENCY AS OF 2/27/2013	
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY	
Site Type: VOLUNTARY CLEANUP	
Office: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH	
Past Use that Caused Contam: DRY CLEANING	
Potential Media Affected: INDOOR AIR, SOIL VAPOR, UNDER INVESTIGATION	
Potential Contamin of Concern:	

TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)

Site History:

The Site is located within the Orange Tree Plaza shopping center, in a commercial and residential area of Lake Forest. The subject property has been utilized as a dry cleaning facility since 1979.

Based on DTSC's evaluation of the data, hazardous substances that pose a threat to public health or the environment under an unrestricted land use were detected at the Site. Therefore, DTSC concurred with the conclusion of the Report that further environmental investigation of the Site is warranted. DTSC recommended the collection of additional soil gas data across the site to give a more accurate and current understanding of the potential risk at the Site.

The data in the Report confirms a release of hazardous substances into the environment and that the level of hazardous constituents in soil and groundwater detected near the Site pose unacceptable risk to human health and the environment. Such a release constitutes violation of Health and Safety Code Chapters 6.5 and 6.8 and Title 22 California Code of Regulations, Division 4.5, Chapter 12. Article 3.

On July 19, 2011 DTSC completed scope of work under consultative agreement. The status has been changed to "Inactive-Action Required" as this was deemed to be the closest match for "Further Action". Thereafter, the responsible party elected to conduct investigation/cleanup under the Orange County CUPA. DTSC did not object to local agency oversight and the project was discussed with CUPA staff involved in the project..

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Anthony Martinez from CUPA informed DTSC (Thru e-mail) on February 19, 2013 that the RP executed an oversight agreement with the County to oversee the investigation.

Status: REFER: LOCAL AGENCY
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 61-65%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60001482

Completed Activities

Title: 10-T1153 Prothero Enterprises Reimbursement Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&enforcement_id=60269731
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Reimbursement Agreement
Date Completed: 6/22/2011
Comments: Agreement fully executed.

Title: Investigation Report (PEA Equivalent)
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60001482&doc_id=60269735
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 7/19/2011
Comments: DTSC determined that further investigation is necessary at the site.

9	1 of 1	ESE	0.09 / 453.98	400.88 / 0	THE FORMER ORANGE TREE PLAZA DRY CLEANERS 23532 EL TORO ROAD LAKE FOREST CA	CLEANUP SITES
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Global ID: T10000009084
Status: OPEN - ACTIVE
Status Date: 2016-06-29 00:00:00
Site Code:
Data Source: Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download

Site Facility Type: CLEANUP PROGRAM SITE
County: ORANGE
Latitude: 33.6209147785558
Longitude: -117.698203033066

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 2080149
Local Case Number:
Begin Date: 2016-06-29 00:00:00
Stop Method:
Lead Agency: SANTA ANA RWQCB (REGION 8)
Local Agency:
Potential COC: Other Chlorinated Hydrocarbons, Tetrachloroethylene (PCE), Trichloroethylene (TCE)
Potential Media of Concern: Indoor Air, Other Groundwater (uses other than drinking water), Soil, Soil Vapor
How Discovered:
How Discovered Description:
Stop Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Investigation work conducted at 23532 El Toro Road, Lake Forest (Site) indicates that volatile organic compounds (VOCs) associated with past activities of Orange Tree Plaza Dry Cleaners are present in the subsurface soil, soil vapor, and groundwater at the Site. Based on the March 2016 investigation report, concentrations of approximately 5,900 micrograms per liter (µg/L) for total VOCs were detected in groundwater beneath the Site. The main VOCs detected in groundwater are tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene (DCE). In February 2016, PCE concentration of up to 2,000 µg/L was also detected in soil vapor at 5 ft below ground surface (bgs) at the Site.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Acitivity

Action Type:	RESPONSE
Date :	2019-03-26 00:00:00
Action:	Correspondence
Action Type:	ENFORCEMENT
Date :	2019-02-05 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	RESPONSE
Date :	2019-01-25 00:00:00
Action:	Other Workplan
Action Type:	RESPONSE
Date :	2018-11-15 00:00:00
Action:	Other Workplan
Action Type:	RESPONSE
Date :	2018-11-05 00:00:00
Action:	Other Workplan
Action Type:	ENFORCEMENT
Date :	2018-10-25 00:00:00
Action:	Notice to Comply
Action Type:	ENFORCEMENT
Date :	2018-10-16 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	RESPONSE
Date :	2018-09-14 00:00:00
Action:	Correspondence
Action Type:	RESPONSE
Date :	2018-09-14 00:00:00
Action:	Other Workplan
Action Type:	ENFORCEMENT
Date :	2018-09-14 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	RESPONSE
Date :	2018-09-14 00:00:00
Action:	Site Investigation Workplan
Action Type:	ENFORCEMENT
Date :	2018-08-15 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2018-08-14 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2018-07-05 00:00:00
Action:	Annual Estimation Letter
Action Type:	ENFORCEMENT
Date :	2018-05-01 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2018-02-27 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Date :						
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Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:		Letter - Notice				
Action Type:		ENFORCEMENT				
Date :		2016-08-17 00:00:00				
Action:		Meeting				
Action Type:		ENFORCEMENT				
Date :		2016-08-09 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2016-08-08 00:00:00				
Action:		Conceptual Site Model				
Action Type:		RESPONSE				
Date :		2016-08-04 00:00:00				
Action:		Other Workplan				
Action Type:		ENFORCEMENT				
Date :		2016-07-29 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2016-07-05 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2016-06-23 00:00:00				
Action:		Cost Recovery Agreement / N. of Reimbursement				
Action Type:		RESPONSE				
Date :		2016-03-25 00:00:00				
Action:		Monitoring Report - Quarterly				
Action Type:		RESPONSE				
Date :		2016-03-14 00:00:00				
Action:		Monitoring Report - Quarterly				
Action Type:		RESPONSE				
Date :		2014-05-14 00:00:00				
Action:		Preliminary Site Assessment Report - Regulator Responded				

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status:	Open - Active
Status Date:	2016-06-29 00:00:00
Status:	Open - Case Begin Date
Status Date:	2016-06-29 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type:	Regional Board Caseworker	Address:	3737 Main St, Suite 500
Contact Name:	Mona Behrooz	City:	RIVERSIDE
Phone Number:	9517823237		
Organization Name:	SANTA ANA RWQCB (REGION 8)		
Email:	mehmoosh.behrooz@waterboards.ca.gov		

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status:		WDR Place Type:	
CUF Claim:		WDR File:	
CUF Priority Assign:		WDR Order:	
CUF Amount Paid:		File Location:	LOCAL AGENCY
User Defined Beneficial Use:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Designated Beneficial Use:		MUN, AGR				
Project Oversight Agencies:						
Report Link:		http://geotracker.waterboards.ca.gov/profile_report?global_id=T10000009084				
Cleanup Status Detail:		OPEN - ACTIVE AS OF 6/29/2016				
Cleanup History Link:		http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T10000009084&tabname=regulatoryhistory				
Potential COC:		OTHER CHLORINATED HYDROCARBONS, TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)				
Potential Media Of Concern:		INDOOR AIR, OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER), SOIL, SOIL VAPOR				
DWR GW Sub Basin:						
Calwater Watershed Name:		San Juan - Laguna - Aliso (901.13)				
Post Closure Site Management:						
Future Land Use:						
Cleanup Oversight Agencies:		SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 2080149 CASEWORKER: Mona Behrooz				
Site History:						

Investigation work conducted at 23532 El Toro Road, Lake Forest (Site) indicates that volatile organic compounds (VOCs) associated with past activities of Orange Tree Plaza Dry Cleaners are present in the subsurface soil, soil vapor, and groundwater at the Site. Based on the March 2016 investigation report, concentrations of approximately 5,900 micrograms per liter (µg/L) for total VOCs were detected in groundwater beneath the Site. The main VOCs detected in groundwater are tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene (DCE). In February 2016, PCE concentration of up to 2,000 µg/L was also detected in soil vapor at 5 ft below ground surface (bgs) at the Site.

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type:	Enforcement - Other
Action Date:	
Received Issue Date:	
Action:	Unknown
Doc Link:	
Title Description Comments:	
Action Type:	Response Requested - Workplans
Action Date:	11/15/2018
Received Issue Date:	11/15/2018
Action:	Other Workplan
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5979423
Title Description Comments:	

Additional Soil Vapor Investigation

Action Type:	Response Requested - Workplans
Action Date:	11/5/2018
Received Issue Date:	11/5/2018
Action:	Other Workplan
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5979421
Title Description Comments:	

Pre-Design Testing_Interim GW Remed_2018-11-05

Action Type:	Enforcement/Orders
Action Date:	10/25/2018
Received Issue Date:	10/25/2018
Action:	Notice to Comply
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6373495&temp_table=ENFORCEMENT
Title Description Comments:	

NOTICE OF NON-COMPLIANCE WITH WORK SCHEDULE

Action Type:	Other Regulatory Actions
Action Date:	10/16/2018
Received Issue Date:	10/16/2018
Action:	Technical Correspondence / Assistance / Other
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6372499&temp_table=ENFORCEMENT

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Title Description Comments:

RE Email transmittal of Sep 14, 2018-soil vapor investigation at Orange Tree

Action Type: Response Requested - Other

Action Date: 9/14/2018

Received Issue Date: 9/14/2018

Action: Correspondence

Doc Link:

Title Description Comments:

RE Additional Investigation, June 2018

Action Type: Other Regulatory Actions

Action Date: 9/14/2018

Received Issue Date: 9/14/2018

Action: Technical Correspondence / Assistance / Other

Doc Link:

Title Description Comments:

RE Additional Investigation, June 2018

Action Type: Response Requested - Workplans

Action Date: 9/14/2018

Received Issue Date: 9/14/2018

Action: Other Workplan

Doc Link:

Title Description Comments:

Additional Investigation

Action Type: Response Requested - Workplans

Action Date: 9/14/2018

Received Issue Date: 9/14/2018

Action: Site Investigation Workplan

Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5975647

Title Description Comments:

RE Additional Investigation, June 2018

Action Type: Other Regulatory Actions

Action Date: 8/15/2018

Received Issue Date: 8/15/2018

Action: Technical Correspondence / Assistance / Other

Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366899&temp_table=ENFORCEMENT

Title Description Comments:

Re Additional Investigation, June 2018

Action Type: Other Regulatory Actions

Action Date: 8/14/2018

Received Issue Date: 8/14/2018

Action: Technical Correspondence / Assistance / Other

Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366747&temp_table=ENFORCEMENT

Title Description Comments:

Request for GW Interim Measure

Action Type: Other Regulatory Actions

Action Date: 7/5/2018

Received Issue Date: 7/5/2018

Action: Annual Estimation Letter

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6363208&temp table=ENFORCEMENT				
Title Description Comments:	Former Orange Tree Plaza-Annual Cost Recovery					
Action Type:		Other Regulatory Actions				
Action Date:		5/1/2018				
Received Issue Date:		5/1/2018				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6356628&temp table=ENFORCEMENT				
Title Description Comments:	RE Proposed Additional Investigation					
Action Type:		Other Regulatory Actions				
Action Date:		2/27/2018				
Received Issue Date:		2/27/2018				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6350404&temp table=ENFORCEMENT				
Title Description Comments:	RE Work Plan for Additional Investigation					
Action Type:		Other Regulatory Actions				
Action Date:		11/8/2017				
Received Issue Date:		11/8/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6340663&temp table=ENFORCEMENT				
Title Description Comments:	RE Well Installation and Third Quarter 2017 Groundwater Monitoring Report					
Action Type:		Other Regulatory Actions				
Action Date:		11/7/2017				
Received Issue Date:		11/7/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6340663&temp table=ENFORCEMENT				
Title Description Comments:	RE Well Installation and Third Quarter 2017 Groundwater Monitoring Report					
Action Type:		Response Requested - Reports				
Action Date:		10/13/2017				
Received Issue Date:		10/13/2017				
Action:		Monitoring Report - Quarterly				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6329872&temp table=ENFORCEMENT				
Title Description Comments:	Well Install and 3Q 2017 GWM Report_2017-10-13					
Action Type:		Other Regulatory Actions				
Action Date:		8/15/2017				
Received Issue Date:		8/15/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6329872&temp table=ENFORCEMENT				
Title Description Comments:	RE Work Plan for Supplemental Investigation					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		Other Regulatory Actions				
Action Date:		6/20/2017				
Received Issue Date:		6/20/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6323778&temp_table=ENFORCEMENT				
Title Description Comments:						
RE Additional Groundwater Investigation						
Action Type:		Other Regulatory Actions				
Action Date:		6/20/2017				
Received Issue Date:		6/20/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6323779&temp_table=ENFORCEMENT				
Title Description Comments:						
RE Additional Soil Vapor Probe Installation and Sampling						
Action Type:		Notices				
Action Date:		5/12/2017				
Received Issue Date:		5/12/2017				
Action:		Letter - Notice				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6319787&temp_table=ENFORCEMENT				
Title Description Comments:						
Annual Cost Estimate						
Action Type:		Other Regulatory Actions				
Action Date:		1/27/2017				
Received Issue Date:		1/27/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309850&temp_table=ENFORCEMENT				
Title Description Comments:						
RE Evaluation of VOCs in Soil Vapor						
Action Type:		Other Regulatory Actions				
Action Date:		1/27/2017				
Received Issue Date:		1/27/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309848&temp_table=ENFORCEMENT				
Title Description Comments:						
RE Work Plan for Additional Groundwater Investigation						
Action Type:		Other Regulatory Actions				
Action Date:		11/30/2016				
Received Issue Date:		11/30/2016				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6304779&temp_table=ENFORCEMENT				
Title Description Comments:						
RE Revised Soil Vapor Mitigation Work Plan						
Action Type:		Other Regulatory Actions				
Action Date:		10/14/2016				
Received Issue Date:		10/14/2016				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6301060&temp_table=ENFORCEMENT				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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table=ENFORCEMENT

Title Description Comments:

RE Work Plan for Cone Penetrometer and Hydropunch™ Testing

Action Type: Other Regulatory Actions
Action Date: 10/11/2016
Received Issue Date: 10/11/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6300818&temp_table=ENFORCEMENT

Title Description Comments:

RE 3rd Q GW Monitoring Report

Action Type: Other Regulatory Actions
Action Date: 9/23/2016
Received Issue Date: 9/23/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6298988&temp_table=ENFORCEMENT

Title Description Comments:

RE Soil Vapor Mitigation Work Plan

Action Type: Notices
Action Date: 9/7/2016
Received Issue Date: 9/7/2016
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297317&temp_table=ENFORCEMENT

Title Description Comments:

GROUNDWATER MONITORING PROGRAM

Action Type: Notices
Action Date: 9/2/2016
Received Issue Date: 9/2/2016
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297021&temp_table=ENFORCEMENT

Title Description Comments:

OTP_Regulatory_Required_Procedures_090116

Action Type: Other Regulatory Actions
Action Date: 8/25/2016
Received Issue Date: 8/25/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296087&temp_table=ENFORCEMENT

Title Description Comments:

RE Third Revision-Work Plan to Conduct Two Indoor Air Sampling Events, Install Soil Vapor probes

Action Type: Other Regulatory Actions
Action Date: 8/25/2016
Received Issue Date: 8/25/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296032&temp_table=ENFORCEMENT

Title Description Comments:

RE Review of CSM and Request for Soil Vapor Mitigation Work Plan

Action Type: Response Requested - Workplans
Action Date: 8/24/2016
Received Issue Date: 8/24/2016
Action: Preliminary Site Assessment Workplan - Addendum
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5898453
Title Description Comments:

Third Revision of Indoor Air Sampling-Vapor Probe Installation Work Plan

Action Type: Other Regulatory Actions
Action Date: 8/19/2016
Received Issue Date: 8/19/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295630&temp_table=ENFORCEMENT
Title Description Comments:

RE Second revision of IA-soil vapor probe installation inside daycare work plan

Action Type: Response Requested - Workplans
Action Date: 8/19/2016
Received Issue Date: 8/19/2016
Action: Remedial Investigation Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5898086
Title Description Comments:

Second revision of IA-soil vapor probe installation inside daycare work plan

Action Type: Other Regulatory Actions
Action Date: 8/17/2016
Received Issue Date: 8/17/2016
Action: Meeting
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295301&temp_table=ENFORCEMENT
Title Description Comments:

OTP-Silver Cleaners Meeting Summary

Action Type: Notices
Action Date: 8/17/2016
Received Issue Date: 8/17/2016
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295305&temp_table=ENFORCEMENT
Title Description Comments:

OTP-request for GW monitoring frequency

Action Type: Other Regulatory Actions
Action Date: 8/9/2016
Received Issue Date: 8/9/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6294738&temp_table=ENFORCEMENT
Title Description Comments:

RE: The Revised Indoor Air Sampling-Probe Installation Work Plan

Action Type: Response Requested - Other
Action Date: 8/8/2016
Received Issue Date: 8/8/2016
Action: Conceptual Site Model
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T10000009084&doc_id=5900144
Title Description Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Preliminary CSM

Action Type: Response Requested - Workplans
Action Date: 8/4/2016
Received Issue Date: 8/4/2016
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T1000009084&doc_id=5897301
Title Description Comments:

The Revised Indoor Air Sampling-Probe Installation Work Plan

Action Type: Other Regulatory Actions
Action Date: 7/29/2016
Received Issue Date: 7/29/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009084&enforcement_id=6293755&table=ENFORCEMENT
Title Description Comments:

RE Work Plan for Indoor Air Sampling-Vapor Probe installation

Action Type: Other Regulatory Actions
Action Date: 7/5/2016
Received Issue Date: 7/5/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009084&enforcement_id=6291800&table=ENFORCEMENT
Title Description Comments:

OTP Orange Tree Plaza 23532 El Toro Road Lake Forest

Action Type: Agreements
Action Date: 6/23/2016
Received Issue Date: 6/23/2016
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T1000009084&enforcement_id=6294734&table=ENFORCEMENT
Title Description Comments:

Cost Recovery Agreement

Action Type: Response Requested - Reports
Action Date: 3/25/2016
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T1000009084&doc_id=5894601
Title Description Comments:

Action Type: Response Requested - Reports
Action Date: 3/14/2016
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T1000009084&doc_id=5894602
Title Description Comments:

Action Type: Response Requested - Reports
Action Date: *5/14/2014
Received Issue Date: 5/14/2014
Action: Preliminary Site Assessment Report - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T1000009084&doc_id=5894597
Title Description Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type:	Monitoring Reports	Submitted:				
Document Date:		Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :	9,095 KB					
Title:	UNKNOWN - ORANGE TREE PLAZA 1ST QUARTER SEMI ANNUAL 2016 - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/1386809408/Orange%20Tree%20Plaza%201st%20Quarter%20Semi%20Annual%202016%2Epdf					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports	Submitted:				
Document Date:		Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :	5,540 KB					
Title:	UNKNOWN - ORANGE TREE PLAZA 1-YEAR PILOT SOIL VAPOR - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/9013243734/Orange%20Tree%20Plaza%201%2DYear%20Pilot%20Soil%20Vapor%2Epdf					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents	Submitted:				
Document Date:	11/15/2018	Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :						
Title:	ADDITIONAL SOIL VAPOR INVESTIGATION - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5979423					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents	Submitted:				
Document Date:	11/5/2018	Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :						
Title:	PRE-DESIGN TESTING_INTERIM GW REMED_2018-11-05 - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5979421					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents	Submitted:				
Document Date:	10/25/2018	Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :						
Title:	NOTICE OF NON-COMPLIANCE WITH WORK SCHEDULE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6373495					
Type:	NOTICE TO COMPLY					
Document Type:	Site Documents	Submitted:				
Document Date:	10/16/2018	Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :						
Title:	RE EMAIL TRANSMITTAL OF SEP 14, 2018-SOIL VAPOR INVESTIGATION AT ORANGE TREE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6372499					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Monitoring Reports	Submitted:				
Document Date:	10/9/2018	Submitted By:	AVOCET ENV. (AUTH_RP)			
Size :	7,890 KB					
Title:	THIRD QUARTER 2018 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1265194833/T10000009084.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents	Submitted:				
Document Date:	9/14/2018	Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :						
Title:	RE ADDITIONAL INVESTIGATION, JUNE 2018 - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5975647					
Type:	SITE INVESTIGATION WORKPLAN					
Document Type:	Site Documents	Submitted:				
Document Date:	8/15/2018	Submitted By:	MONA BEHROOZ (REGULATOR)			
Size :						
Title:	RE ADDITIONAL INVESTIGATION, JUNE 2018					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366899					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents	Submitted:				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date: Size : Title: Title Link: Type:	8/14/2018				Submitted By: MONA BEHROOZ (REGULATOR)	
					REQUEST FOR GW INTERIM MEASURE http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6366747 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 7/27/2018 10,373 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
					ADDITIONAL INVESTIGATION, JUNE 2018 http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7318731904/T10000009084.PDF SITE INVESTIGATION	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 7/20/2018 10,166 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
					OFFSITE WELL INSTALLATION AND SECOND QUARTER 2018 GROUNDWATER MONITORING http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8430807948/T10000009084.PDF MONITORING REPORT - QUARTERLY	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 7/5/2018				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					FORMER ORANGE TREE PLAZA-ANNUAL COST RECOVERY http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6363208 ANNUAL ESTIMATION LETTER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/1/2018				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE PROPOSED ADDITIONAL INVESTIGATION http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6356628 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 4/16/2018 8,204 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
					FIRST QUARTER 2018 GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3561722040/T10000009084.PDF MONITORING REPORT - QUARTERLY	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 2/27/2018				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE WORK PLAN FOR ADDITIONAL INVESTIGATION http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6350404 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 1/11/2018 8,347 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
					FOURTH QUARTER 2017 GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9464978158/T10000009084.PDF MONITORING REPORT - QUARTERLY	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 1/8/2018 5,035 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
					WORK PLAN FOR ADDITIONAL INVESTIGATION http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2327554523/T10000009084.PDF SITE INVESTIGATION WORKPLAN	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 11/8/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE WELL INSTALLATION AND THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6340663 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 10/25/2017 9,387 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 10/11/2017 11,093 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 8/15/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 7/25/2017 10,178 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 7/14/2017 13,550 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 6/20/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 6/20/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/17/2017 5,811 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/17/2017 15,678 KB				Submitted: Submitted By: AVOCET ENV. (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/12/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/12/2017				Submitted By:	AVOCET ENV. (AUTH_RP)
Size :	13,915 KB					
Title:	FIRST QUARTER 2017 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4532510578/T10000009084.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents				Submitted:	
Document Date:	1/27/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE EVALUATION OF VOCS IN SOIL VAPOR					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309850					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	1/27/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6309848					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	1/19/2017				Submitted By:	AVOCET ENV. (AUTH_RP)
Size :	6,394 KB					
Title:	WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4288398444/T10000009084.PDF					
Type:	SOIL AND WATER INVESTIGATION WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	1/19/2017				Submitted By:	AVOCET ENV. (AUTH_RP)
Size :	9,666 KB					
Title:	EVALUATION OF VOCS IN SOIL VAPOR					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4307075202/T10000009084.PDF					
Type:	SITE ASSESSMENT REPORT					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	1/13/2017				Submitted By:	AVOCET ENV. (AUTH_RP)
Size :	12,735 KB					
Title:	FOURTH QUARTER 2016 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2760415852/T10000009084.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents				Submitted:	
Document Date:	12/1/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	32,114 KB					
Title:	REPORT FOR INDOOR AIR SAMPLING EVENTS AT UNIT #1					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1130957245/T10000009084.PDF					
Type:	REPORT					
Document Type:	Site Documents				Submitted:	
Document Date:	11/30/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE REVISED SOIL VAPOR MITIGATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6304779					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	10/20/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	19,812 KB					
Title:	WORK PLAN FOR SOIL VAPOR MITIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5541605353/T10000009084.PDF					
Type:	WORK PLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	10/19/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	4,139 KB					
Title:	WORK PLAN FOR CONE PENETROMETER AND HYDROPUNCH TESTING					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7233087897/T10000009084.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:		GROUNDWATER MONITORING PLAN				
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/17/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	3,826 KB					
Title:	THIRD (3RD) QUARTER 2016 SEMI-ANNUAL GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9527330398/T10000009084.PDF					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Site Documents				Submitted:	
Document Date:	10/14/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE WORK PLAN FOR CONE PENETROMETER AND HYDRO PUNCH TESTING					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6301060					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	10/11/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE 3RD Q GW MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6300818					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	10/10/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	2,999 KB					
Title:	CONE PENETROMETER AND HYDRO PUNCH TESTING WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7103746414/T10000009084.PDF					
Type:	REMEDIAL INVESTIGATION WORKPLAN					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	9/29/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	2,487 KB					
Title:	THIRD QUARTER GROUNDWATER MONITORING EVENT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6705354690/T10000009084.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents				Submitted:	
Document Date:	9/23/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE SOIL VAPOR MITIGATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6298988					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	9/15/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	16,610 KB					
Title:	SOIL VAPOR MITIGATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5879218757/T10000009084.PDF					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	9/7/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	GROUNDWATER MONITORING PROGRAM					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297317					
Type:	LETTER - NOTICE					
Document Type:	Site Documents				Submitted:	
Document Date:	9/2/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	OTP REGULATORY REQUIRED PROCEDURES_090116					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6297021					
Type:	LETTER - NOTICE					
Document Type:	Site Documents				Submitted:	
Document Date:	8/25/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE REVIEW OF CSM AND REQUEST FOR SOIL VAPOR MITIGATION WORK PLAN					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link: Type:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296032 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title:	Site Documents 8/25/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					RE THIRD REVISION-WORK PLAN TO CONDUCT TWO INDOOR AIR SAMPLING EVENTS, INSTALL SOIL VAPOR PROBES http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6296087 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title:	Site Documents 8/24/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					THIRD REVISION OF INDOOR AIR SAMPLING-VAPOR PROBE INSTALLATION WORK PLAN - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5898453 PRELIMINARY SITE ASSESSMENT WORKPLAN - ADDENDUM	
Document Type: Document Date: Size : Title:	Site Documents 8/19/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					RE SECOND REVISION OF IA-SOIL VAPOR PROBE INSTALLATION INSIDE DAYCARE WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295630 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title:	Site Documents 8/19/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					SECOND REVISION OF IA-SOIL VAPOR PROBE INSTALLATION INSIDE DAYCARE WORK PLAN - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5898086 REMEDIAL INVESTIGATION WORKPLAN	
Document Type: Document Date: Size : Title:	Site Documents 8/17/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					OTP-SILVER CLEANERS MEETING SUMMARY http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295301 MEETING	
Document Type: Document Date: Size : Title:	Site Documents 8/17/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					OTP-REQUEST FOR GW MONITORING FREQUENCY http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6295305 LETTER - NOTICE	
Document Type: Document Date: Size : Title:	Site Documents 8/9/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					RE: THE REVISED INDOOR AIR SAMPLING-PROBE INSTALLATION WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6294738 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title:	Site Documents 8/8/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					PRELIMINARY CSM - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5900144 CONCEPTUAL SITE MODEL	
Document Type: Document Date: Size : Title:	Site Documents 8/4/2016			Submitted: Submitted By:	MONA BEHROOZ (REGULATOR)	
Title Link: Type:					THE REVISED INDOOR AIR SAMPLING-PROBE INSTALLATION WORK PLAN - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5897301 OTHER WORKPLAN	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents				Submitted:	
Document Date:	7/29/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	RE WORK PLAN FOR INDOOR AIR SAMPLING-VAPOR PROBE INSTALLATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6293755					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	7/25/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	12,615 KB					
Title:	WORKPLAN FOR UNIT # 1					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2353506505/T10000009084.PDF					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	7/5/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	OTP ORANGE TREE PLAZA 23532 EL TORO ROAD LAKE FOREST					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6291800					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	6/23/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	COST RECOVERY AGREEMENT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&enforcement_id=6294734					
Type:	COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	3/14/2016				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	9,004 KB					
Title:	1ST QUARTER SEMI-ANNUAL 2016 - GROUNDWATER MONITORING EVENT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6328178167/T10000009084.PDF					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/5/2015				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	3,008 KB					
Title:	3RD QUARTER SEMI-ANNEAL 2015-GROUNDWATER MONITORING EVENT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2789656221/T10000009084.PDF					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	7/22/2015				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	2,523 KB					
Title:	SEMI-ANNEAL STATUS REPORT FORORANGE TREE PLAZA					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4605844855/T10000009084.PDF					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Site Documents				Submitted:	
Document Date:	3/10/2015				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	2,705 KB					
Title:	PRECISE GRADING PLAN FOR AND BACKFILL MATERIAL AT OTP					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3567900240/T10000009084.PDF					
Type:	OTHER REPORT / DOCUMENT					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	11/17/2014				Submitted By:	KENNETH K. HEKIMIAN (AUTH_RP)
Size :	7,632 KB					
Title:	3ES QUARTER SEMI-ANNUAL 2014 - GROUNDWATER MONITORING EVENT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4870292425/T10000009084.PDF					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Site Documents				Submitted:	
Document Date:	5/14/2014				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:	UNKNOWN - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T10000009084&document_id=5894597					
Type:	PRELIMINARY SITE ASSESSMENT REPORT					

Document Type: Site Documents **Submitted:**
Document Date: 3/6/2013 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 8,834 KB
Title: SITE HEALTH AND SAFETY PLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6287391424/T10000009084.PDF
Type: HEALTH & SAFETY PLAN (H&SC)

Document Type: Site Documents **Submitted:**
Document Date: 1/18/2013 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 18,971 KB
Title: REMEDIAL INVESTIGATION WORKPLAN
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2395866096/T10000009084.PDF
Type: REMEDIAL INVESTIGATION REPORT

Document Type: Site Documents **Submitted:**
Document Date: 7/31/2012 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 54,292 KB
Title: REPORT ON COMPREHENSIVE SITE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7758430182/T10000009084.PDF
Type: SITE INVESTIGATION

Document Type: Site Documents **Submitted:**
Document Date: 5/7/2009 **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 9,998 KB
Title: PHASE I ENVIRONMENTAL SIRE ASSESSMENT (REVISED) A/E WEST CONSULTANTS
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2003516852/T10000009084.PDF
Type: PHASE I ASSESSMENT REPORT

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 266 KB **Submitted:** 10/20/2016
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5854704439/T10000009084.JPG

Title: GEO_MAP **Submitted By:** KENNETH K. HEKIMIAN (AUTH_RP)
Size : 310 KB **Submitted:** 10/20/2016
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3501120209/T10000009084.JPG

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Case Begin Date
Date : 6/29/2016

Status: Open - Active
Date : 6/29/2016

10	1 of 1	S	0.09 / 480.73	395.38 / -5	Panda Express #1586 23572 EL TORO RD STE A LAKE FOREST CA 92630	CERS HAZ
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Site ID: 419423
Latitude: 33.620240
Longitude: -117.700700

Regulated Programs

EI Description: Chemical Storage Facilities **EI ID:** 10727020

Violations

Violation Date: 05/12/2017 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Orange County Environmental Health

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)

Violation Notes:

Returned to compliance on 06/14/2017. Employee training that includes safety procedures in the event of a release or threatened release of carbon dioxide, must be conducted within 30 days of this inspection and records be submitted to this agency.

Violation Description:

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

Evaluations

Eval Date: 06/02/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reviewed and accepted revised documents submitted to CERS on 5/31/17.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 06/14/2017
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

A copy of employee training sign in sheet for managing Carbon Dioxide release was submitted to CERS on 6/12/17. Violation I239 regarding failure to provide initial/annual employee training in emergency response plan, cited during routine inspection conducted on 5/12/17, has been corrected.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 05/12/2017
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Panda Express #1586 23572 El Toro Rd., Ste. A Lake Forest, CA 92630 (949) 472-8445 On site to conduct new hazardous materials chemical inventory and business emergency plan inspection. Jesus Alvarez granted consent to conduct inspection. I walked through the facility and inspected hazardous materials storage area in the back. As reported in CERS, facility stores carbon dioxide that meets required disclosure quantities. There are no storm drains or fire hydrants nearby. Employees have not been trained in managing hazardous materials. Training that includes safety procedures in the event of a release or threatened release of carbon dioxide, must be conducted within 30 days of this inspection and records be submitted to this agency. Emergency notification list is available in the office. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Identification Signer
Entity Name: Helen Yeh
Entity Title: Risk Analyst
Address:
City:
State:
Country:
Zip Code:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Phone:

Affil Type Desc: Legal Owner
Entity Name: Panda Restaurant Group, Inc.
Entity Title:
Address: 1683 Walnut Grove Ave.
City: Rosemead
State: CA
Country: United States
Zip Code: 91770
Phone: (626) 799-9898

Affil Type Desc: CUPA District
Entity Name: Orange County Env Health
Entity Title:
Address: 1241 East Dyer RoadSuite 120
City: Santa Ana
State: CA
Country:
Zip Code: 92705-5611
Phone: (714) 433-6000

Affil Type Desc: Parent Corporation
Entity Name: Panda Restaurant Group
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: Ramon ChavezArreola
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (714) 402-5190

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: Panda Restaurant Group, Risk Dept, 1683 Walnut Grove Ave.
City: Rosemead
State: CA
Country:
Zip Code: 91770
Phone:

Affil Type Desc: Document Preparer
Entity Name: Helen Yeh
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Helen Yeh
Entity Title:
Address: 1683 Walnut Grove Ave.
City: Rosemead
State: CA
Country:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Zip Code: 91770
Phone:

Affil Type Desc: Property Owner
Entity Name: Prothero Enterprises, Inc
Entity Title:
Address: 214 Via Robina #23
City: San Clemente
State: CA
Country: United States
Zip Code: 92672
Phone: (949) 680-0799

11	1 of 3	NNW	0.10 / 535.58	388.97 / -11	JACQUELINE HUTCHINGS 23292 CAVANAUGH RD LAKE FOREST CA 92630-4405	RCRA NON GEN
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EPA Handler ID: CAC002990349
Gen Status Universe: No Report
Contact Name: JACQUELINE HUTCHINGS
Contact Address: 23292 CAVANAUGH RD , , LAKE FOREST , CA, 92630-4405 ,
Contact Phone No and Ext: 949-678-8718
Contact Email: GENEVADEGUIRE@ALLIANCE-ENVIRO.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20181126

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20181126
Handler Name: JACQUELINE HUTCHINGS
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Operator Street No:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:	Other				Street 1:	23292 CAVANAUGH RD
Name:	JACQUELINE HUTCHINGS				Street 2:	
Date Became Current:					City:	LAKE FOREST
Date Ended Current:					State:	CA
Phone:	949-678-8718				Country:	
Source Type:	Implementer				Zip Code:	92630-4405
Owner/Operator Ind:	Current Owner				Street No:	
Type:	Other				Street 1:	23292 CAVANAUGH RD
Name:	JACQUELINE HUTCHINGS				Street 2:	
Date Became Current:					City:	LAKE FOREST
Date Ended Current:					State:	CA
Phone:	949-678-8718				Country:	
Source Type:	Implementer				Zip Code:	92630-4405

[11](#) 2 of 3 **NNW** **0.10 / 535.58** **388.97 / -11** **JACQUELINE HUTCHINGS
23292 CAVANAUGH ROAD
LAKE FOREST CA 92630** **RCRA
NON GEN**

EPA Handler ID: CAC002992197
Gen Status Universe: No Report
Contact Name: JACQUELINE HUTCHINGS
Contact Address: 23292 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext: 949-678-8718
Contact Email: VIANCATARANGO@ALLIANCE-ENVIRO.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20181207

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20181207
Handler Name: JACQUELINE HUTCHINGS
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner/Operator Ind:	Current Operator	Street No:				
Type:	Other	Street 1:	23292 CAVANAUGH ROAD			
Name:	JACQUELINE HUTCHINGS	Street 2:				
Date Became Current:		City:	LAKE FOREST			
Date Ended Current:		State:	CA			
Phone:	949-678-8718	Country:				
Source Type:	Implementer	Zip Code:	92630			

Owner/Operator Ind:	Current Owner	Street No:				
Type:	Other	Street 1:	23292 CAVANAUGH ROAD			
Name:	JACQUELINE HUTCHINGS	Street 2:				
Date Became Current:		City:	LAKE FOREST			
Date Ended Current:		State:	CA			
Phone:	949-678-8718	Country:				
Source Type:	Implementer	Zip Code:	92630			

11	3 of 3	NNW	0.10 / 535.58	388.97 / -11	JACQUELINE HUTCHINGS 23292 CAVANAUGH ROAD LAKE FOREST CA 92630-4405	RCRA NON GEN
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EPA Handler ID:	CAC003000143
Gen Status Universe:	No Report
Contact Name:	JACQUELINE HUTCHINGS
Contact Address:	23292 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630-4405 ,
Contact Phone No and Ext:	949-678-8718
Contact Email:	GENEVADEGUIRE@ALLIANCE-ENVIRO.COM
Contact Country:	
County Name:	ORANGE
EPA Region:	09
Land Type:	
Receive Date:	20190207

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20190207
Handler Name:	JACQUELINE HUTCHINGS
Generator Status Universe:	No Report
Source Type:	Implementer

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	23292 CAVANAUGH ROAD
Name:	JACQUELINE HUTCHINGS	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-678-8718	Country:	
Source Type:	Implementer	Zip Code:	92630-4405

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	23292 CAVANAUGH ROAD
Name:	JACQUELINE HUTCHINGS	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-678-8718	Country:	
Source Type:	Implementer	Zip Code:	92630-4405

12	1 of 2	NW	0.10 / 536.04	387.92 / -13	LOUGHRY, STEVE 23312 CAVANAUGH ROAD LAKE FOREST CA 92630	RCRA NON GEN
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EPA Handler ID: CAC002979427
Gen Status Universe: No Report
Contact Name: LOUGHRY, STEVE
Contact Address: 23312 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext: 949-233-9247
Contact Email: ANDREW@PWSEI.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20180907

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20180907
Handler Name: LOUGHRY, STEVE
Generator Status Universe: No Report
Source Type: Implementer

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-233-9247	Country:	
Source Type:	Implementer	Zip Code:	92630

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-233-9247	Country:	
Source Type:	Implementer	Zip Code:	92630

<u>12</u>	2 of 2	NW	0.10 / 536.04	387.92 / -13	LOUGHRY, STEVE 23312 CAVANAUGH ROAD LAKE FOREST CA 92630	RCRA NON GEN
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EPA Handler ID: CAC003000310
Gen Status Universe: No Report
Contact Name: LOUGHRY, STEVE
Contact Address: 23312 CAVANAUGH ROAD , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext: 949-230-5993
Contact Email: ANDREW.C@PWSEI.COM
Contact Country:
County Name: PLACER
EPA Region: 09
Land Type:
Receive Date: 20190208

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20190208
Handler Name: LOUGHRY, STEVE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Generator Status Universe: No Report
 Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-230-5993	Country:	
Source Type:	Implementer	Zip Code:	92630

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	23312 CAVANAUGH ROAD
Name:	LOUGHRY, STEVE	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-230-5993	Country:	
Source Type:	Implementer	Zip Code:	92630

13	1 of 1	E	0.10 / 539.52	407.64 / 7	FREEDOM VILLAGE HEALTH CARE CENTER 23442 EL TORO RD LAKE FOREST CA 92630	CERS HAZ
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Site ID: 427942
Latitude: 33.621609
Longitude: -117.697128

Regulated Programs

EI Description: Chemical Storage Facilities **EI ID:** 10564417

Violations

Violation Date:	10/10/2014	Violation Source:	CERS
Violation Program:	HMRRP	Violation Division:	Orange County Environmental Health
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)		
Violation Notes:			

Returned to compliance on 03/31/2015.

Violation Description:

Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.

Violations

Violation Date:	10/10/2014	Violation Source:	CERS
Violation Program:	HMRRP	Violation Division:	Orange County Environmental Health
Citation:	HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)		
Violation Notes:			

Returned to compliance on 03/31/2015.

Violation Description:

Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Evaluations

Eval Date: 10/16/2014
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

I prepared and emailed example chemical inventory sheets for oxygen and diesel to facility contact.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 03/31/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Documents submitted to E-submit on 3/6/15 have been reviewed and declined with the following considerations: The ?Yes? box in Section ?A. Hazardous Materials? on the Business Activities form must be checked. Diesel Fuel form must be revised as follows: - CAS# (68476-34-6) must be listed at the top of the form in the section below ?Common Name.? - Fire Code Hazard Classes should be changed from ?Flammable Liquefied Gas (3.2)? to ?Combustible Liquid ? Class II (1.1 II). The total reported volume for oxygen gas stored on site appears to be lower than volume observed during the onsite inspection conducted by this Agency on 10/15/14. Please review total volume of all oxygen gas stored on site and if at 200 cubic feet or greater, the form must be revised as follows: - Chemical Name should be ?Oxygen, Compressed Gas.? - Fire Code Hazard Classes should be changed from ?Flammable Gas (3.2)? to ?Oxidizing.? - ?Maximum Daily Amount? must be updated to reflect total [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/20/2017
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

On site to conduct hazardous materials chemical inventory and business emergency plan inspection. Joel Niblett granted consent to conduct inspection. I walked through the facility and inspected hazardous material storage areas (backup generator and maintenance shed). Backup generator has a 150 gallon diesel tank. In addition, facility has a 20 gallon drum of diesel for backup generator in maintenance shed. Hazardous materials management training is provided annually. Training records are maintained in each department. Evacuation site maps are posted throughout the facility. I notified business that annual HMBP certification documents must be submitted via CERS. I assisted facility contact in creating account in CERS, completed facility information, and hazardous materials inventory section. Site map and emergency plan will be submitted within 30 days of this inspection. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/15/2014
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector Comments: On site to conduct new hazardous materials chemical inventory and business emergency plan inspection. Joel Niblett assisted in conducting inspection. Mr. Niblett stated that the facility did not receive notification letters dated in August and December 2013 sent to the facility regarding this Agency administrating the Hazardous Materials Disclosure and Business Emergency Plan programs and electronically submitting HMBP. Violations I169 and I292 cited in the inspection report dated 10/10/14 have been voided since facility did not receive letters regarding submitting HMBP documents electronically. I walked through the facility. Facility has oxygen cylinders and diesel fuel (in generator) that meet required disclosure quantities. Facility is required and has been notified to electronically submit the following documents within 30 days of this inspection: - Business Activities form - Owner/Operator Identification form - Hazardous [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Eval Date: 11/05/2014
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

I received email from Joel Niblett, facility administrator, indicating that Dianne at the facility has been having problems receiving username/password for E-submit. I also received a Portal administrator checked to see if the request was received. There was no request. I emailed him back with a screen shot of E-submit with the area to request username/password highlighted. I also called and left message for Dianne stating that the request was not received and for her to try it again. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 07/05/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Received call from facility contact, Mary Beth Dionisio, in response to letter regarding CERS submittal. She wanted to know what had to be reported. I explained to her that material inventory was uploaded when I was on site in October 2017. I let her know that they had to complete emergency plan and prepare site map. She could not remember the inspection. I emailed another copy of the October inspection report to her.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/10/2014
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector Comments: Orange County Environmental Health as the Certified Unified Program Agency (OC CUPA) is the administrating agency for the Hazardous Materials Disclosure and Business Emergency Plan programs (HMD/BEP) previously administered by the Orange County Fire Authority. During the months of August and December of 2013, the OC CUPA sent out letters to regulated businesses requesting them to electronically submit their HMD/BEP forms. Electronic submission of these forms is a legal requirement. Failure to submit HMD/BEP forms is in violation of the California Health & Safety Code Chapter 6.95. According to our records there is no electronic submission for this facility. Please go to www.esubmit.ocgov.com to request a username and password and submit the following HMD/BEP forms within the next 30 days: - Business Activities form - Owner/Operator Identification form - Hazardous Material Chemical Inventory forms - Facility Site Map - Business [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 07/11/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Orange County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Documents submitted to E-submit on 6/9/15 were reviewed and declined with the following considerations: - The ?Yes? box in Section ?A. Hazardous Materials? on the Business Activities form must be checked. - Diesel: Dashes must be placed in CAS # (68476-34-6). - Oxygen: Fire Code Hazard Classes should be changed from to ?Oxidizer, Liquefied (4.4)? to ?Oxidizer, gas (4.4).? The ?Largest Container? is reported at 3 cubic feet. Please verify the size of the largest cylinder storing oxygen and if necessary update form. - Sections ?II a. through f? and ?III. Employee Training Program? of the Emergency Plan must be completed. - The site map does not show adjacent streets, storm drain, access and exit points, electrical shut off(s), evacuation staging areas, and emergency response equipment. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Affil Type Desc:		Operator				
Entity Name:		FREEDOM VILLAGE HEALTH CARE CENTER				
Entity Title:						
Address:						
City:						
State:						
Country:						
Zip Code:						
Phone:		(949) 472-4733				
Affil Type Desc:		Parent Corporation				
Entity Name:		FREEDOM VILLAGE HEALTH CARE CENTER				
Entity Title:						
Address:						
City:						
State:						
Country:						
Zip Code:						
Phone:						
Affil Type Desc:		Environmental Contact				
Entity Name:		Joel J. Niblett				
Entity Title:						
Address:		23442 EL TORO RD				
City:		LAKE FOREST				
State:		CA				
Country:						
Zip Code:		92630				
Phone:						
Affil Type Desc:		CUPA District				
Entity Name:		Orange County Env Health				
Entity Title:						
Address:		1241 East Dyer RoadSuite 120				
City:		Santa Ana				
State:		CA				
Country:						
Zip Code:		92705-5611				
Phone:		(714) 433-6000				
Affil Type Desc:		Facility Mailing Address				
Entity Name:		Mailing Address				
Entity Title:						
Address:		23442 EL TORO RD				
City:		LAKE FOREST				
State:		CA				
Country:						
Zip Code:		92630				
Phone:						
Affil Type Desc:		Document Preparer				
Entity Name:		Marybeth Dionisio				
Entity Title:						
Address:						
City:						
State:						
Country:						
Zip Code:						
Phone:						
Affil Type Desc:		Legal Owner				
Entity Name:		Joel J. Niblett				
Entity Title:						
Address:		23442 EL TORO RD				
City:		LAKE FOREST				
State:		CA				
Country:		United States				
Zip Code:		92630				
Phone:		(949) 340-8216				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Affil Type Desc: Identification Signer
Entity Name: Marybeth Dionisio
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Coordinates

Env Int Type Code: HMBP	Longitude: -117.697130
Program ID: 10564417	Coord Name:
Latitude: 33.621610	Ref Point Type Desc: Center of a facility or station.

14	1 of 1	N	0.12 / 659.72	390.98 / -9	23242 CAVANAUGH STREET LAKE FOREST CA 92630	CDL
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Clue: 1995-09-009
Date: 9/6/1995
County: ORANGE
Lab Type: L
Lab Type Description: Illegal Drug Lab - location where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

15	1 of 1	N	0.13 / 700.95	391.54 / -9	STEVE DALAT 23236 CAVANAUGH RD LAKE FOREST CA 92630-4405	RCRA NON GEN
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EPA Handler ID: CAC002968612
Gen Status Universe: No Report
Contact Name: STEVE DALAT
Contact Address: 23236 CAVANAUGH RD , , LAKE FOREST , CA, 92630-4405 ,
Contact Phone No and Ext: 949-981-6156
Contact Email: GENEVADEGUIRE@ALLIANCE-ENVIRO.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20180628

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Used Oil Burner:		No				
Used Oil Market Burner:		No				
Used Oil Spec Marketer:		No				

Hazardous Waste Handler Details

Sequence No: 1
 Receive Date: 20180628
 Handler Name: STEVE DALAT
 Generator Status Universe: No Report
 Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Other	Street 1:	23236 CAVANAUGH RD
Name:	STEVE DALAT	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-981-6156	Country:	
Source Type:	Implementer	Zip Code:	92630-4405

Owner/Operator Ind:	Current Operator	Street No:	
Type:	Other	Street 1:	23236 CAVANAUGH RD
Name:	STEVE DALAT	Street 2:	
Date Became Current:		City:	LAKE FOREST
Date Ended Current:		State:	CA
Phone:	949-981-6156	Country:	
Source Type:	Implementer	Zip Code:	92630-4405

16	1 of 7	S	0.15 / 811.69	393.71 / -7	BEACON BAY AUTO WASH 23602 EL TORO RD LAKE FOREST CA 92630	DELISTED TNK
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Delisted Storage Tanks

Facility ID:	4642	Latitude:	33.61998
County:	Orange	Longitude:	-117.7011
Permitting Agency:	ORANGE COUNTY		
Original Source:	UST		
Record Date:	30-JAN-2017		

16	2 of 7	S	0.15 / 811.69	393.71 / -7	EL TORO AUTO WASH 23602 EL TORO ROAD ROCKFIELD EL TORO CA 92630	HHSS
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County: Orange
Pdf File Url: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002e574.pdf>

16	3 of 7	S	0.15 / 811.69	393.71 / -7	EL TORO AUTO WASH 23602 EL TORO ROAD EL TORO CA	HIST TANK
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Owner Name:	BEACON BAY ENTERPRISES, INC.	No of Containers:	9
Owner Street:	260 NEWPORT CENTER DRIVE	County:	ORANGE
Owner City:	NEWPORT BEACH	Facility State:	CA
Owner State:	CA	Facility Zip:	92630
Owner Zip:	92660		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
16	4 of 7	S	0.15 / 811.69	393.71 / -7	BEACON BAY AUTO WASH #06 23602 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP

Record ID: RO0001881
Case ID: 97UT035
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

Case Closed Date:
Type of Closure:

16	5 of 7	S	0.15 / 811.69	393.71 / -7	BEACON BAY AUTO WASH #06 23602 EL TORO RD LAKE FOREST CA 92630	LUST
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Global ID: T0605902112
Status: OPEN - REMEDIATION
Status Date: 2003-12-18 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

County: ORANGE
Latitude: 33.619474867
Longitude: -117.701163773

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083003094T
Local Case Number:
Begin Date: 1992-07-03 00:00:00
Lead Agency: SAN DIEGO RWQCB (REGION 9)
Local Agency:
CUF Case: YES
Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method: Close and Replace Tank
Stop Description:
Case Worker: LT
File Location: Local Agency

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2019-01-31 00:00:00
Action: Notification - Public Notice of Case Closure

Action Type: ENFORCEMENT
Date : 2019-01-09 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2018-12-05 00:00:00
Action: Request for Closure - Regulator Responded

Action Type: ENFORCEMENT
Date : 2018-09-24 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2018-05-16 00:00:00
Action: Email Correspondence

Action Type: ENFORCEMENT
Date : 2018-04-04 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:					Clean Up Fund - Case Closure Review Summary Report (RSR)	
Action Type:					ENFORCEMENT	
Date :					2018-03-16 00:00:00	
Action:					Email Correspondence	
Action Type:					RESPONSE	
Date :					2018-02-22 00:00:00	
Action:					Request for Closure - Regulator Responded	
Action Type:					RESPONSE	
Date :					2018-01-11 00:00:00	
Action:					Monitoring Report - Quarterly	
Action Type:					RESPONSE	
Date :					2017-08-24 00:00:00	
Action:					Monitoring Report - Quarterly	
Action Type:					ENFORCEMENT	
Date :					2017-08-14 00:00:00	
Action:					Referral to Regional Board	
Action Type:					ENFORCEMENT	
Date :					2017-03-03 00:00:00	
Action:					Staff Letter	
Action Type:					ENFORCEMENT	
Date :					2017-02-22 00:00:00	
Action:					File review	
Action Type:					ENFORCEMENT	
Date :					2016-09-27 00:00:00	
Action:					Staff Letter	
Action Type:					RESPONSE	
Date :					2016-09-21 00:00:00	
Action:					Soil and Water Investigation Workplan - Addendum - Regulator Responded	
Action Type:					ENFORCEMENT	
Date :					2016-09-02 00:00:00	
Action:					Staff Letter	
Action Type:					ENFORCEMENT	
Date :					2016-03-17 00:00:00	
Action:					Staff Letter	
Action Type:					ENFORCEMENT	
Date :					2015-02-23 00:00:00	
Action:					File review	
Action Type:					ENFORCEMENT	
Date :					2013-07-23 00:00:00	
Action:					File review	
Action Type:					ENFORCEMENT	
Date :					2013-04-22 00:00:00	
Action:					File Review - Closure	
Action Type:					ENFORCEMENT	
Date :					2012-06-20 00:00:00	
Action:					Staff Letter	
Action Type:					ENFORCEMENT	
Date :					2012-04-30 00:00:00	
Action:					Clean Up Fund - Case Closure Review Summary Report (RSR)	
Action Type:					ENFORCEMENT	
Date :					2012-04-17 00:00:00	
Action:					Staff Letter	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2011-06-15 00:00:00				
Action:		Clean Up Fund - Case Closure Review Summary Report (RSR)				
Action Type:		ENFORCEMENT				
Date :		2011-03-28 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2010-12-28 00:00:00				
Action:		Clean Up Fund - Case Closure Review Summary Report (RSR)				
Action Type:		ENFORCEMENT				
Date :		2010-06-21 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2010-01-05 00:00:00				
Action:		Clean Up Fund - Case Closure Review Summary Report (RSR)				
Action Type:		ENFORCEMENT				
Date :		2009-07-14 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2008-10-06 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2008-01-29 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2007-05-15 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2007-03-15 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2007-01-29 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2006-01-25 00:00:00				
Action:		Staff Letter				
Action Type:		REMEDIATION				
Date :		2005-03-28 00:00:00				
Action:		Excavation				
Action Type:		REMEDIATION				
Date :		2005-03-28 00:00:00				
Action:		Pump & Treat (P&T) Groundwater				
Action Type:		ENFORCEMENT				
Date :		2005-03-23 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2003-09-22 00:00:00				
Action:		Corrective Action Plan / Remedial Action Plan				
Action Type:		ENFORCEMENT				
Date :		2003-08-06 00:00:00				
Action:		* Historical Enforcement				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type: RESPONSE
Date : 2003-06-23 00:00:00
Action: Corrective Action Plan / Remedial Action Plan

Action Type: ENFORCEMENT
Date : 2003-04-15 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 1997-09-03 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1992-07-03 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type:	Regional Board Caseworker	Address:	2375 NORTHSIDE DRIVE, SUITE 100
Contact Name:	LALITHA THOTAKURA	Email:	lalitha.thotakura@waterboards.ca.gov
City:	SAN DIEGO	Phone Number:	6195213002
Organization Name:	SAN DIEGO RWQCB (REGION 9)		

Status History

Status: Open - Remediation
Status Date: 2003-12-18 00:00:00

Status: Open - Site Assessment
Status Date: 1999-05-24 00:00:00

Status: Open - Case Begin Date
Status Date: 1992-07-03 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	BEACON BAY AUTO WASH #06	Address:	23602 EL TORO
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	OPEN - REMEDIATION	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	GASOLINE	CUF Claim:	13832
WDR Place Type:		CUF Priority Assig:	C
WDR File:		CUF Amount Paid:	\$500,213
WDR Order:			
File Location:	LOCAL AGENCY		
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902112		
Cleanup Status Detail:	OPEN - REMEDIATION AS OF 12/18/2003		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902112&tabname=regulatoryhistory		
Potential Media Of Concern:	AQUIFER USED FOR DRINKING WATER SUPPLY		
User Defined Beneficial Use:	GW - AGRICULTURAL SUPPLY		
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
Post Closure Site Management:			
Future Land Use:			
Cleanup Oversight Agencies:	SAN DIEGO RWQCB (REGION 9) (LEAD) - CASE #: 083003094T CASEWORKER: LALITHA THOTAKURA ORANGE COUNTY LOP - CASE #: 97UT035		

Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Remediation
Date : 12/18/2003

Status: Open - Site Assessment
Date : 5/24/1999

Status: Open - Case Begin Date
Date : 7/3/1992

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: PUMP & TREAT (P&T) GROUNDWATER
Phase:
Contaminant Mass Removed:
Description:

Begin Date: 3/28/2005
End Date: 9/9/9999

Action Type: EXCAVATION
Phase:
Contaminant Mass Removed:
Description:

Begin Date: 3/28/2005
End Date: 9/9/9999

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Response Requested - Other
Action Date: 12/5/2018
Received Issue Date: 12/5/2018
Action: Request for Closure
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5980395

Action Type: Other Regulatory Actions
Action Date: 9/24/2018
Received Issue Date: 9/24/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6371340&template=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/16/2018
Received Issue Date: 5/16/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6358691&template=ENFORCEMENT

Action Type: Response Requested - Reports
Action Date: 4/4/2018
Received Issue Date: 4/4/2018
Action: Clean Up Fund - 5-Year Review Summary
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5961236

Action Type: Other Regulatory Actions
Action Date: 3/16/2018
Received Issue Date: 3/16/2018
Action: Email Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6351608&template=ENFORCEMENT

Action Type: Response Requested - Other
Action Date: 2/22/2018
Received Issue Date: 2/22/2018
Action: Request for Closure - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5958078

Action Type: Response Requested - Reports
Action Date: 1/11/2018

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Received Issue Date:			1/11/2018			
Action:			Monitoring Report - Quarterly			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5954260			
Action Type:			Response Requested - Reports			
Action Date:			8/24/2017			
Received Issue Date:			8/24/2017			
Action:			Monitoring Report - Quarterly			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5942408			
Action Type:			Referral to Other Agency			
Action Date:			8/14/2017			
Received Issue Date:			8/14/2017			
Action:			Referral to Regional Board			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6329774&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			3/3/2017			
Received Issue Date:			3/3/2017			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6313389&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			2/22/2017			
Received Issue Date:			2/22/2017			
Action:			File review			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			9/27/2016			
Received Issue Date:			9/27/2016			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6299380&template=ENFORCEMENT			
Action Type:			Response Requested - Workplans			
Action Date:			9/21/2016			
Received Issue Date:			9/21/2016			
Action:			Soil and Water Investigation Workplan - Addendum - Regulator Responded			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5901456			
Action Type:			Other Regulatory Actions			
Action Date:			9/2/2016			
Received Issue Date:			9/2/2016			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6297578&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			3/17/2016			
Received Issue Date:			3/17/2016			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6279348&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			2/23/2015			
Received Issue Date:			2/23/2015			
Action:			File review			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			7/23/2013			
Received Issue Date:			7/23/2013			
Action:			File review			
Doc Link:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:			Other Regulatory Actions			
Action Date:			4/22/2013			
Received Issue Date:			4/22/2013			
Action:			File Review - Closure			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			6/20/2012			
Received Issue Date:			6/20/2012			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6125712&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			4/17/2012			
Received Issue Date:			4/17/2012			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6118994&template=ENFORCEMENT			
Action Type:			Response Requested - Reports			
Action Date:			3/5/2012			
Received Issue Date:			3/5/2012			
Action:			Clean Up Fund - 5-Year Review Summary			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5735906			
Action Type:			Other Regulatory Actions			
Action Date:			3/28/2011			
Received Issue Date:			3/28/2011			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6082235&template=ENFORCEMENT			
Action Type:			Response Requested - Reports			
Action Date:			2/10/2011			
Received Issue Date:			2/10/2011			
Action:			Clean Up Fund - 5-Year Review Summary			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5715134			
Action Type:			Other Regulatory Actions			
Action Date:			6/21/2010			
Received Issue Date:			6/21/2010			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6054259&template=ENFORCEMENT			
Action Type:			Response Requested - Reports			
Action Date:			1/5/2010			
Received Issue Date:			1/5/2010			
Action:			Clean Up Fund - 5-Year Review Summary			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902112&doc_id=5702036			
Action Type:			Response Requested - Reports			
Action Date:			1/5/2010			
Received Issue Date:			1/5/2010			
Action:			Clean Up Fund - 5-Year Review Summary			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			7/14/2009			
Received Issue Date:			7/14/2009			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6020988&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			10/6/2008			
Received Issue Date:			10/6/2008			
Action:			Staff Letter			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=5989734&temptable=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					1/29/2008	
Received Issue Date:					1/29/2008	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					5/15/2007	
Received Issue Date:					5/15/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					3/15/2007	
Received Issue Date:					3/15/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					1/29/2007	
Received Issue Date:					1/29/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					1/25/2006	
Received Issue Date:					1/25/2006	
Action:					Staff Letter	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					3/28/2005	
Received Issue Date:						
Action:					Pump & Treat (P&T) Groundwater	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					3/28/2005	
Received Issue Date:						
Action:					Excavation	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					3/23/2005	
Received Issue Date:					3/23/2005	
Action:					Staff Letter	
Doc Link:						
Action Type:					Response Requested - Workplans	
Action Date:					9/22/2003	
Received Issue Date:					1/1/1965	
Action:					Corrective Action Plan / Remedial Action Plan	
Doc Link:						
Action Type:					Enforcement/Orders	
Action Date:					8/6/2003	
Received Issue Date:					8/6/2003	
Action:					* Historical Enforcement	
Doc Link:						
Action Type:					Response Requested - Workplans	
Action Date:					6/23/2003	
Received Issue Date:					7/31/2003	
Action:					Corrective Action Plan / Remedial Action Plan	
Doc Link:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		Enforcement/Orders				
Action Date:		4/15/2003				
Received Issue Date:		4/15/2003				
Action:		* Historical Enforcement				
Doc Link:						
Action Type:		Leak Action				
Action Date:		9/3/1997				
Received Issue Date:						
Action:		Leak Reported				
Doc Link:						
Action Type:		Leak Action				
Action Date:		7/3/1992				
Received Issue Date:						
Action:		Leak Discovery				
Doc Link:						

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5619796574/T0605902112.pdf
Size : 171 KB
Submitted By: C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Submitted: 10/11/2005

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :** 7,159 KB
Document Date: 12/5/2018 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: RESPONSE TO ATC CORRESPONDENCE
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9676190316/T0605902112.PDF

Document Type: Site Documents **Size :**
Document Date: 9/24/2018 **Submitted By:** LALITHA THOTAKURA (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: WELL DESTRUCTION ACTIVITIES
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6371340

Document Type: Site Documents **Size :**
Document Date: 5/16/2018 **Submitted By:** LALITHA THOTAKURA (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: ATC GROUP SERVICES LLC COMMENTS ON CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6358691

Document Type: Site Documents **Size :**
Document Date: 4/4/2018 **Submitted By:** SUKHMANI BRAR (REGULATOR)
Type: CLEAN UP FUND - 5-YEAR REVIEW SUMMARY **Submitted:**
Title: 13832 4TH RSR CONCUR WITH CLOSURE MARCH 2018
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5961236

Document Type: Site Documents **Size :**
Document Date: 3/16/2018 **Submitted By:** LALITHA THOTAKURA (REGULATOR)
Type: EMAIL CORRESPONDENCE **Submitted:**
Title: RESPONSE TO CLOSURE REQUEST
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6351608

Document Type: Site Documents **Size :** 6,946 KB
Document Date: 2/9/2018 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type: REQUEST FOR CLOSURE **Submitted:**
Title: FOURTH QUARTER 2017 GROUNDWATER MONITORING REPORT AND CONCEPTUAL SITE MODEL
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8177362263/T0605902112.PDF

Document Type: Monitoring Reports **Size :** 7,057 KB
Document Date: 12/13/2017 **Submitted By:** C. JAMES & ASSOCIATES, INC. (AUTH_RP)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9530456781/T0605902112.PDF					
Document Type:	Site Documents				Size :	
Document Date:	8/14/2017				Submitted By:	GENIECE HIGGINS (REGULATOR)
Type:	REFERRAL TO REGIONAL BOARD				Submitted:	
Title:	SDRWQCB SITE TRANSFER NOTICE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6329774					
Document Type:	Monitoring Reports				Size :	20,342 KB
Document Date:	8/11/2017				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	2ND QUARTER 2017 GROUNDWATER MONITORING REPORT REMEDIAL ACTION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6525567829/T0605902112.PDF					
Document Type:	Monitoring Reports				Size :	13,842 KB
Document Date:	4/28/2017*				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	1ST QUARTER 2017 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1151831269/T0605902112.PDF					
Document Type:	Site Documents				Size :	
Document Date:	3/3/2017				Submitted By:	SHYAMALA RAJAGOPAL (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:	COMMENTS TO 4Q16 GW MONITORING AND REMEDIAL ACTION STATUS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6313389					
Document Type:	Site Documents				Size :	
Document Date:	9/27/2016				Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:	WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6299380					
Document Type:	Site Documents				Size :	4,020 KB
Document Date:	9/15/2016				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type:	SOIL AND WATER INVESTIGATION				Submitted:	
Title:	WORKPLAN - ADDENDUM					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1198286592/T0605902112.PDF					
Document Type:	Site Documents				Size :	
Document Date:	9/2/2016				Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:	WELL INSTALLATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6297578					
Document Type:	Monitoring Reports				Size :	24,135 KB
Document Date:	4/12/2016				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	1ST QUARTER 2016 GROUNDWATER MONITORING REPORT REMEDIAL ACTION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8219198822/T0605902112.PDF					
Document Type:	Site Documents				Size :	
Document Date:	3/17/2016				Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:	CASE STATUS REVIEW					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6279348					
Document Type:	Monitoring Reports				Size :	15,003 KB
Document Date:	1/26/2015				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	FOURTH QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2229315400/T0605902112.PDF					
Document Type:	Monitoring Reports				Size :	13,771 KB
Document Date:	11/7/2014*				Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	THIRD QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3794367194/T0605902112.PDF				
Document Type:	Monitoring Reports			Size :	14,335 KB	
Document Date:	8/11/2014*			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8670923590/T0605902112.PDF				
Document Type:	Monitoring Reports			Size :	16,403 KB	
Document Date:	5/5/2014*			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT REMEDIAL ACTION					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3012129366/T0605902112.PDF				
Document Type:	Monitoring Reports			Size :	7,281 KB	
Document Date:	3/21/2014			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4TH QUARTER 2013					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6234926342/T0605902112.PDF				
Document Type:	Monitoring Reports			Size :	5,901 KB	
Document Date:	10/25/2013			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	THIRD QUARTER 2013					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6910722851/T0605902112.PDF				
Document Type:	Monitoring Reports			Size :	9,575 KB	
Document Date:	7/19/2013			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2013					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8683308422/T0605902112.PDF				
Document Type:	Site Documents			Size :	5,474 KB	
Document Date:	4/17/2013			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REMEDIAL PROGRESS REPORT			Submitted:		
Title:	FIRST QUARTER 2013					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8766712248/T0605902112.PDF				
Document Type:	Monitoring Reports			Size :	4,744 KB	
Document Date:	7/30/2012			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2012					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7028806567/T0605902112.PDF				
Document Type:	Site Documents			Size :		
Document Date:	6/20/2012			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	INTERIM REMEDIAL ACTION PLAN					
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6125712				
Document Type:	Site Documents			Size :	11,800 KB	
Document Date:	5/23/2012			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	INTERIM REMEDIAL ACTION REPORT			Submitted:		
Title:	INTERIM REMEDIAL ACTION REPORT					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4855559587/T0605902112.PDF				
Document Type:	Site Documents			Size :		
Document Date:	4/17/2012			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	CASE FILE REVIEW					
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6118994				
Document Type:	Site Documents			Size :		
Document Date:	3/5/2012			Submitted By:	JAMES YOUNG (REGULATOR)	
Type:	CLEAN UP FUND - 5-YEAR REVIEW SUMMARY			Submitted:		
Title:	THIRD 5-YEAR REVIEW					
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5735906				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports			Size :	9,709 KB	
Document Date:	1/31/2012			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	FOURTH QUARTER 2011					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7002729058/T0605902112.PDF					
Document Type:	Monitoring Reports			Size :	6,489 KB	
Document Date:	8/8/2011			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2011					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4886698424/T0605902112.PDF					
Document Type:	Site Documents			Size :		
Document Date:	3/28/2011			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	CASE FILE REVIEW AND QUARTERLY MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6082235					
Document Type:	Site Documents			Size :		
Document Date:	2/10/2011			Submitted By:	PAT G. CULLEN (REGULATOR)	
Type:	CLEAN UP FUND - 5-YEAR REVIEW SUMMARY			Submitted:		
Title:	SECOND 5-YEAR REVIEW					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5715134					
Document Type:	Monitoring Reports			Size :	5,532 KB	
Document Date:	1/26/2011			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4Q 10					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8660825610/T0605902112.PDF					
Document Type:	Monitoring Reports			Size :	3,465 KB	
Document Date:	7/21/2010			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2010					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1680337488/T0605902112.PDF					
Document Type:	Site Documents			Size :		
Document Date:	6/21/2010			Submitted By:	ANTHONY MARTINEZ (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	OCHCA RESPONSE TO 5-YEAR REVIEW					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6054259					
Document Type:	Monitoring Reports			Size :	7,626 KB	
Document Date:	1/25/2010			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	FOURTH QUARTER 2009					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5579522669/T0605902112.PDF					
Document Type:	Site Documents			Size :		
Document Date:	1/5/2010			Submitted By:	PAT G. CULLEN (REGULATOR)	
Type:	CLEAN UP FUND - 5-YEAR REVIEW SUMMARY			Submitted:		
Title:	5-YEAR REVIEW					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&document_id=5702036					
Document Type:	Site Documents			Size :		
Document Date:	7/14/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	QUARTERLY GROUNDWATER MONITORING REQUIREMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=6020988					
Document Type:	Monitoring Reports			Size :	2,910 KB	
Document Date:	10/20/2008*			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3RD QUARTER 2008					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1266251087/T0605902112.PDF					
Document Type:	Site Documents			Size :		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date:	10/6/2008				Submitted By: KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER				Submitted:	
Title:	SECOND QUARTER 2008 REVIEW COMMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902112&enforcement_id=5989734					
Document Type:	Monitoring Reports			Size :	2,603 KB	
Document Date:	7/21/2008			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2ND QUARTER 2008					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1600218832/T0605902112.PDF					
Document Type:	Monitoring Reports			Size :	3,954 KB	
Document Date:	4/7/2008			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1ST QUARTER 2008					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7198181629/T0605902112.PDF					
Document Type:	Monitoring Reports			Size :	5,043 KB	
Document Date:	1/25/2008			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4Q 07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7679888665/T0605902112.PDF					
Document Type:	Site Documents			Size :	1,260 KB	
Document Date:	12/23/2007*			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:	GROUNDWATER PUMP TEST					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7843159556/T0605902112.PDF					
Document Type:	Site Documents			Size :	2,529 KB	
Document Date:	12/23/2007*			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:	WELL INSTALL NOV 07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9481123983/T0605902112.PDF					
Document Type:	Site Documents			Size :	2,529 KB	
Document Date:	12/19/2007			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	SOIL VAPOR INTRUSION INVESTIGATION REPORT			Submitted:		
Title:	RECOVERY WELL INSTALLATION & SOIL GAS SURVEY					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2265472650/T0605902112.PDF					
Document Type:	Monitoring Reports			Size :	2,306 KB	
Document Date:	11/21/2007			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3RD QUARTER 2007					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9977583169/T0605902112.PDF					
Document Type:	Monitoring Reports			Size :	6,617 KB	
Document Date:	10/9/2007			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2007					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8937452554/T0605902112.PDF					
Document Type:	Site Documents			Size :	2,220 KB	
Document Date:	5/22/2007			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	1Q07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6776812493/T0605902112.PDF					
Document Type:	Site Documents			Size :	1,305 KB	
Document Date:	4/25/2007			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:	CAP3 04.18.07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5946383416/T0605902112.PDF					
Document Type:	Site Documents			Size :	2,260 KB	
Document Date:	1/23/2007			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:		4Q06				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2793073892/T0605902112.PDF				
Document Type:	Site Documents			Size :	2,246 KB	
Document Date:	9/27/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:		3Q06				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2651212930/T0605902112.PDF				
Document Type:	Site Documents			Size :	5,112 KB	
Document Date:	8/8/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:		2Q06				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1990659415/T0605902112.PDF				
Document Type:	Site Documents			Size :	3,024 KB	
Document Date:	6/16/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:		1Q06				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9051847696/T0605902112.PDF				
Document Type:	Site Documents			Size :	8,400 KB	
Document Date:	6/15/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:		SOIL/GW EXCAVATION & DISPOSAL 8.12.05 PART 1				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6453933537/T0605902112.PDF				
Document Type:	Site Documents			Size :	7,921 KB	
Document Date:	6/15/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:		SOIL/GW EXCAVATION & DISPOSAL 8.12.05 PART 3				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8074201822/T0605902112.PDF				
Document Type:	Site Documents			Size :	10,890 KB	
Document Date:	6/15/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:		SOIL/GW EXCAVATION & DISPOSAL 8.12.05 PART 2				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2382047891/T0605902112.PDF				
Document Type:	Site Documents			Size :	3,574 KB	
Document Date:	5/17/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:		MW INSTALLATION REPORT 4.10.06				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2295489251/T0605902112.PDF				
Document Type:	Site Documents			Size :	3,510 KB	
Document Date:	4/27/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:		1Q2005				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7823576211/T0605902112.PDF				
Document Type:	Site Documents			Size :	1,169 KB	
Document Date:	4/27/2006			Submitted By:	C. JAMES & ASSOCIATES, INC. (AUTH_RP)	
Type:	WORKPLANS - OTHER WP			Submitted:		
Title:		WORK PLAN 01.10.2006				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5885253727/T0605902112.PDF				

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6 of 7

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0.15 /
811.69

393.71 /
-7

**MEDICAL MANAGEMENT
INTERNATIONAL INC DBA
BANFIELD PET HOSPITAL #1291
23602 EL TORO RD
LAKE FOREST CA 92630-4786**

**RCRA
NON GEN**

EPA Handler ID: CAL000313984
Gen Status Universe: No Report
Contact Name: SEAN AKERS
Contact Address: P.O. BOX 87586 , , VANCOUVER , WA, 98687-7856 ,
Contact Phone No and Ext: 360-784-5217

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Contact Email: HSE@BANFIELD.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20061204

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20061204
Handler Name: MEDICAL MANAGEMENT INTERNATIONAL INC DBA BANFIELD PET HOSPITAL #1291
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Operator	Street No:
Type: Other	Street 1: P.O. BOX 87586
Name: SEAN AKERS	Street 2:
Date Became Current:	City: VANCOUVER
Date Ended Current:	State: WA
Phone: 360-784-5217	Country:
Source Type: Implementer	Zip Code: 98687-7856

Owner/Operator Ind: Current Owner	Street No:
Type: Other	Street 1: P.O. BOX 87586
Name: MEDICAL MANAGEMENT INTERNATIONAL IN	Street 2:
Date Became Current:	City: VANCOUVER
Date Ended Current:	State: WA
Phone: 360-784-5119	Country:
Source Type: Implementer	Zip Code: 98687-7856

16	7 of 7	S	0.15 / 811.69	393.71 / -7	PETSMART #1291 23602 EL TORO RD LAKE FOREST CA 92630	RCRA NON GEN
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EPA Handler ID: CAL000400880
Gen Status Universe: No Report
Contact Name: KEN DOBIAS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Contact Address: 3481 PLANO PARKWAY , , THE COLONY , TX, 75056 ,
Contact Phone No and Ext: 972-464-0004
Contact Email: KEN.DOBIAS@QUESTRMG.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20140930

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20140930
Handler Name: PETSMART #1291
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner	Street No:	
Type: Other	Street 1:	19601 N 27TH AVE
Name: PETSMART CABLE SYSTEMS COMPANY II LP	Street 2:	
Date Became Current:	City:	PHOENIX
Date Ended Current:	State:	AZ
Phone: 623-587-2912	Country:	
Source Type: Implementer	Zip Code:	85027-4008
Owner/Operator Ind: Current Operator	Street No:	
Type: Other	Street 1:	3481 PLANO PARKWAY
Name: KEN DOBIAS	Street 2:	
Date Became Current:	City:	THE COLONY
Date Ended Current:	State:	TX
Phone: 972-464-0004	Country:	
Source Type: Implementer	Zip Code:	75056

17	1 of 1	S	0.17 / 895.66	392.94 / -7	ULTA BEAUTY 467 23608 EL TORO RD LAKE FOREST CA 92630-4786	RCRA NON GEN
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EPA Handler ID: CAL000388889

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Gen Status Universe:		No Report				
Contact Name:		JEREMY HOJNICKI				
Contact Address:		1000 REMINGTON BLVD STE 120 , , BOLINGBROOK , IL, 60440 ,				
Contact Phone No and Ext:		630-296-1552				
Contact Email:		JHOJNICKI@ULTA.COM				
Contact Country:						
County Name:		ORANGE				
EPA Region:		09				
Land Type:						
Receive Date:		20130823				

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20130823
Handler Name: ULTA BEAUTY 467
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Operator	Street No:
Type: Other	Street 1: 1000 REMINGTON BLVD STE 120
Name: JEREMY HOJNICKI	Street 2:
Date Became Current:	City: BOLINGBROOK
Date Ended Current:	State: IL
Phone: 630-296-1552	Country:
Source Type: Implementer	Zip Code: 60440

Owner/Operator Ind: Current Owner	Street No:
Type: Other	Street 1: 1000 REMINGTON BLVD
Name: ULTA SALON COSMETICS & FRAGRANCE	Street 2: SUITE 120
Date Became Current:	City: BOLINGBROOK
Date Ended Current:	State: IL
Phone: 630-410-4800	Country:
Source Type: Implementer	Zip Code: 60440

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LAKE FOREST CA 92630

EPA Handler ID: CAC002977553
Gen Status Universe: No Report
Contact Name: GARY & SHELLIE SHAUL
Contact Address: 24471 REDLEN ST , , LAKE FOREST , CA, 92630 ,
Contact Phone No and Ext: 949-636-5094
Contact Email: ADMIN@VIKINGENVIRO.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20180824

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20180824
Handler Name: GARY & SHELLIE SHAUL
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner	Street No:
Type: Other	Street 1: 24471 REDLEN ST
Name: GARY & SHELLIE SHAUL	Street 2:
Date Became Current:	City: LAKE FOREST
Date Ended Current:	State: CA
Phone: 949-636-5094	Country:
Source Type: Implementer	Zip Code: 92630

Owner/Operator Ind: Current Operator	Street No:
Type: Other	Street 1: 24471 REDLEN ST
Name: GARY & SHELLIE SHAUL	Street 2:
Date Became Current:	City: LAKE FOREST
Date Ended Current:	State: CA
Phone: 949-636-5094	Country:
Source Type: Implementer	Zip Code: 92630

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
19	1 of 1	S	0.19 / 986.85	391.37 / -9	HOMEGOODS 0366 23614 EL TORO RD LAKE FOREST CA 92630-4786	RCRA NON GEN

EPA Handler ID: CAL000401807
Gen Status Universe: No Report
Contact Name: PAUL KANGAS
Contact Address: 770 COCHITUATE RD , 300.1AN , FRAMINGHAM , MA, 01701 ,
Contact Phone No and Ext: 774-308-3651
Contact Email: PAUL_KANGAS@TJX.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20141104

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20141104
Handler Name: HOMEGOODS 0366
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Owner	Street No:
Type: Other	Street 1: 770 COCHITUATE RD
Name: HOMEGOODS INC	Street 2:
Date Became Current:	City: FRAMINGHAM
Date Ended Current:	State: MA
Phone: 774-308-3651	Country:
Source Type: Implementer	Zip Code: 01701

Owner/Operator Ind: Current Operator	Street No:
Type: Other	Street 1: 770 COCHITUATE RD
Name: PAUL KANGAS	Street 2: 300.1AN
Date Became Current:	City: FRAMINGHAM
Date Ended Current:	State: MA
Phone: 774-308-3651	Country:
Source Type: Implementer	Zip Code: 01701

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
20	1 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 926300000	DRYCLEANERS
EPA ID:		CAD983588708		Owner Phone:		9499512744
Create Date:		7/9/1991		Owner Fax:		000000000
Facility Act Ind:		Yes		Contact Name:		TONY MERCIYAN
Inact Date:				Contact Street 1:		23374 ELTORO RD
Reason:		SIC/NAICS		Contact Street 2:		
County Name:		Orange		Contact City:		LAKE FOREST
Region Code:		4		Contact State:		CA
Owner Name:		TONY MERCIYAN		Contact Zip:		92630
Owner Street 1:		23374 EL TORO RD		Contact Phone:		9499512744
Owner Street 2:				Mail Name:		
Owner City:		LAKE FOREST		DD Latitude:		33.623333
Owner State:		CA		DD Longitude:		-117.696896
Owner Zip:		926300000				
NAICS Details						
NAICS Code:		81232				
NAICS Description:		Drycleaning and Laundry Services (except Coin-Operated)				
SIC Code:		7211				
SIC Description:		Power Laundries, Family and Commercial				
20	2 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 926300000	DRYCLEANERS
EPA ID:		CAL000034591		Owner Phone:		0000000000
Create Date:		5/16/1990		Owner Fax:		
Facility Act Ind:		No		Contact Name:		TONY MERC, OWNER
Inact Date:		6/30/1999		Contact Street 1:		INACT 99VQ FINAL NOTICE - BATCH
Reason:		Cleaners		Contact Street 2:		4/11/00
County Name:		Orange		Contact City:		LAKE FOREST
Region Code:		4		Contact State:		CA
Owner Name:		MERCYAN ANTRANIK H		Contact Zip:		926304807
Owner Street 1:		--		Contact Phone:		7149512744
Owner Street 2:		--		Mail Name:		
Owner City:		--		DD Latitude:		
Owner State:		99		DD Longitude:		
Owner Zip:		--				
20	3 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD LAKE FOREST CA 926300000	DRYCLEANERS
EPA ID:		CAC001312240		Owner Phone:		7149611408
Create Date:		5/18/1998		Owner Fax:		
Facility Act Ind:		No		Contact Name:		RUEY LAI
Inact Date:		10/25/2000		Contact Street 1:		7111 GARDEN GROVE BLVD STE 115
Reason:		Cleaners		Contact Street 2:		
County Name:		Orange		Contact City:		GARDEN GROVE
Region Code:		4		Contact State:		CA
Owner Name:		PLAZA EL TORO INVESTORS		Contact Zip:		928410000
Owner Street 1:		18220 IMPERIAL HWY		Contact Phone:		7148943236
Owner Street 2:				Mail Name:		
Owner City:		YORBA LINDA		DD Latitude:		
Owner State:		CA		DD Longitude:		
Owner Zip:		926860000				
20	4 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC 'N SPAN CLEANERS 23374 EL TORO RD LAKE FOREST CA 92630	EMISSIONS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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2016 Toxic Data

Facility ID:	94696	TS:	
Facility SIC Code:	7216	HRA:	
CERR CODE:		CH Index:	
COID:	ORA	AH Index:	
CO:	30	Air Basin:	SC
DISN:	SOUTH COAST AQMD	District:	SC
CHAPIS:			

2017 Toxic Data

Facility ID:	94696	COID:	ORA
Facility SIC Code:	7216	DISN:	SOUTH COAST AQMD
CO:	30	CHAPIS:	
Air Basin:	SC	CERR Code:	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

20	5 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 92630	FED DRYCLEANERS
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FRS Facility ID:	110002848802
NPDES IDs:	
NAICS Codes:	81232
SIC Codes:	
Latitude:	33.623315
Longitude:	-117.696944

20	6 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS & LAUNDRY 23374 EL TORO RD LAKE FOREST CA 92630	ORANGE ICP
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Record ID:	RO0000644	Status Description:	CLOSED
Case ID:	98IC014	Case Closed Date:	7/13/1998
Released Substance(s):	PERCHLOROETHYLENE SOLVENTS- HALOGENATED		
Type of Closure:	Closure certification issued		

20	7 of 7	ENE	0.19 / 999.86	407.68 / 7	SPIC N SPAN CLEANERS 23374 EL TORO RD EL TORO CA 92630	RCRA SQG
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EPA Handler ID:	CAD983588708
Gen Status Universe:	Small Quantity Generator
Contact Name:	H ANTRANIK
Contact Address:	23374 EL TORO RD , , EL TORO , CA, 92630 , US
Contact Phone No and Ext:	714-951-2744
Contact Email:	
Contact Country:	US
County Name:	ORANGE
EPA Region:	09
Land Type:	Other
Receive Date:	19910709

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19910709
Handler Name: SPIC N SPAN CLEANERS
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Owner/Operator Details

Owner/Operator Ind: Current Owner	Street No:	
Type: Private	Street 1:	NOT REQUIRED
Name: ANTRANIK H MERCIYAN	Street 2:	
Date Became Current:	City:	NOT REQUIRED
Date Ended Current:	State:	ME
Phone: 415-555-1212	Country:	
Source Type: Notification	Zip Code:	99999

Owner/Operator Ind: Current Operator	Street No:	
Type: Private	Street 1:	NOT REQUIRED
Name: NOT REQUIRED	Street 2:	
Date Became Current:	City:	NOT REQUIRED
Date Ended Current:	State:	ME
Phone: 415-555-1212	Country:	
Source Type: Notification	Zip Code:	99999

21	1 of 1	SSW	0.20 / 1,037.65	390.77 / -10	AARON BROTHERS #0308 23622 EL TORO RD STE A LAKE FOREST CA 92630-4786	RCRA NON GEN
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EPA Handler ID: CAL000407538
Gen Status Universe: No Report
Contact Name: RYAN DRAPER
Contact Address: 8000 BENT BRANCH DR , , IRVING , TX, 75063 ,
Contact Phone No and Ext: 972-409-5786
Contact Email: DRAPERR@MICHAELS.COM
Contact Country:
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 20150605

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20150605
Handler Name: AARON BROTHERS #0308
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Operator	Street No:
Type: Other	Street 1: 8000 BENT BRANCH DR
Name: RYAN DRAPER	Street 2:
Date Became Current:	City: IRVING
Date Ended Current:	State: TX
Phone: 972-409-5786	Country:
Source Type: Implementer	Zip Code: 75063

Owner/Operator Ind: Current Owner	Street No:
Type: Other	Street 1: 8000 BENT BRANCH DR
Name: MICHAELS INC	Street 2:
Date Became Current:	City: IRVING
Date Ended Current:	State: TX
Phone: 972-409-5786	Country:
Source Type: Implementer	Zip Code: 75063

22	1 of 1	ENE	0.21 / 1,133.85	408.88 / 8	CVS PHARMACY # 9541 23330 EL TORO ROAD LAKE FOREST CA 92630	RCRA LQG
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EPA Handler ID: CAR000236927
Gen Status Universe: Large Quantity Generator
Contact Name: NICOLE WILKINSON
Contact Address: 1 , CVS DRIVE , , WOONSOCKET , RI, 02895 , US
Contact Phone No and Ext: 401-770-7132
Contact Email: NICOLE.WILKINSON@CVSHEALTH.COM
Contact Country: US
County Name: PLACER
EPA Region: 09

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Land Type: Private
 Receive Date: 20180301

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
 Mixed Waste Generator: No
 Transporter Activity: No
 Transfer Facility: No
 Onsite Burner Exemption: No
 Furnace Exemption: No
 Underground Injection Activity: No
 Commercial TSD: No
 Used Oil Transporter: No
 Used Oil Transfer Facility: No
 Used Oil Processor: No
 Used Oil Refiner: No
 Used Oil Burner: No
 Used Oil Market Burner: No
 Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 2
 Receive Date: 20180301
 Handler Name: CVS PHARMACY # 9541
 Generator Status Universe: Large Quantity Generator
 Source Type: Annual/Biennial Report update with Notification

Waste Code Details

Hazardous Waste Code: 141
 Waste Code Description: Off-specification, aged, or surplus inorganics

Hazardous Waste Code: 181
 Waste Code Description: Other inorganic solid waste

Hazardous Waste Code: 214
 Waste Code Description: Unspecified solvent mixture

Hazardous Waste Code: 311
 Waste Code Description: Pharmaceutical waste

Hazardous Waste Code: 331
 Waste Code Description: Off-specification, aged, or surplus organics

Hazardous Waste Code: 352
 Waste Code Description: Other organic solids

Hazardous Waste Code: 791
 Waste Code Description: Liquids with pH < 2

Hazardous Waste Code: D001
 Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
 Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D007

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Waste Code Description:			CHROMIUM			
Hazardous Waste Code:			D009			
Waste Code Description:			MERCURY			
Hazardous Waste Code:			D010			
Waste Code Description:			SELENIUM			
Hazardous Waste Code:			D024			
Waste Code Description:			M-CRESOL			
Hazardous Waste Code:			P001			
Waste Code Description:			2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%			
Hazardous Waste Code:			P075			
Waste Code Description:			NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS			
Hazardous Waste Code:			U002			
Waste Code Description:			2-PROPANONE (I) (OR) ACETONE (I)			
Hazardous Waste Code:			U034			
Waste Code Description:			ACETALDEHYDE, TRICHLORO- (OR) CHLORAL			
Hazardous Waste Code:			U129			
Waste Code Description:			CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE			
Hazardous Waste Code:			U165			
Waste Code Description:			NAPHTHALENE			
Hazardous Waste Code:			U205			
Waste Code Description:			SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)			

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20160826
Handler Name: CVS PHARMACY #9541
Generator Status Universe: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification

Waste Code Details

Hazardous Waste Code: 122
Waste Code Description: Alkaline solution without metals (pH > 12.5)

Hazardous Waste Code: 141
Waste Code Description: Off-specification, aged, or surplus inorganics

Hazardous Waste Code: 181
Waste Code Description: Other inorganic solid waste

Hazardous Waste Code: 214
Waste Code Description: Unspecified solvent mixture

Hazardous Waste Code: 311
Waste Code Description: Pharmaceutical waste

Hazardous Waste Code: 331
Waste Code Description: Off-specification, aged, or surplus organics

Hazardous Waste Code: 791
Waste Code Description: Liquids with pH < 2

Hazardous Waste Code: D001

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Waste Code Description:					IGNITABLE WASTE	
Hazardous Waste Code:					D002	
Waste Code Description:					CORROSIVE WASTE	
Hazardous Waste Code:					D007	
Waste Code Description:					CHROMIUM	
Hazardous Waste Code:					D009	
Waste Code Description:					MERCURY	
Hazardous Waste Code:					D010	
Waste Code Description:					SELENIUM	
Hazardous Waste Code:					D024	
Waste Code Description:					M-CRESOL	
Hazardous Waste Code:					P001	
Waste Code Description:					2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%	
Hazardous Waste Code:					P075	
Waste Code Description:					NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS	
Hazardous Waste Code:					U002	
Waste Code Description:					2-PROPANONE (I) (OR) ACETONE (I)	
Hazardous Waste Code:					U129	
Waste Code Description:					CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE	
Hazardous Waste Code:					U205	
Waste Code Description:					SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)	

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20130327
Handler Name: CVS PHARMACY NO 9541
Generator Status Universe: Large Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D009
Waste Code Description: MERCURY

Hazardous Waste Code: P001
Waste Code Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Hazardous Waste Code: P042
Waste Code Description: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

Hazardous Waste Code: P075
Waste Code Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Hazardous Waste Code: P081
Waste Code Description: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Name: PLAZA EL TORO INVESTORS LTD PARTNERSHIP
Date Became Current: 19981201
Date Ended Current:
Phone:
Source Type: Annual/Biennial Report update with Notification
Street No: 32
Street 1: SIDNEY BAY DR
Street 2:
City: NEWPORT COAST
State: CA
Country: US
Zip Code: 92657

Owner/Operator Ind: Current Operator
Type: Private
Name: LONGS DRUG STORES CALIFORNIA LLC
Date Became Current: 20081022
Date Ended Current:
Phone:
Source Type: Notification
Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Owner/Operator Ind: Current Owner
Type: Private
Name: PLAZA EL TORO INVESTORS LTD PARTNERSHIP
Date Became Current: 19981201
Date Ended Current:
Phone: 949-715-3561
Source Type: Annual/Biennial Report update with Notification
Street No: 32
Street 1: SIDNEY BAY DR
Street 2:
City: NEWPORT COAST
State: CA
Country: US
Zip Code: 92657

Owner/Operator Ind: Current Operator
Type: Private
Name: LONGS DRUG STORES CALIFORNIA, L.L.C
Date Became Current: 20081022
Date Ended Current:
Phone: 401-765-1500
Source Type: Annual/Biennial Report update with Notification
Street No: 1
Street 1: CVS DRIVE
Street 2:
City: WOONSOCKET
State: RI
Country: US
Zip Code: 02895

Owner/Operator Ind: Current Operator
Type: Private
Name: LONGS DRUG STORES CALIFORNIA, L.L.C
Date Became Current: 20081022
Date Ended Current:
Phone:
Source Type: Annual/Biennial Report update with Notification
Street No:
Street 1:
Street 2:
City:
State:
Country:
Zip Code:

Owner/Operator Ind: Current Owner
Type: Private
Name: PLAZA EL TORO INVESTORS LTD PARTNERSHIP
Date Became Current: 19981201
Date Ended Current:
Phone: 949-715-3561
Source Type: Notification
Street No:
Street 1: 32 SIDNEY BAY DR
Street 2:
City: NEWPORT COAST
State: CA
Country: US
Zip Code: 92657-2105

[23](#)

1 of 4

SSW

0.24 /
1,276.42

388.28 /
-12

XPRESS CLEANERS
23635 EL TORO RD STE H1
LAGUNA HILLS CA 92630

DRYCLEANERS

EPA ID: CAL000277217
Create Date: 12/12/2003 10:40:15 AM
Facility Act Ind: No
Inact Date: 9/28/2005
Reason: SIC/NAICS
County Name: Orange
Region Code: 4
Owner Name: WILMA DIANGKINAY
Owner Street 1: 23635 EL TORO RD STE H1

Owner Phone: 9495879481
Owner Fax:
Contact Name: LYE DE VERA
Contact Street 1: 23635 EL TORO RD STE H1
Contact Street 2:
Contact City: LAKE FOREST
Contact State: CA
Contact Zip: 92630
Contact Phone: 9495879481

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner Street 2:					Mail Name:	
Owner City:	LAKE FOREST				DD Latitude:	33.619056
Owner State:	CA				DD Longitude:	-117.702516
Owner Zip:	92630					

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

23	2 of 4	SSW	0.24 / 1,276.42	388.28 / -12	XPRESS CLEANERS 23635 EL TORO RD EL TORO CA 926300000	DRYCLEANERS
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EPA ID:	CAD983581729	Owner Phone:	5624239325
Create Date:	5/7/1991	Owner Fax:	
Facility Act Ind:	No	Contact Name:	PERLITA L. DE VERA
Inact Date:	6/30/2007	Contact Street 1:	1100 45TH WAY
Reason:	Cleaners	Contact Street 2:	
County Name:	Orange	Contact City:	LONG BEACH
Region Code:	4	Contact State:	CA
Owner Name:	CORDIAL CARE CORP	Contact Zip:	908070000
Owner Street 1:	1100 E 45TH WAY	Contact Phone:	5622251206
Owner Street 2:		Mail Name:	
Owner City:	LONG BEACH	DD Latitude:	
Owner State:	CA	DD Longitude:	
Owner Zip:	90807		

23	3 of 4	SSW	0.24 / 1,276.42	388.28 / -12	XPRESS CLEANERS 23635 EL TORO RD STE H1 EL TORO CA 926304748	DRYCLEANERS
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EPA ID:	CAL000315300	Owner Phone:	9494725080
Create Date:	1/11/2007 1:57:29 PM	Owner Fax:	
Facility Act Ind:	No	Contact Name:	MARIO HERRERA
Inact Date:	1/18/2008	Contact Street 1:	23635 EL TORO RD STE H1
Reason:	SIC/NAICS	Contact Street 2:	
County Name:	Orange	Contact City:	EL TORO
Region Code:	4	Contact State:	CA
Owner Name:	MARIO HERRERA	Contact Zip:	926304748
Owner Street 1:	23635 EL TORO RD STE H1	Contact Phone:	9494725080
Owner Street 2:		Mail Name:	
Owner City:	EL TORO	DD Latitude:	33.618315
Owner State:	CA	DD Longitude:	-117.703389
Owner Zip:	926304748		

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

23	4 of 4	SSW	0.24 / 1,276.42	388.28 / -12	XPRESS CLEANERS 23635 EL TORO RD EL TORO CA 92630	RCRA SQG
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EPA Handler ID:	CAD983581729
Gen Status Universe:	Small Quantity Generator
Contact Name:	HUNG TRAN
Contact Address:	23635 EL TORO RD , , EL TORO , CA, 92630 , US
Contact Phone No and Ext:	714-587-9481

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Contact Email:
Contact Country: US
County Name: ORANGE
EPA Region: 09
Land Type:
Receive Date: 19910507

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19910507
Handler Name: XPRESS CLEANERS
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Owner/Operator Details

Owner/Operator Ind: Current Owner	Street No:
Type: Private	Street 1: NOT REQUIRED
Name: TRAN ANTHONY HUNG	Street 2:
Date Became Current:	City: NOT REQUIRED
Date Ended Current:	State: ME
Phone: 415-555-1212	Country:
Source Type: Notification	Zip Code: 99999

Owner/Operator Ind: Current Operator	Street No:
Type: Private	Street 1: NOT REQUIRED
Name: NOT REQUIRED	Street 2:
Date Became Current:	City: NOT REQUIRED
Date Ended Current:	State: ME
Phone: 415-555-1212	Country:
Source Type: Notification	Zip Code: 99999

24	1 of 1	SSW	0.25 / 1,298.98	388.80 / -12	ACC BEST 1 HOUR PHOTO 23615 EL TORO RD #S EL TORO CA 92630	RCRA SQG
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EPA Handler ID: CAD982503849
Gen Status Universe: Small Quantity Generator
Contact Name:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Contact Address:		US				
Contact Phone No and Ext:						
Contact Email:						
Contact Country:		US				
County Name:		ORANGE				
EPA Region:		09				
Land Type:						
Receive Date:		19960901				

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19960901
Handler Name:	ACC BEST 1 HOUR PHOTO
Generator Status Universe:	Small Quantity Generator
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Private	Street 1:	NOT REQUIRED
Name:	NACY GWE TSAI	Street 2:	
Date Became Current:		City:	NOT REQUIRED
Date Ended Current:		State:	ME
Phone:	415-555-1212	Country:	
Source Type:	Implementer	Zip Code:	99999
Owner/Operator Ind:	Current Operator	Street No:	
Type:	Private	Street 1:	NOT REQUIRED
Name:	NOT REQUIRED	Street 2:	
Date Became Current:		City:	NOT REQUIRED
Date Ended Current:		State:	ME
Phone:	415-555-1212	Country:	
Source Type:	Implementer	Zip Code:	99999

[25](#) 1 of 1 **N** 0.28 / 1,453.33 383.71 / -17 UNOCAL #6186 24382 MUIRLANDS LAKE FOREST CA 92630 **LUST**

Global ID: T0605901205 **County:** ORANGE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Status: COMPLETED - CASE CLOSED **Latitude:** 33.6269455
Status Date: 1994-06-21 00:00:00 **Longitude:** -117.7022362
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:	083001581T	Potential COC:	Gasoline
Local Case Number:	91UT084	How Discovered:	Tank Closure
Begin Date:	1991-08-08 00:00:00	Stop Method:	Close and Remove Tank
Lead Agency:	ORANGE COUNTY LOP	Stop Description:	
Local Agency:	ORANGE COUNTY LOP	Case Worker:	KL
CUF Case:	YES	File Location:	Local Agency
Potential Media of Concern:	Soil		
How Discovered Description:			
Calwater Watershed Name:	Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)		
DWR GW Subbasin Name:	Coastal Plain Of Orange County (8-001)		
Disadvantaged Community:			
Site History:			

Regulatory Activity

Action Type:	ENFORCEMENT
Date :	1994-06-21 00:00:00
Action:	Closure/No Further Action Letter
Action Type:	REMEDIATION
Date :	1994-01-18 00:00:00
Action:	Excavation
Action Type:	Other
Date :	1991-08-08 00:00:00
Action:	Leak Discovery
Action Type:	Other
Date :	1991-08-08 00:00:00
Action:	Leak Reported

Regulatory Contacts

Contact Type:	Local Agency Caseworker	Address:	1241 E DYER ROAD SUITE 120
Contact Name:	KEVIN LAMBERT	Email:	klambert@ochca.com
City:	SANTA ANA	Phone Number:	7144336261
Organization Name:	ORANGE COUNTY LOP		
Contact Type:	Local Agency Caseworker	Address:	1241 E. DYER ROAD SUITE 120
Contact Name:	JAMES STROZIER	Email:	jstrozier@ochca.com
City:	SANTA ANA	Phone Number:	7144336273
Organization Name:	ORANGE COUNTY LOP		
Contact Type:	Regional Board Caseworker	Address:	3737 MAIN STREET, SUITE 500
Contact Name:	NANCY OLSON-MARTIN	Email:	nolson-martin@waterboards.ca.gov
City:	RIVERSIDE	Phone Number:	
Organization Name:	SANTA ANA RWQCB (REGION 8)		

Status History

Status:	Completed - Case Closed
Status Date:	1994-06-21 00:00:00
Status:	Open - Case Begin Date
Status Date:	1991-08-08 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: UNOCAL #6186
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605901205
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 6/21/1994
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605901205&tabname=regulatoryhistory
Potential Media Of Concern: SOIL
User Defined Beneficial Use:
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 91UT084
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083001581T
CASEWORKER: NANCY OLSON-MARTIN

Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 6/21/1994

Status: Open - Case Begin Date
Date : 8/8/1991

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION
Phase:
Contaminant Mass Removed:
Description:

Begin Date: 1/18/1994
End Date: 9/9/9999

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 6/21/1994
Received Issue Date: 6/21/1994
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901205&enforcement_id=6326521&template=ENFORCEMENT

Action Type: Cleanup Action
Action Date: 1/18/1994
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Leak Action
Action Date: 8/8/1991

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 8/8/1991
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :**
Document Date: 6/21/1994 **Submitted By:** GENIECE HIGGINS (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: RACC
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901205&enforcement_id=6326521

26	1 of 1	SSW	0.29 / 1,507.98	389.38 / -11	THE ORCHARD SHOPPING CENTER, FORMER SILVER CLEANERS 23684 EL TORO ROAD LAKE FOREST CA 92630	CLEANUP SITES
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Global ID: SL0605942036 **Site Facility Type:** CLEANUP PROGRAM SITE
Status: OPEN - SITE ASSESSMENT **County:** ORANGE
Status Date: 2009-06-02 00:00:00 **Latitude:** 33.6180591063786
Site Code: **Longitude:** -117.70144701004
Data Source: Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: SL0605942036 **CUF Case:** NO
Local Case Number: **Case Worker:** MB
Begin Date: 2002-08-01 00:00:00 **File Location:** Regional Board
Stop Method:
Lead Agency: SANTA ANA RWQCB (REGION 8)
Local Agency:
Potential COC: Tetrachloroethylene (PCE)
Potential Media of Concern: Aquifer used for drinking water supply, Other Groundwater (uses other than drinking water)
How Discovered: Property Sale/Transaction, Site Assessment/Site Investigation
How Discovered Description:
Stop Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

The former Silver Dry Cleaners, which operated for 16 years (1982-1998), was located in Suite "S" (or Suite 698) of the former Saddleback Valley Plaza. Chlorinated solvents, primarily tetrachloroethylene (PCE), were first identified in soil by Hemphill, Green & Associates, LLC (HGA) in November 1999. Soil vapor sampling results from HGA's investigation indicated that PCE was present at concentrations up to 13,000 micrograms per liter (µg/l) at 2 feet below ground surface (bgs), and 5,700 µg/l at 5 feet bgs, beneath the former dry cleaner space. No other volatile organic compounds (VOCs) were detected in the soil vapor samples. Between September 2002 and late 2003, several additional soil and groundwater investigations were conducted in the vicinity of the Site. The bulk of the PCE contamination in both the vadose and saturated zones was centered on the location of the former dry cleaners. The investigations consisted of soil and groundwater sampling from borings that were advanced to depths ranging from 26 to 49 feet bgs. The maximum PCE concentration found in the soil was 370 lJg/kg. The highest concentration of PCE in groundwater was 4,100 lJg/L (geoprobe location GP-7), found in the footprint of the former dry cleaning facility, while the second highest concentration of PCE in groundwater was detected in a boring located 120 feet east of the tenant cluster (1,000 lJg/L at GP-11). In 2005, under the oversight of staff from the Orange County Health Care Agency (OCHCA), England Geoscience (EG) conducted a source area excavation at the Site. Approximately 623 cubic yards of soil were removed by successive excavations, in accordance with the OCHCA- approved cleanup goal of 50 µg/kg of PCE. At the completion of the major excavation phase, EG reported that the remedial excavation had succeeded in removing all of the PCE-impacted soil that had been identified at the Site, with the exception of one small, visibly discolored area on the western wall (at 7 feet bgs) of the deepest northwestern portion of the excavation. This residual PCE-impacted soil, which was identified by a sample containing 91 µg/kg PCE, was estimated by EG to have a volume of less than 20 cubic feet. Following the remedial excavation, concentrations of PCE in groundwater in the vicinity of GP-7 dropped from a historical maximum of 4,100 µg/L (GP-7, 2004) to 44 µg/L (monitoring well MW-1, 2012), a greater than 99% reduction. PCE concentrations in the vicinity of GP-11, however, dropped from a maximum of 1,000 µg/L (GP-11, 2004) to 280 µg/L (MW-3, 4012), only a 70% reduction. On June 5, 2013, Regional Board staff request additional investigation of soil

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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and groundwater in the vicinity of GP-11 and the area between the former dry cleaners and MW-3. We also requested that you investigate the potential existence of a secondary contaminant source zone. In response, the Supplemental Soil and Groundwater Investigation was conducted to further delineate the extent of soil and groundwater contamination in that area in June 2013. In the September 2013 report, we found the following elements of the report noteworthy: - There is an apparent trend of increasing PCE concentrations in groundwater in the southeastern portion of the Site that may indicate that the plume is migrating offsite. - Elevated concentrations of PCE (240 µg/L) were detected in grab groundwater samples at location GW-30, which is approximately 120 feet cross-gradient of the former dry cleaners, and approximately 60 feet from the Site's eastern property boundary, and a concentration of 150 µg/L was detected directly between the former dry cleaners and MW-3. - PCE was detected in a soil sample collected from the borehole at sampling location GW-29. Based on the additional grab groundwater samples and second quarter 2015 groundwater monitoring event, groundwater flow direction is to the south/southwest with 0.005 to 0.013 ft/ft.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Activity

Action Type:	ENFORCEMENT
Date :	2019-01-24 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2018-06-27 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2018-06-06 00:00:00
Action:	Annual Estimation Letter
Action Type:	ENFORCEMENT
Date :	2018-01-02 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2017-11-09 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2017-05-12 00:00:00
Action:	Letter - Notice
Action Type:	ENFORCEMENT
Date :	2017-05-04 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2016-11-30 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2016-11-15 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2016-08-17 00:00:00
Action:	Meeting
Action Type:	ENFORCEMENT
Date :	2016-07-05 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2016-06-28 00:00:00
Action:	Cost Recovery Agreement / N. of Reimbursement
Action Type:	ENFORCEMENT
Date :	2015-04-07 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	RESPONSE
Date :	2015-03-31 00:00:00
Action:	Soil and Water Investigation Workplan

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2014-12-29 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2014-10-03 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2014-06-26 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2014-02-27 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2013-11-14 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2013-06-21 00:00:00				
Action:		Cost Recovery Agreement / N. of Reimbursement				
Action Type:		ENFORCEMENT				
Date :		2013-06-05 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2013-04-10 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2012-12-21 00:00:00				
Action:		Correspondence				
Action Type:		ENFORCEMENT				
Date :		2012-12-10 00:00:00				
Action:		Cost Recovery Agreement / N. of Reimbursement				
Action Type:		RESPONSE				
Date :		2012-10-15 00:00:00				
Action:		Monitoring Report - Quarterly				
Action Type:		RESPONSE				
Date :		2012-07-15 00:00:00				
Action:		Monitoring Report - Quarterly				
Action Type:		ENFORCEMENT				
Date :		2012-06-22 00:00:00				
Action:		Cost Recovery Agreement / N. of Reimbursement				
Action Type:		RESPONSE				
Date :		2012-04-15 00:00:00				
Action:		Monitoring Report - Quarterly				
Action Type:		RESPONSE				
Date :		2012-01-23 00:00:00				
Action:		Monitoring Report - Quarterly				
Action Type:		RESPONSE				
Date :		2012-01-15 00:00:00				
Action:		Monitoring Report - Quarterly				
Action Type:		ENFORCEMENT				
Date :		2011-11-18 00:00:00				
Action:		Technical Correspondence / Assistance / Other				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:						
Date :						
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Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Date :		2009-04-23 00:00:00				
Action:		Site Visit / Inspection / Sampling				
Action Type:		ENFORCEMENT				
Date :		2009-03-12 00:00:00				
Action:		Meeting				
Action Type:		RESPONSE				
Date :		2005-06-15 00:00:00				
Action:		Correspondence				
Action Type:		REMEDIATION				
Date :		2005-01-31 00:00:00				
Action:		Excavation				
Action Type:		ENFORCEMENT				
Date :		2004-05-10 00:00:00				
Action:		Cost Recovery Agreement / N. of Reimbursement				
Action Type:		Other				
Date :		1999-11-01 00:00:00				
Action:		Leak Reported				
Action Type:		Other				
Date :		1999-11-01 00:00:00				
Action:		Leak Discovery				

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status:	Open - Site Assessment
Status Date:	2009-06-02 00:00:00
Status:	Open - Remediation
Status Date:	2005-01-31 00:00:00
Status:	Open - Site Assessment
Status Date:	2002-08-01 00:00:00
Status:	Open - Case Begin Date
Status Date:	2002-08-01 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type:	Regional Board Caseworker	Address:	3737 Main St, Suite 500
Contact Name:	Mona Behrooz	City:	RIVERSIDE
Phone Number:	9517823237		
Organization Name:	SANTA ANA RWQCB (REGION 8)		
Email:	mehrnoosh.behrooz@waterboards.ca.gov		

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status:		WDR Place Type:	
CUF Claim:		WDR File:	
CUF Priority Assign:		WDR Order:	
CUF Amount Paid:		File Location:	REGIONAL BOARD
User Defined Beneficial Use:			
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=SL0605942036		
Cleanup Status Detail:	OPEN - SITE ASSESSMENT AS OF 6/2/2009		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL0605942036&tabname=regulatoryhistory		
Potential COC:	TETRACHLOROETHYLENE (PCE)		
Potential Media Of Concern:	AQUIFER USED FOR DRINKING WATER SUPPLY, OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)		
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Post Closure Site Management:

Future Land Use:

Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: SL0605942036
CASEWORKER: Mona Behrooz
ORANGE COUNTY - CASE #: 05IC001

Site History:

The former Silver Dry Cleaners, which operated for 16 years (1982-1998), was located in Suite "S" (or Suite 698) of the former Saddleback Valley Plaza. Chlorinated solvents, primarily tetrachloroethylene (PCE), were first identified in soil by Hemphill, Green & Associates, LLC (HGA) in November 1999. Soil vapor sampling results from HGA's investigation indicated that PCE was present at concentrations up to 13,000 micrograms per liter (µg/l) at 2 feet below ground surface (bgs), and 5,700 µg/l at 5 feet bgs, beneath the former dry cleaner space. No other volatile organic compounds (VOCs) were detected in the soil vapor samples.

Between September 2002 and late 2003, several additional soil and groundwater investigations were conducted in the vicinity of the Site. The bulk of the PCE contamination in both the vadose and saturated zones was centered on the location of the former dry cleaners. The investigations consisted of soil and groundwater sampling from borings that were advanced to depths ranging from 26 to 49 feet bgs. The maximum PCE concentration found in the soil was 370 lJg/kg. The highest concentration of PCE in groundwater was 4,100 lJg/L (geoprobe location GP-7), found in the footprint of the former dry cleaning facility, while the second highest concentration of PCE in groundwater was detected in a boring located 120 feet east of the tenant cluster (1,000 lJg/L at GP-11).

In 2005, under the oversight of staff from the Orange County Health Care Agency (OCHCA), England Geoscience (EG) conducted a source area excavation at the Site. Approximately 623 cubic yards of soil were removed by successive excavations, in accordance with the OCHCA- approved cleanup goal of 50 µg/kg of PCE.

At the completion of the major excavation phase, EG reported that the remedial excavation had succeeded in removing all of the PCE-impacted soil that had been identified at the Site, with the exception of one small, visibly discolored area on the western wall (at 7 feet bgs) of the deepest northwestern portion of the excavation. This residual PCE-impacted soil, which was identified by a sample containing 91 µg/kg PCE, was estimated by EG to have a volume of less than 20 cubic feet. Following the remedial excavation, concentrations of PCE in groundwater in the vicinity of GP-7 dropped from a historical maximum of 4,100 µg/L (GP-7, 2004) to 44 µg/L (monitoring well MW-1, 2012), a greater than 99% reduction. PCE concentrations in the vicinity of GP-11, however, dropped from a maximum of 1,000 µg/L (GP-11, 2004) to 280 µg/L (MW-3, 4012), only a 70% reduction.

On June 5, 2013, Regional Board staff request additional investigation of soil and groundwater in the vicinity of GP-11 and the area between the former dry cleaners and MW-3. We also requested that you investigate the potential existence of a secondary contaminant source zone. In response, the Supplemental Soil and Groundwater Investigation was conducted to further delineate the extent of soil and groundwater contamination in that area in June 2013. In the September 2013 report, we found the following elements of the report noteworthy:

- There is an apparent trend of increasing PCE concentrations in groundwater in the southeastern portion of the Site that may indicate that the plume is migrating offsite.
- Elevated concentrations of PCE (240 µg/L) were detected in grab groundwater samples at location GW-30, which is approximately 120 feet cross-gradient of the former dry cleaners, and approximately 60 feet from the Site's eastern property boundary, and a concentration of 150 µg/L was detected directly between the former dry cleaners and MW-3.
- PCE was detected in a soil sample collected from the borehole at sampling location GW-29.

Based on the additional grab groundwater samples and second quarter 2015 groundwater monitoring event, groundwater flow direction is to the south/southwest with 0.005 to 0.013 ft/ft.

Cleanup Program Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type:	EXCAVATION	Begin Date:	1/31/2005
Phase:	Soil	End Date:	3/10/2005
Description:	OCHCA oversaw excavation of the contaminated soil. Contaminated soil hauled to Chemical Waste Management's Facility in Kettlemen Hills, CA		

Contaminant Mass Removed:

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type:	Other Regulatory Actions
Action Date:	
Received Issue Date:	
Action:	Technical Correspondence / Assistance / Other
Doc Link:	
Title Description Comments:	

Action Type: Other Regulatory Actions

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Date:
Received Issue Date:
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Action Type: Other Regulatory Actions
Action Date: 6/27/2018
Received Issue Date: 6/27/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6362460&temp_table=ENFORCEMENT
Title Description Comments:

RE The Results of Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 6/6/2018
Received Issue Date: 6/6/2018
Action: Annual Estimation Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6360327&temp_table=ENFORCEMENT
Title Description Comments:

The Orchard Shopping Center

Action Type: Other Regulatory Actions
Action Date: 1/2/2018
Received Issue Date: 1/2/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344587&temp_table=ENFORCEMENT
Title Description Comments:

RE Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 11/9/2017
Received Issue Date: 11/9/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344101&temp_table=ENFORCEMENT
Title Description Comments:

RE Third Quarter 2017 Groundwater Monitoring Report

Action Type: Notices
Action Date: 5/12/2017
Received Issue Date: 5/12/2017
Action: Letter - Notice
Doc Link:
Title Description Comments:

Annual Cost Estimate

Action Type: Notices
Action Date: 5/12/2017
Received Issue Date: 5/12/2017
Action: Letter - Notice
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319795&temp_table=ENFORCEMENT
Title Description Comments:

Annual Cost Estimate

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type: Other Regulatory Actions
Action Date: 5/4/2017
Received Issue Date: 5/4/2017
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319074&temp_table=ENFORCEMENT

Title Description Comments:

RE Data Transmittal Report- Supplemental Groundwater Investigation Report

Action Type: Other Regulatory Actions
Action Date: 11/30/2016
Received Issue Date: 11/30/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6304785&temp_table=ENFORCEMENT

Title Description Comments:

RE Work Plan for Groundwater Treatability Study

Action Type: Other Regulatory Actions
Action Date: 11/15/2016
Received Issue Date: 11/15/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6303568&temp_table=ENFORCEMENT

Title Description Comments:

RE Work Plan for Supplemental Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 8/17/2016
Received Issue Date: 8/17/2016
Action: Meeting
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6295302&temp_table=ENFORCEMENT

Title Description Comments:

OTP-Silver Cleaners Meeting Summary

Action Type: Other Regulatory Actions
Action Date: 7/5/2016
Received Issue Date: 7/5/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290667&temp_table=ENFORCEMENT

Title Description Comments:

Request for the most updated CSM

Action Type: Other Regulatory Actions
Action Date: 7/5/2016
Received Issue Date: 7/5/2016
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290666&temp_table=ENFORCEMENT

Title Description Comments:

Re: Work Plan for the Sanitary Sewer Survey and Piezometer Installation

Action Type: Agreements
Action Date: 6/28/2016
Received Issue Date: 6/28/2016
Action: Cost Recovery Agreement / N. of Reimbursement

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6289587&temp table=ENFORCEMENT	
Title Description Comments:	Annual Cost Estimation Letter					
Action Type:		Other Regulatory Actions				
Action Date:		4/7/2015				
Received Issue Date:		4/7/2015				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6241237&temp table=ENFORCEMENT				
Title Description Comments:	Concurrence with Work Plan for Additional Groundwater Investigation					
Action Type:		Response Requested - Workplans				
Action Date:		3/31/2015				
Received Issue Date:		3/31/2015				
Action:		Soil and Water Investigation Workplan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5836895				
Title Description Comments:	Work Plan for Additional Groundwater Investigation					
Action Type:		Other Regulatory Actions				
Action Date:		12/29/2014				
Received Issue Date:		12/29/2014				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6231923&temp table=ENFORCEMENT				
Title Description Comments:	COMMENTS ON THE OCTOBER 2014 DATA TRANSMITTAL REPORT FOR THE PRELIMINARY SOIL VAPOR SAMPLING PROGRAM					
Action Type:		Other Regulatory Actions				
Action Date:		10/3/2014				
Received Issue Date:		10/3/2014				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6223439&temp table=ENFORCEMENT				
Title Description Comments:	COMMENTS ON THE SEPTEMBER 2014 PREMINARY SOIL VAPOR INVESTIGATION WORK PLAN					
Action Type:		Other Regulatory Actions				
Action Date:		6/26/2014				
Received Issue Date:		6/26/2014				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6209918&temp table=ENFORCEMENT				
Title Description Comments:	Comments on the June 2014 Supplemental Site Assessment					
Action Type:		Other Regulatory Actions				
Action Date:		2/27/2014				
Received Issue Date:		2/27/2014				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6193965&temp table=ENFORCEMENT				
Title Description Comments:	Comments on 10FEB14 Work Plan for Supplemental GW Investigation					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type: Other Regulatory Actions
Action Date: 11/14/2013
Received Issue Date: 11/14/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6182689&temp table=ENFORCEMENT

Title Description Comments:

Comments on Supplemental GW Investigation (plus revised version)

Action Type: Agreements
Action Date: 6/21/2013
Received Issue Date: 6/21/2013
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165233&temp table=ENFORCEMENT

Title Description Comments:

ANNUAL ESTIMATE FOR COST RECOVERY LETTER

Action Type: Other Regulatory Actions
Action Date: 6/5/2013
Received Issue Date: 6/5/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165218&temp table=ENFORCEMENT

Title Description Comments:

COMMENTS ON THE WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION

Action Type: Other Regulatory Actions
Action Date: 4/10/2013
Received Issue Date: 4/10/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6156384&temp table=ENFORCEMENT

Title Description Comments:

COMMENT ON THIRD QUARTER 2012 GROUNDWATER MONITORING REPORT

Action Type: Other Regulatory Actions
Action Date: 4/10/2013
Received Issue Date: 4/10/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6156384&temp table=ENFORCEMENT

Title Description Comments:

Comment on Third Quarter 2012 Groundwater Monitoring Report

Action Type: Response Requested - Other
Action Date: 12/21/2012
Received Issue Date: 1/11/2013
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6156384&temp table=ENFORCEMENT

Title Description Comments:

signed Cost Recovery agreement (change in RP)

Action Type: Agreements
Action Date: 12/10/2012
Received Issue Date: 12/10/2012
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6156384&temp table=ENFORCEMENT

Title Description Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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New Cost Recovery Agreement for new property owner/responsible party. Sent email to Bill Kugel of Schottenstein Property Group (new property owner)with info on the cost recovery program with an agreement and fee title form for signature.

Action Type: Response Requested - Reports
Action Date: 10/15/2012
Received Issue Date:
Action: Monitoring Report - Quarterly
Doc Link:
Title Description Comments:

3rd Quarter 2012 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 7/15/2012
Received Issue Date: 1/30/2013
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5725887
Title Description Comments:

2nd Quarter 2012 Groundwater Monitoring Report

Action Type: Agreements
Action Date: 6/22/2012
Received Issue Date: 6/22/2012
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6126431&table=ENFORCEMENT
Title Description Comments:

Annual Estimate for Cost Recovery letter

Action Type: Response Requested - Reports
Action Date: 4/15/2012
Received Issue Date: 5/14/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5725886
Title Description Comments:

1st Quarter 2012 Groundwater Monitoring Report - PCE 270 ppb at MW-3, PCE 7.5 ppb at MW-4

Action Type: Response Requested - Reports
Action Date: 1/23/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5730110
Title Description Comments:

2nd Quarter 2011 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 1/23/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5730111
Title Description Comments:

3rd Quarter 2011 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 1/23/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5730109

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Title Description Comments:

1st Quarter 2011 Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 1/15/2012
Received Issue Date: 1/23/2012
Action: Monitoring Report - Quarterly
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5725885
Title Description Comments:

Well installation and 4th Quarter 2011 Groundwater Monitoring Report

Action Type: Other Regulatory Actions
Action Date: 11/18/2011
Received Issue Date: 11/18/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6104534&table=ENFORCEMENT

Title Description Comments:

Response to Well Installation and 4th Quarter 2010 Groundwater Monitoring report

Action Type: Response Requested - Reports
Action Date: 9/6/2011
Received Issue Date: 9/6/2011
Action: Soil and Water Investigation Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5721902
Title Description Comments:

Well Installation and Fourth Quarter 2010 Groundwater Monitoring Report

Action Type: Agreements
Action Date: 5/26/2011
Received Issue Date: 5/26/2011
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6087980&table=ENFORCEMENT

Title Description Comments:

Annual Estimate letter

Action Type: Other Regulatory Actions
Action Date: 10/25/2010
Received Issue Date: 10/25/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Phone call from consultant Ann Loomis of PES Env. checking status of my review of Oct. 8, 2010 Addendum. They are proposing to collect additional groundwater grab samples South of sample GW-20 (450 ug/l PCE). I told her that I had no objections to them proceeding with collection of the GW samples. Ann said they were planning do the field work on Thursday October 28, 2010.

Action Type: Response Requested - Reports
Action Date: 7/6/2010
Received Issue Date: 10/13/2010
Action: Site Assessment Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5698804
Title Description Comments:

Addendum to Work Plan for Additional Groundwater Investigation - June 14 and 15, 2010, PES advanced eight borings at five locations. The three CPT boreholes were advanced to approximately 70 feet below ground surface (bgs) for lithologic characterization. Another borehole was advance at each CPT location for collection of groundwater samples. Tetrachloroethylene (PCE) and trichloroethylene (TCE) were detected in groundwater sample GW-20-21 (collected at 21 feet bgs) at concentration of 450 microgram/liter (µg/l) and 11 µg/l respectively. PCE and TCE were also detected in groundwater sample CPTGW-2-20 located north of the GW-20-21 samples. The results were at 200 µg/l for and 330 µg/l for PCE, and 7.4 and 9.3 µg/l for TCE. The

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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recommendations in the addendum are to advance three additional borings for collection of groundwater samples and one CPT boring for lithologic characterization

Action Type: Other Regulatory Actions
Action Date: 6/2/2010
Received Issue Date: 6/2/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Phone call from consultant Ann Loomis of PES. Scheduling drilling for mid June. Ann said she had received authorization to implement the work plan and is planning to be drilling by mid-June and is still on track to submit the report by the due date in our concurrence letter.

Action Type: Agreements
Action Date: 5/25/2010
Received Issue Date: 5/25/2010
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6052001&table=ENFORCEMENT

Title Description Comments:

Annual Estimate for Cost Recovery letter

Action Type: Other Regulatory Actions
Action Date: 5/19/2010
Received Issue Date: 5/19/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Phone call from consultant. Implementation of work plan maybe delayed. The client has internally approved the proposal to implement the work plan. However they are having some financial difficulties and will need to borrow funds to implement the work plan. They are currently applying for a loan. Unknown how long of a delay this will be.

Action Type: Other Regulatory Actions
Action Date: 4/28/2010
Received Issue Date: 4/28/2010
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6049495&table=ENFORCEMENT

Title Description Comments:

Response to Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 1/28/2010
Received Issue Date: 1/28/2010
Action: Technical Correspondence / Assistance / Other
Doc Link:
Title Description Comments:

Contacted consultant and she stated that the work plan was posted to GeoTracker today.

Action Type: Response Requested - Workplans
Action Date: *12/15/2009
Received Issue Date: 1/28/2010
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5659820
Title Description Comments:

Work Plan for Additional Groundwater Investigation

Action Type: Other Regulatory Actions
Action Date: 11/3/2009

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Received Issue Date: 11/3/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6035013&temp_table=ENFORCEMENT

Title Description Comments:

COMMENTS ON GROUNDWATER INVESTIGATION REPORT FOR FORMER SILVER DRY CLEANERS

Action Type: Other Regulatory Actions
Action Date: 10/7/2009
Received Issue Date: 10/7/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6032166&temp_table=ENFORCEMENT

Title Description Comments:

Change in RB program manager

Action Type: Response Requested - Reports
Action Date: 8/3/2009
Received Issue Date: 8/18/2009
Action: Site Investigation
Doc Link:

Title Description Comments:

Groundwater Investigation Report

Action Type: Other Regulatory Actions
Action Date: 6/30/2009
Received Issue Date: 6/30/2009
Action: Site Visit / Inspection / Sampling
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031966&temp_table=ENFORCEMENT

Title Description Comments:

Site Inspection Report

Action Type: Other Regulatory Actions
Action Date: 6/2/2009
Received Issue Date: 6/2/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6015558&temp_table=ENFORCEMENT

Title Description Comments:

Approval of Groundwater Investigation Work Plan

Action Type: Response Requested - Workplans
Action Date: 5/15/2009
Received Issue Date: 5/15/2009
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5641093

Title Description Comments:

Groundwater Investigation Work Plan - Reviewed the work plan and discussed with the consultant.

Action Type: Other Regulatory Actions
Action Date: 5/12/2009
Received Issue Date: 5/12/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031967&temp_table=ENFORCEMENT

Title Description Comments:

Record of Communication

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type: Other Regulatory Actions
Action Date: 4/23/2009
Received Issue Date: 4/23/2009
Action: Site Visit / Inspection / Sampling
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031964&table=ENFORCEMENT

Title Description Comments:

Site Inspection Report

Action Type: Other Regulatory Actions
Action Date: 3/12/2009
Received Issue Date: 3/12/2009
Action: Meeting
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031951&table=ENFORCEMENT

Title Description Comments:

Meeting Summary Report

Action Type: Response Requested - Other
Action Date: 6/15/2005
Received Issue Date: 6/15/2005
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL0605942036&doc_id=5652152

Title Description Comments:

Orange County Health Care Agency Case Closure for the Soil

Action Type: Cleanup Action
Action Date: 1/31/2005
Received Issue Date:
Action: Excavation
Doc Link:

Title Description Comments:

OCHCA oversaw excavation of the contaminated soil. Contaminated soil hauled to Chemical Waste Management's Facility in Kettlemen Hills, CA

Action Type: Agreements
Action Date: 5/10/2004
Received Issue Date: 5/10/2004
Action: Cost Recovery Agreement / N. of Reimbursement
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6144119&table=ENFORCEMENT

Title Description Comments:

Oversight Cost Reimbursement for Spill, Leaks, Investigations and Cleanups (SLIC)Program

Action Type: Leak Action
Action Date: 11/1/1999
Received Issue Date:
Action: Leak Discovery
Doc Link:

Title Description Comments:

Action Type: Leak Action
Action Date: 11/1/1999
Received Issue Date:
Action: Leak Reported
Doc Link:

Title Description Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type:	Monitoring Reports	Submitted:				
Document Date:	10/15/2018	Submitted By:			ANN LOOMIS (AUTH_RP)	
Size :	23,698 KB					
Title:	THIRD QUARTER 2018 GROUNDWATER MONITORING AND WELL COMPLETION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3789908289/SL0605942036.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports	Submitted:				
Document Date:	7/31/2018	Submitted By:			ANN LOOMIS (AUTH_RP)	
Size :	9,953 KB					
Title:	SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9605713129/SL0605942036.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents	Submitted:				
Document Date:	6/27/2018	Submitted By:			MONA BEHROOZ (REGULATOR)	
Size :						
Title:	RE THE RESULTS OF GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6362460					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents	Submitted:				
Document Date:	6/6/2018	Submitted By:			MONA BEHROOZ (REGULATOR)	
Size :						
Title:	THE ORCHARD SHOPPING CENTER					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6360327					
Type:	ANNUAL ESTIMATION LETTER					
Document Type:	Monitoring Reports	Submitted:				
Document Date:	4/30/2018	Submitted By:			ANN LOOMIS (AUTH_RP)	
Size :	9,731 KB					
Title:	FIRST QUARTER 2018 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3942270100/SL0605942036.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents	Submitted:				
Document Date:	4/30/2018	Submitted By:			ANN LOOMIS (AUTH_RP)	
Size :	8,603 KB					
Title:	RESULTS OF GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2175657808/SL0605942036.PDF					
Type:	REMEDIAL INVESTIGATION REPORT					
Document Type:	Monitoring Reports	Submitted:				
Document Date:	1/31/2018	Submitted By:			ANN LOOMIS (AUTH_RP)	
Size :	10,797 KB					
Title:	FOURTH QUARTER 2017					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3309860467/SL0605942036.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents	Submitted:				
Document Date:	1/2/2018	Submitted By:			MONA BEHROOZ (REGULATOR)	
Size :						
Title:	RE WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344587					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents	Submitted:				
Document Date:	12/20/2017	Submitted By:			ANN LOOMIS (AUTH_RP)	
Size :	5,412 KB					
Title:	WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6421148896/SL0605942036.PDF					
Type:	SITE INVESTIGATION WORKPLAN					
Document Type:	Site Documents	Submitted:				
Document Date:	11/9/2017	Submitted By:			MONA BEHROOZ (REGULATOR)	
Size :						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:					RE THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6344101	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/13/2017				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	11,420 KB					
Title:					THIRD QUARTER 2017	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5123153924/SL0605942036.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	7/14/2017				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	13,590 KB					
Title:					SECOND QUARTER 2017 MONITORING AND WELL COMPLETION REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2371725678/SL0605942036.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Site Documents				Submitted:	
Document Date:	5/12/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					ANNUAL COST ESTIMATE	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319795	
Type:					LETTER - NOTICE	
Document Type:	Site Documents				Submitted:	
Document Date:	5/4/2017				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE DATA TRANSMITTAL REPORT- SUPPLEMENTAL GROUNDWATER INVESTIGATION REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6319074	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/13/2017				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	10,974 KB					
Title:					FIRST QUARTER 2017	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1946466267/SL0605942036.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Site Documents				Submitted:	
Document Date:	2/28/2017				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	13,725 KB					
Title:					SUPPLEMENTAL GROUNDWATER INVESTIGATION AND FOURTH QUARTER 2016 MONITORING EVENT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7818197846/SL0605942036.PDF	
Type:					REMEDIAL INVESTIGATION REPORT	
Document Type:	Site Documents				Submitted:	
Document Date:	11/30/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE WORK PLAN FOR GROUNDWATER TREATABILITY STUDY	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6304785	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	11/15/2016				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					RE WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6303568	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	11/3/2016				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	7,871 KB					
Title:					WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION AND GROUNDWATER TREATABILITY STUDY	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5963568329/SL0605942036.PDF	
Type:					OTHER WORKPLAN	
Document Type:	Site Documents				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date: Size : Title: Title Link: Type:	10/20/2016 14,078 KB THIRD QUARTER 2016 http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6499601900/SL0605942036.PDF OTHER REPORT / DOCUMENT				Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 8/17/2016 OTP-SILVER CLEANERS MEETING SUMMARY http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6295302 MEETING				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 8/8/2016 15,697 KB PRELIMINARY CONCEPTUAL SITE MODEL http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3292967379/SL0605942036.PDF CONCEPTUAL SITE MODEL				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 7/5/2016 RE: WORK PLAN FOR THE SANITARY SEWER SURVEY AND PIEZOMETER INSTALLATION http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290666 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 7/5/2016 REQUEST FOR THE MOST UPDATED CSM http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6290667 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 6/28/2016 ANNUAL COST ESTIMATION LETTER http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6289587 COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/27/2016 3,647 KB WORK PLAN FOR SANITARY SEWER SURVEY AND PIEZOMETER INSTALLATION http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6361872076/SL0605942036.PDF REMEDIAL INVESTIGATION WORKPLAN				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 5/23/2016 9,477 KB FIRST QUARTER 2016 http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5727434158/SL0605942036.PDF MONITORING REPORT - QUARTERLY				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 2/8/2016 8,607 KB FOURTH QUARTER 2015 http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2023841559/SL0605942036.PDF MONITORING REPORT - QUARTERLY				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 10/30/2015 8,032 KB THIRD QUARTER 2015 http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8732172369/SL0605942036.PDF MONITORING REPORT - QUARTERLY				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type: Document Date: Size : Title:	Site Documents 7/8/2015 14,283 KB				Submitted: Submitted By:	ANN LOOMIS (AUTH_RP)
Title Link: Type:	DATA TRANSMITTAL REPORT ADDITIONAL GROUNDWATER INVESTIGATION AND SECOND QUARTER 2015 MONITORING EVENT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7693129122/SL0605942036.PDF SITE INVESTIGATION					
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 4/7/2015				Submitted: Submitted By:	TOMAS EGGERS (REGULATOR)
CONCURRENCE WITH WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6241237 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER						
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 3/31/2015				Submitted: Submitted By:	TOMAS EGGERS (REGULATOR)
WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&document_id=5836895 SOIL AND WATER INVESTIGATION WORKPLAN						
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 12/29/2014				Submitted: Submitted By:	TOMAS EGGERS (REGULATOR)
COMMENTS ON THE OCTOBER 2014 DATA TRANSMITTAL REPORT FOR THE PRELIMINARY SOIL VAPOR SAMPLING PROGRAM http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6231923 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER						
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 10/29/2014 3,393 KB				Submitted: Submitted By:	ANN LOOMIS (AUTH_RP)
DATA TRANSMITTAL REPORT, PRELIMINARY SOIL VAPOR SAMPLING PROGRAM http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9946157872/SL0605942036.PDF REMEDIAL INVESTIGATION REPORT						
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 10/29/2014 7,766 KB				Submitted: Submitted By:	ANN LOOMIS (AUTH_RP)
THIRD QUARTER 2014 GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2940126538/SL0605942036.PDF MONITORING REPORT - QUARTERLY						
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 10/3/2014				Submitted: Submitted By:	TOMAS EGGERS (REGULATOR)
COMMENTS ON THE SEPTEMBER 2014 PREMINARY SOIL VAPOR INVESTIGATION WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6223439 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER						
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 9/17/2014 3,554 KB				Submitted: Submitted By:	ANN LOOMIS (AUTH_RP)
WORK PLAN, PRELIMINARY SOIL VAPOR INVESTIGATION http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8303536593/SL0605942036.PDF REMEDIAL INVESTIGATION WORKPLAN						
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 8/7/2014 7,754 KB				Submitted: Submitted By:	ANN LOOMIS (AUTH_RP)
SECOND QUARTER 2014 http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2610385954/SL0605942036.PDF MONITORING REPORT - QUARTERLY						
Document Type: Document Date: Size : Title:	Site Documents 6/26/2014				Submitted: Submitted By:	TOMAS EGGERS (REGULATOR)
COMMENTS ON THE JUNE 2014 SUPPLEMENTAL SITE ASSESSMENT						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6209918	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	6/6/2014				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	13,124 KB					
Title:					RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3336032927/SL0605942036.PDF	
Type:					REMEDIAL INVESTIGATION REPORT	
Document Type:	Site Documents				Submitted:	
Document Date:	2/27/2014				Submitted By:	TOMAS EGGERS (REGULATOR)
Size :						
Title:					COMMENTS ON 10FEB14 WORK PLAN FOR SUPPLEMENTAL GW INVESTIGATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6193965	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	2/10/2014				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	4,509 KB					
Title:					WORK PLAN FOR SUPPLEMENTAL SITE ASSESSMENT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8160483658/SL0605942036.PDF	
Type:					SITE INVESTIGATION WORKPLAN	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	1/15/2014				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	4,880 KB					
Title:					FOURTH QUARTER 2013 MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1820056974/SL0605942036.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Site Documents				Submitted:	
Document Date:	11/14/2013				Submitted By:	TOMAS EGGERS (REGULATOR)
Size :						
Title:					COMMENTS ON SUPPLEMENTAL GW INVESTIGATION (PLUS REVISED VERSION)	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6182689	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	9/26/2013				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	7,510 KB					
Title:					SUPPLEMENTAL GROUNDWATER INVESTIGATION AND THIRD QUARTER 2013 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2391602993/SL0605942036.PDF	
Type:					SITE INVESTIGATION COMPLETE	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	7/15/2013				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	5,077 KB					
Title:					SECOND QUARTER 2013 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9045621752/SL0605942036.PDF	
Type:					MONITORING REPORT - QUARTERLY	
Document Type:	Site Documents				Submitted:	
Document Date:	6/21/2013				Submitted By:	TOMAS EGGERS (REGULATOR)
Size :						
Title:					ANNUAL ESTIMATE FOR COST RECOVERY LETTER	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165233	
Type:					COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT	
Document Type:	Site Documents				Submitted:	
Document Date:	6/5/2013				Submitted By:	TOMAS EGGERS (REGULATOR)
Size :						
Title:					COMMENTS ON THE WORK PLAN FOR SUPPLEMENTAL GROUNDWATER INVESTIGATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6165218	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date: Size : Title: Title Link: Type:	5/20/2013 3,408 KB				Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 4/15/2013 1,763 KB				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 4/10/2013				Submitted: Submitted By: TOMAS EGGERS (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 3/29/2013 4,081 KB				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 3/28/2013 4,135 KB				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 1/11/2013 4,335 KB				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 6/22/2012				Submitted: Submitted By: PATRICIA HANNON (REGULATOR)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 5/10/2012* 4,545 KB				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 1/20/2012 4,221 KB				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 1/19/2012 3,327 KB				Submitted: Submitted By: ANN LOOMIS (AUTH_RP)	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports				Submitted:	
Document Date:	1/18/2012				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	3,659 KB					
Title:	SECOND QUARTER 2011 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9672789812/SL0605942036.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	1/17/2012				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	3,143 KB					
Title:	FIRST QUARTER 2011 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4158477067/SL0605942036.PDF					
Type:	MONITORING REPORT - QUARTERLY					
Document Type:	Site Documents				Submitted:	
Document Date:	11/18/2011				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	RESPONSE TO WELL INSTALLATION AND 4TH QUARTER 2010 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6104534					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	9/1/2011				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	12,894 KB					
Title:	WELL INSTALLATION AND FOURTH QUARTER 2010 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4810480773/SL0605942036.PDF					
Type:	WELL INSTALLATION REPORT					
Document Type:	Site Documents				Submitted:	
Document Date:	5/26/2011				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	ANNUAL ESTIMATE LETTER					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6087980					
Type:	COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT					
Document Type:	Site Documents				Submitted:	
Document Date:	10/8/2010				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	3,033 KB					
Title:	ADDENDUM TO WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9087571501/SL0605942036.PDF					
Type:	WELL INSTALLATION WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	5/25/2010				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	ANNUAL ESTIMATE FOR COST RECOVERY LETTER					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6052001					
Type:	COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT					
Document Type:	Site Documents				Submitted:	
Document Date:	4/28/2010				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	RESPONSE TO WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6049495					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	1/15/2010				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	3,563 KB					
Title:	WORK PLAN FOR ADDITIONAL GROUNDWATER INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1001657068/SL0605942036.PDF					
Type:	WELL INSTALLATION WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	11/3/2009				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	COMMENTS ON GROUNDWATER INVESTIGATION REPORT FOR FORMER SILVER DRY CLEANERS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6035013					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents				Submitted:	
Document Date:	10/17/2009				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	11,013 KB					
Title:	GROUNDWATER INVESTIGATION REPORT (PART 2)					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7822928190/SL0605942036.PDF					
Type:	OTHER REPORT / DOCUMENT					
Document Type:	Site Documents				Submitted:	
Document Date:	10/17/2009				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	4,876 KB					
Title:	GROUNDWATER INVESTIGATION REPORT (PART 1)					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1802758336/SL0605942036.PDF					
Type:	OTHER REPORT / DOCUMENT					
Document Type:	Site Documents				Submitted:	
Document Date:	10/7/2009				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	CHANGE IN RB PROGRAM MANAGER					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6032166					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	9/17/2009				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	863 KB					
Title:	ADDENDUM TO GROUNDWATER INVESTIGATION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6583284676/SL0605942036.PDF					
Type:	SOIL AND WATER INVESTIGATION WORKPLAN - ADDENDUM					
Document Type:	Site Documents				Submitted:	
Document Date:	6/30/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	SITE INSPECTION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031966					
Type:	SITE VISIT / INSPECTION / SAMPLING					
Document Type:	Site Documents				Submitted:	
Document Date:	6/2/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	APPROVAL OF GROUNDWATER INVESTIGATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6015558					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	5/15/2009				Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	5,673 KB					
Title:	GROUNDWATER INVESTIGATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9183938443/SL0605942036.PDF					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	5/15/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	GROUNDWATER INVESTIGATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&document_id=5641093					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	5/12/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	RECORD OF COMMUNICATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031967					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	4/23/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	SITE INSPECTION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031964					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type: SITE VISIT / INSPECTION / SAMPLING						
Document Type:	Site Documents				Submitted:	
Document Date:	3/12/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	MEETING SUMMARY REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6031951					
Type:	MEETING					
Document Type:	Site Documents				Submitted:	
Document Date:	6/15/2005				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	ORANGE COUNTY HEALTH CARE AGENCY CASE CLOSURE FOR THE SOIL - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&document_id=5652152					
Type:	CORRESPONDENCE					
Document Type:	Site Documents				Submitted:	
Document Date:	5/10/2004				Submitted By:	PATRICIA HANNON (REGULATOR)
Size :						
Title:	OVERSIGHT COST REIMBURSEMENT FOR SPILL, LEAKS, INVESTIGATIONS AND CLEANUPS (SLIC)PROGRAM					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL0605942036&enforcement_id=6144119					
Type:	COST RECOVERY AGREEMENT / N. OF REIMBURSEMENT					

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title:	BORING LOG MW-2 (MW-2)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	78 KB	Submitted:	8/24/2011
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9158246636/SL0605942036.PDF		
Title:	GEO_MAP	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	1,564 KB	Submitted:	10/12/2013
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7910204052/SL0605942036.PDF		
Title:	RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-8)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	125 KB	Submitted:	6/9/2014
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8984635829/SL0605942036.PDF		
Title:	RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-9)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	127 KB	Submitted:	6/9/2014
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8334001660/SL0605942036.PDF		
Title:	BORING LOG MW-1 (MW-1)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	74 KB	Submitted:	8/24/2011
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5935260832/SL0605942036.PDF		
Title:	BORING LOG MW-3 (MW-3)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	75 KB	Submitted:	8/24/2011
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8090585291/SL0605942036.PDF		
Title:	RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-7)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	135 KB	Submitted:	6/9/2014
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6342043042/SL0605942036.PDF		
Title:	2013 SUPPLEMENTAL GROUNDWATER INVESTIGATION (MULTIPLE)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	445 KB	Submitted:	10/12/2013
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3997582614/SL0605942036.PDF		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Title:	BORING LOG MW-2D (MW-2D)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	145 KB	Submitted:	1/23/2012
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1980466485/SL0605942036.PDF		

Title:	BORING LOG MW-4 (MW-4)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	75 KB	Submitted:	8/24/2011
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8937220275/SL0605942036.PDF		

Title:	RESULTS OF SUPPLEMENTAL SITE ASSESSMENT AND FIRST QUARTER 2014 GROUNDWATER MONITORING REPORT (MW-6)	Submitted By:	ANN LOOMIS (AUTH_RP)
Size :	127 KB	Submitted:	6/9/2014
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8670325994/SL0605942036.PDF		

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Site Assessment
Date : 6/2/2009

Status: Open - Remediation
Date : 1/31/2005

Status: Open - Case Begin Date
Date : 8/1/2002

Status: Open - Site Assessment
Date : 8/1/2002

27	1 of 1	SSW	0.31 / 1,613.98	389.22 / -11	TEXACO 23751 EL TORO LAKE FOREST CA 92630	LUST
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Global ID:	T0605900581	County:	ORANGE
Status:	COMPLETED - CASE CLOSED	Latitude:	33.6178674
Status Date:	1991-05-06 00:00:00	Longitude:	-117.7040457
Case Type:	LUST CLEANUP SITE		
Date Source:	LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download		

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:	083000732T	Potential COC:	Gasoline, Waste Oil / Motor / Hydraulic / Lubricating
Local Case Number:	86UT218	How Discovered:	Tank Closure
Begin Date:	1986-11-13 00:00:00	Stop Method:	Close and Remove Tank
Lead Agency:	ORANGE COUNTY LOP	Stop Description:	
Local Agency:	ORANGE COUNTY LOP	Case Worker:	KL
CUF Case:	YES	File Location:	Local Agency
Potential Media of Concern:	Soil		
How Discovered Description:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
DWR GW Subbasin Name:			
Disadvantaged Community:			
Site History:			

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1991-05-01 00:00:00
Action: Closure/No Further Action Letter

Action Type: REMEDIATION
Date : 1989-05-19 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action: Other (Use Description Field)

Action Type: Other
Date : 1986-11-13 00:00:00
Action: Leak Discovery

Action Type: Other
Date : 1986-11-13 00:00:00
Action: Leak Reported

Regulatory Contacts

Contact Type:	Local Agency Caseworker	Address:	1241 E DYER ROAD SUITE 120
Contact Name:	KEVIN LAMBERT	Email:	klambert@ochca.com
City:	SANTA ANA	Phone Number:	7144336261
Organization Name:	ORANGE COUNTY LOP		

Contact Type:	Local Agency Caseworker	Address:	1241 E. DYER ROAD SUITE 120
Contact Name:	JAMES STROZIER	Email:	jstrozier@ochca.com
City:	SANTA ANA	Phone Number:	7144336273
Organization Name:	ORANGE COUNTY LOP		

Contact Type:	Regional Board Caseworker	Address:	3737 MAIN STREET, SUITE 500
Contact Name:	ROSE SCOTT	Email:	rose.scott@waterboards.ca.gov
City:	RIVERSIDE	Phone Number:	9513206375
Organization Name:	SANTA ANA RWQCB (REGION 8)		

Status History

Status: Completed - Case Closed
Status Date: 1991-05-06 00:00:00

Status: Open - Case Begin Date
Status Date: 1986-11-13 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	TEXACO	Address:	23751 EL TORO
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	GASOLINE, WASTE OIL / MOTOR / HYDRAULIC / LUBRICATING	CUF Claim:	6149
WDR Place Type:		CUF Priority Assig:	D
WDR File:		CUF Amount Paid:	\$224,673
WDR Order:			
File Location:	LOCAL AGENCY		
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605900581		
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 5/6/1991		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605900581&tabname=regulatoryhistory		
Potential Media Of Concern:	SOIL		
User Defined Beneficial Use:	GW - MUNICIPAL AND DOMESTIC SUPPLY		
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
Post Closure Site Management:			
Future Land Use:			
Cleanup Oversight Agencies:	ORANGE COUNTY LOP (LEAD) - CASE #: 86UT218 CASEWORKER: KEVIN LAMBERT CASEWORKER: JAMES STROZIER SANTA ANA RWQCB (REGION 8) - CASE #: 083000732T CASEWORKER: ROSE SCOTT		

Site History:

No site history available

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 5/6/1991

Status: Open - Case Begin Date
Date : 11/13/1986

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: OTHER (USE DESCRIPTION FIELD) **Begin Date:** 5/19/1989
Phase: **End Date:** 10/22/1990
Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 5/1/1991
Received Issue Date: 5/1/1991
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900581&enforcement_id=6204879&template=ENFORCEMENT

Action Type: Cleanup Action
Action Date: 5/19/1989
Received Issue Date:
Action: Other (Use Description Field)
Doc Link:

Action Type: Leak Action
Action Date: 11/13/1986
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 11/13/1986
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :**
Document Date: 5/1/1991 **Submitted By:** PAMELA YBARRA (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: NFA LETTER AND CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900581&enforcement_id=6204879

28	1 of 1	SSW	0.35 / 1,831.42	389.51 / -11	SHELL OIL 23751 EL TORO LAKE FOREST CA 92630	LUST
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Global ID: T0605986985 **County:** ORANGE
Status: COMPLETED - CASE CLOSED **Latitude:** 33.617528403
Status Date: 2013-01-10 00:00:00 **Longitude:** -117.704743511
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:		Potential COC:	Gasoline
Local Case Number:	03UT020	How Discovered:	UST System Modification
Begin Date:	2003-04-24 00:00:00	Stop Method:	Other Means
Lead Agency:	ORANGE COUNTY LOP	Stop Description:	
Local Agency:	ORANGE COUNTY LOP	Case Worker:	KL
CUF Case:	NO	File Location:	Local Agency
Potential Media of Concern:	Aquifer used for drinking water supply		
How Discovered Description:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
DWR GW Subbasin Name:			
Disadvantaged Community:			
Site History:			

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type:	ENFORCEMENT
Date :	2013-05-17 00:00:00
Action:	Closure/No Further Action Letter
Action Type:	ENFORCEMENT
Date :	2013-05-17 00:00:00
Action:	LOP Case Closure Summary to RB
Action Type:	ENFORCEMENT
Date :	2013-03-25 00:00:00
Action:	Notification - Preclosure
Action Type:	ENFORCEMENT
Date :	2013-01-17 00:00:00
Action:	Notification - Public Notice of Case Closure
Action Type:	ENFORCEMENT
Date :	2012-10-24 00:00:00
Action:	Technical Correspondence / Assistance / Other
Action Type:	ENFORCEMENT
Date :	2011-11-17 00:00:00
Action:	File Review - Closure
Action Type:	ENFORCEMENT
Date :	2011-01-20 00:00:00
Action:	File review
Action Type:	ENFORCEMENT
Date :	2009-07-14 00:00:00
Action:	Staff Letter
Action Type:	ENFORCEMENT
Date :	2007-03-16 00:00:00
Action:	Staff Letter
Action Type:	ENFORCEMENT
Date :	2007-02-26 00:00:00
Action:	Staff Letter
Action Type:	ENFORCEMENT
Date :	2007-01-24 00:00:00
Action:	Staff Letter
Action Type:	ENFORCEMENT
Date :	2006-12-11 00:00:00
Action:	Staff Letter

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2006-01-03 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2003-12-08 00:00:00				
Action:		Soil and Water Investigation Report				
Action Type:		ENFORCEMENT				
Date :		2003-08-21 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2003-08-18 00:00:00				
Action:		Soil and Water Investigation Workplan				
Action Type:		RESPONSE				
Date :		2003-06-02 00:00:00				
Action:		Other Report / Document				
Action Type:		ENFORCEMENT				
Date :		2003-05-13 00:00:00				
Action:		* Corrective Action Orders				
Action Type:		ENFORCEMENT				
Date :		2003-05-13 00:00:00				
Action:		Notice of Responsibility				
Action Type:		Other				
Date :		2003-04-28 00:00:00				
Action:		Leak Reported				
Action Type:		Other				
Date :		2003-04-24 00:00:00				
Action:		Leak Discovery				
Action Type:		ENFORCEMENT				
Date :		1899-12-30 07:14:09				
Action:		Staff Letter				

Regulatory Contacts

Contact Type:	Local Agency Caseworker	Address:	1241 E DYER ROAD SUITE 120
Contact Name:	KEVIN LAMBERT	Email:	klambert@ochca.com
City:	SANTA ANA	Phone Number:	7144336261
Organization Name:	ORANGE COUNTY LOP		

Status History

Status:	Completed - Case Closed
Status Date:	2013-01-10 00:00:00
Status:	Open - Eligible for Closure
Status Date:	2013-01-10 00:00:00
Status:	Open - Site Assessment
Status Date:	2004-03-22 00:00:00
Status:	Open - Case Begin Date
Status Date:	2003-04-24 00:00:00
Status:	Open - Site Assessment
Status Date:	2003-04-24 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	SHELL OIL	Address:	23751 EL TORO
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	GASOLINE	CUF Claim:	
WDR Place Type:		CUF Priority Assig:	
WDR File:		CUF Amount Paid:	
WDR Order:			
File Location:	LOCAL AGENCY		
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605986985		
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 1/10/2013		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605986985&tabname=regulatoryhistory		
Potential Media Of Concern:	AQUIFER USED FOR DRINKING WATER SUPPLY		
User Defined Beneficial Use:			
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
Post Closure Site Management:			
Future Land Use:			
Cleanup Oversight Agencies:	ORANGE COUNTY LOP (LEAD) - CASE #: 03UT020 CASEWORKER: KEVIN LAMBERT SAN DIEGO RWQCB (REGION 9)		

Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Eligible for Closure
Date : 1/10/2013

Status: Completed - Case Closed
Date : 1/10/2013

Status: Open - Site Assessment
Date : 3/22/2004

Status: Open - Site Assessment
Date : 4/24/2003

Status: Open - Case Begin Date
Date : 4/24/2003

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 5/17/2013
Received Issue Date: 5/17/2013
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159429&template=ENFORCEMENT

Action Type: Other Regulatory Actions
Action Date: 5/17/2013
Received Issue Date: 5/17/2013
Action: LOP Case Closure Summary to RB
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159430&template=ENFORCEMENT

Action Type: Notices
Action Date: 3/25/2013
Received Issue Date: 3/25/2013

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:					Notification - Preclosure	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6153225&template=ENFORCEMENT	
Action Type:					Notices	
Action Date:					1/17/2013	
Received Issue Date:					1/17/2013	
Action:					Notification - Public Notice of Case Closure	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147542&template=ENFORCEMENT	
Action Type:					Notices	
Action Date:					1/17/2013	
Received Issue Date:					1/17/2013	
Action:					Notification - Public Notice of Case Closure	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147541&template=ENFORCEMENT	
Action Type:					Notices	
Action Date:					1/17/2013	
Received Issue Date:					1/17/2013	
Action:					Notification - Public Notice of Case Closure	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147539&template=ENFORCEMENT	
Action Type:					Notices	
Action Date:					1/17/2013	
Received Issue Date:					1/17/2013	
Action:					Notification - Public Notice of Case Closure	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147543&template=ENFORCEMENT	
Action Type:					Notices	
Action Date:					1/17/2013	
Received Issue Date:					1/17/2013	
Action:					Notification - Public Notice of Case Closure	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147540&template=ENFORCEMENT	
Action Type:					Notices	
Action Date:					1/17/2013	
Received Issue Date:					1/17/2013	
Action:					Notification - Public Notice of Case Closure	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147538&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					10/24/2012	
Received Issue Date:					10/24/2012	
Action:					Technical Correspondence / Assistance / Other	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					11/17/2011	
Received Issue Date:					11/17/2011	
Action:					File Review - Closure	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					1/20/2011	
Received Issue Date:					1/20/2011	
Action:					File review	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					7/14/2009	
Received Issue Date:					7/14/2009	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6021012&template=ENFORCEMENT	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
					able=ENFORCEMENT	
					Other Regulatory Actions	
					3/16/2007	
					3/16/2007	
					Staff Letter	
					Other Regulatory Actions	
					2/26/2007	
					2/26/2007	
					Staff Letter	
					Other Regulatory Actions	
					1/24/2007	
					1/24/2007	
					Staff Letter	
					Other Regulatory Actions	
					12/11/2006	
					12/11/2006	
					Staff Letter	
					Other Regulatory Actions	
					1/3/2006	
					1/3/2006	
					Staff Letter	
					Response Requested - Reports	
					12/8/2003	
					1/1/1965	
					Soil and Water Investigation Report	
					Other Regulatory Actions	
					8/21/2003	
					8/21/2003	
					Staff Letter	
					Response Requested - Workplans	
					8/18/2003	
					8/13/2003	
					Soil and Water Investigation Workplan	
					Response Requested - Other	
					6/2/2003	
					1/1/1965	
					Other Report / Document	
					Notices	
					5/13/2003	
					5/13/2003	
					Notice of Responsibility	
					Enforcement/Orders	
					5/13/2003	
					5/13/2003	
					* Corrective Action Orders	
					Leak Action	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Date:		4/28/2003				
Received Issue Date:						
Action:		Leak Reported				
Doc Link:						
Action Type:		Leak Action				
Action Date:		4/24/2003				
Received Issue Date:						
Action:		Leak Discovery				
Doc Link:						
Action Type:		Other Regulatory Actions				
Action Date:		7:14:09 AM				
Received Issue Date:		7:14:09 AM				
Action:		Staff Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6020931&template=ENFORCEMENT				

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3376545011/T0605986985.PDF
Size : 167 KB
Submitted By: GHD (CONTRACTOR)
Submitted: 5/1/2013*

Title: GP-1 (GP-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2804581642/T0605986985.PDF
Size : 55 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 12/7/2010

Title: GP-2 (GP-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7599015235/T0605986985.PDF
Size : 55 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 12/7/2010

Title: GP-3 (GP-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3787515223/T0605986985.PDF
Size : 53 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 12/7/2010

Title: MW-1 (MW-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2386806666/T0605986985.PDF
Size : 46 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: B-2 (B-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2800554573/T0605986985.PDF
Size : 46 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: MW-3 (MW-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8121257960/T0605986985.PDF
Size : 48 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Title: MW-2 (MW-2)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1269078135/T0605986985.PDF
Size : 48 KB
Submitted By: WAYNE PERRY, INC. (CONTRACTOR)
Submitted: 10/29/2008

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:		B-1 (B-1)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6413345813/T0605986985.PDF				
Size :		47 KB				
Submitted By:		WAYNE PERRY, INC. (CONTRACTOR)				
Submitted:		10/29/2008				
Title:		GEO_BORE (MW-6)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3207198917/T0605986985.pdf				
Size :		58 KB				
Submitted By:		WAYNE PERRY, INC. (CONTRACTOR)				
Submitted:		11/5/2007				
Title:		GEO_BORE (MW-4)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9924244761/T0605986985.pdf				
Size :		56 KB				
Submitted By:		WAYNE PERRY, INC. (CONTRACTOR)				
Submitted:		11/5/2007				
Title:		GEO_BORE (MW-5)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8396471917/T0605986985.pdf				
Size :		61 KB				
Submitted By:		WAYNE PERRY, INC. (CONTRACTOR)				
Submitted:		11/5/2007				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9279264688/T0605986985.pdf				
Size :		66 KB				
Submitted By:		WAYNE PERRY, INC. (CONTRACTOR)				
Submitted:		10/11/2007				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9462186515/T0605986985.pdf				
Size :		70 KB				
Submitted By:		DONNA NGO (CONTRACTOR)				
Submitted:		7/29/2004				

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type:	Site Documents	Size :	
Document Date:	5/17/2013	Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	LOP CASE CLOSURE SUMMARY TO RB	Submitted:	
Title:	CASE CLOSURE SUMMARY		
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159430		
Document Type:	Site Documents	Size :	
Document Date:	5/17/2013	Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	CLOSURE/NO FURTHER ACTION LETTER	Submitted:	
Title:	REMEDIAL ACTION COMPLETION CERTIFICATE		
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6159429		
Document Type:	Site Documents	Size :	1,077 KB
Document Date:	5/17/2013	Submitted By:	GHD (CONTRACTOR)
Type:	WELL DESTRUCTION REPORT	Submitted:	
Title:	WELL DESTRUCTION REPORT		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9356540739/T0605986985.PDF		
Document Type:	Site Documents	Size :	
Document Date:	3/25/2013	Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	NOTIFICATION - PRECLOSURE	Submitted:	
Title:	NOTIFICATION OF PRE-CLOSURE REQUIREMENTS		
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6153225		
Document Type:	Site Documents	Size :	
Document Date:	1/17/2013	Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE	Submitted:	
Title:	DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - BUCHHEIM		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147541					
Document Type:	Site Documents			Size :		
Document Date:	1/17/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE			Submitted:		
Title:	DRAFT CASE CLOSURE SUMMARY SUBMISSION TO INTERESTED PARTIES - LF PLANNING DIVISION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147543					
Document Type:	Site Documents			Size :		
Document Date:	1/17/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE			Submitted:		
Title:	DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - SHELL					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147538					
Document Type:	Site Documents			Size :		
Document Date:	1/17/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE			Submitted:		
Title:	DRAFT CASE CLOSURE SUMMARY SUBMISSION TO INTERESTED PARTIES (WATER AGENCY)					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147542					
Document Type:	Site Documents			Size :		
Document Date:	1/17/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE			Submitted:		
Title:	DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - MCCLELLAND					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147539					
Document Type:	Site Documents			Size :		
Document Date:	1/17/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE			Submitted:		
Title:	DRAFT CASE CLOSURE SUMMARY SUBMISSION TO RESPONSIBLE PARTIES AND LANDOWNERS - BUCHHEIM PO					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6147540					
Document Type:	Site Documents			Size :	1,211 KB	
Document Date:	1/10/2013*			Submitted By:	GHD (CONTRACTOR)	
Type:	SENSITIVE RECEPTOR SURVEY REPORT			Submitted:		
Title:	ABANDONED GROUNDWATER MONITORING WELL MW-3					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5411069750/T0605986985.PDF					
Document Type:	Site Documents			Size :	3,454 KB	
Document Date:	10/17/2012			Submitted By:	GHD (CONTRACTOR)	
Type:	CLOSURE REPORT			Submitted:		
Title:	CLOSURE REQUEST REVISED					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2606445252/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	2,821 KB	
Document Date:	9/14/2012			Submitted By:	GHD (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	GROUNDWATER MONITORING REPORT - THIRD QUARTER 2012					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9326997280/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	1,728 KB	
Document Date:	3/9/2012			Submitted By:	GHD (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	GROUNDWATER MONITORING REPORT - FIRST QUARTER 2012					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1585865795/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	2,161 KB	
Document Date:	9/2/2011			Submitted By:	GHD (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	GROUNDWATER MONITORING REPORT - THIRD QUARTER 2011					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2171628594/T0605986985.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents			Size :	3,280 KB	
Document Date:	8/12/2011			Submitted By:	GHD (CONTRACTOR)	
Type:	REQUEST FOR CLOSURE			Submitted:		
Title:	CLOSURE REQUEST					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6169690728/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	2,338 KB	
Document Date:	3/11/2011			Submitted By:	GHD (CONTRACTOR)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	GROUNDWATER MONITORING REPORT - FIRST QUARTER 2011					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5839826226/T0605986985.PDF					
Document Type:	Site Documents			Size :	3,801 KB	
Document Date:	11/12/2010			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	SITE ASSESSMENT REPORT			Submitted:		
Title:	ADDITIONAL SITE ASSESSMENT REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8534982264/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	2,319 KB	
Document Date:	9/7/2010			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3Q 2010-GROUNDWATER MONITORING AND STATUS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5154626429/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	2,164 KB	
Document Date:	3/9/2010			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1Q10-GROUNDWATER MONITORING AND STATUS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5080994963/T0605986985.PDF					
Document Type:	Site Documents			Size :	359 KB	
Document Date:	2/24/2010			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	SITE ASSESSMENT REPORT			Submitted:		
Title:	WORK PLAN FOR ADDITIONAL SITE ASSESSMENT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2847222864/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	1,448 KB	
Document Date:	10/21/2009			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3Q09-GROUNDWATER MONITORING AND STATUS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5516512215/T0605986985.PDF					
Document Type:	Site Documents			Size :		
Document Date:	7/14/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	REDUCED GROUNDWATER MONITORING REQUIREMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6021012					
Document Type:	Monitoring Reports			Size :	1,402 KB	
Document Date:	6/1/2009			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2Q09-GROUNDWATER MONITORING AND STATUS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2555034816/T0605986985.PDF					
Document Type:	Site Documents			Size :	1,360 KB	
Document Date:	5/20/2009			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REQUEST FOR CLOSURE			Submitted:		
Title:	2009-05-20-REVISED SUPPLEMENTAL CASE CLOSURE DOCUMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2709954380/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	1,366 KB	
Document Date:	3/6/2009			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1Q09-GROUNDWATER MONITORING AND STATUS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9236370265/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	1,420 KB	
Document Date:	12/12/2008			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:					GROUNDWATER MONITORING AND STATUS REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8851195394/T0605986985.PDF	
Document Type:	Monitoring Reports			Size :	1,274 KB	
Document Date:	9/12/2008			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:					3RD Q2008-GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7131302356/T0605986985.PDF	
Document Type:	Site Documents			Size :	1,319 KB	
Document Date:	9/1/2008			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REQUEST FOR CLOSURE			Submitted:		
Title:					SITE CLOSURE REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3289795398/T0605986985.PDF	
Document Type:	Site Documents			Size :	1,167 KB	
Document Date:	5/30/2008			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:					2ND QUARTER 2008-QUARTERLY STATUS REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8814488291/T0605986985.PDF	
Document Type:	Monitoring Reports			Size :	1,268 KB	
Document Date:	3/19/2008			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:					QUARTERLY STATUS REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7779479086/T0605986985.PDF	
Document Type:	Monitoring Reports			Size :	1,180 KB	
Document Date:	1/18/2008			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:					QUARTERLY STATUS REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4959028482/T0605986985.PDF	
Document Type:	Site Documents			Size :	1,433 KB	
Document Date:	11/28/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:					QTRLY STATUS RPT - 3Q07	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7832992374/T0605986985.PDF	
Document Type:	Site Documents			Size :	6,040 KB	
Document Date:	11/3/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REPORTS - INVESTIGATION RPT.			Submitted:		
Title:					SITE ASSESSMENT REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2751271128/T0605986985.PDF	
Document Type:	Monitoring Reports			Size :	133 KB	
Document Date:	7/26/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:					QUARTERLY STATUS REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8097488224/T0605986985.PDF	
Document Type:	Monitoring Reports			Size :	124 KB	
Document Date:	4/11/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:					QUARTERLY STATUS REPORT - 1Q07	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3301877677/T0605986985.PDF	
Document Type:	Site Documents			Size :	32 KB	
Document Date:	3/3/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REPORTS - OTHER			Submitted:		
Title:					NOTIFICATION OF WELL STATUS	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6152830362/T0605986985.PDF	
Document Type:	Site Documents			Size :	319 KB	
Document Date:	2/18/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	WORKPLANS - OTHER WP			Submitted:		
Title:					WORK PLAN FOR WELL REPLACEMENT-REVISED	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7460066080/T0605986985.PDF	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents			Size :	76 KB	
Document Date:	1/30/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	QUARTERLY STATUS REPORT-4TH QTR 06					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4502134025/T0605986985.PDF					
Document Type:	Site Documents			Size :	448 KB	
Document Date:	1/13/2007			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REPORTS - OTHER			Submitted:		
Title:	WP FOR WELL INSTALLATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4581235587/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	69 KB	
Document Date:	10/28/2006			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	QUARTERLY STATUS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7366270303/T0605986985.PDF					
Document Type:	Site Documents			Size :	32 KB	
Document Date:	9/23/2006			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	CORRESPONDENCE - OTHER			Submitted:		
Title:	NOTIFICATION OF WELL STATUS					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6575391471/T0605986985.PDF					
Document Type:	Site Documents			Size :	414 KB	
Document Date:	7/29/2006			Submitted By:	WAYNE PERRY, INC. (CONTRACTOR)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	QUARTERLY STATUS REPORT-2ND QTR 06					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4151670694/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	461 KB	
Document Date:	5/31/2006			Submitted By:	DONNA NGO (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1ST QUARTER 2006 GROUNDWATER MONITORING REPOPRT AND PROJECT STATUS UPDATE					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8809049308/T0605986985.PDF					
Document Type:	Monitoring Reports			Size :	640 KB	
Document Date:	9/28/2005			Submitted By:	DONNA NGO (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3Q05 STATUS UPDATE REPORT (DATE 9-14-05)					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5655286490/T0605986985.PDF					
Document Type:	Site Documents			Size :		
Document Date:	12/30/1899			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	REDUCED GROUNDWATER MONITORING REQUIREMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605986985&enforcement_id=6020931					

[29](#) 1 of 2 SSW 0.36 / 1,897.21 388.23 / -12 SHELL OIL 23751 EL TORO RD LAKE FOREST CA 92630 ORANGE LOP

Record ID: RO0003195 **Case Closed Date:** 5/17/2013
Case ID: 03UT020 **Type of Closure:** Closure certification issued
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

[29](#) 2 of 2 SSW 0.36 / 1,897.21 388.23 / -12 TEXACO 23751 EL TORO RD LAKE FOREST CA 92630 ORANGE LOP

Record ID: RO0001124 **Case Closed Date:** 5/6/1991
Case ID: 86UT218 **Type of Closure:** Closure certification issued
Case Type: S
Case Type Desc: Soil only affected

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Released Substance:
 Unleaded gasoline
 Regular gasoline
 Waste oil/Used oil

30	1 of 2	SSW	0.36 / 1,913.69	388.84 / -12	ARCO #3013 23742 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP
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Record ID: RO0002116
Case ID: 91UT105
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

Case Closed Date:
Type of Closure:

30	2 of 2	SSW	0.36 / 1,913.69	388.84 / -12	ARCO #3013 23742 EL TORO LAKE FOREST CA 92630	LUST
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Global ID: T0605901431
Status: OPEN - SITE ASSESSMENT
Status Date: 2014-10-27 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

County: ORANGE
Latitude: 33.617043466666
Longitude: -117.7042993

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083001923T
Local Case Number: 91UT105
Begin Date: 1991-05-01 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: YES

Potential COC: Gasoline
How Discovered: * SA
Stop Method: Other Means
Stop Description:
Case Worker: SR
File Location: Local Agency

Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2018-04-16 00:00:00
Action: Clean Up Fund - Case Closure Review Summary Report (RSR)

Action Type: ENFORCEMENT
Date : 2018-03-14 00:00:00
Action: File review

Action Type: ENFORCEMENT
Date : 2017-09-06 00:00:00
Action: Meeting

Action Type: ENFORCEMENT
Date : 2017-07-05 00:00:00
Action: Staff Letter

Action Type: ENFORCEMENT

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Date :		2017-02-22 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2016-12-30 00:00:00				
Action:		Request for Closure - Regulator Responded				
Action Type:		ENFORCEMENT				
Date :		2016-07-18 00:00:00				
Action:		File review				
Action Type:		RESPONSE				
Date :		2015-11-24 00:00:00				
Action:		Site Investigation Workplan - Regulator Responded				
Action Type:		RESPONSE				
Date :		2015-09-15 00:00:00				
Action:		Site Investigation Workplan - Regulator Responded				
Action Type:		ENFORCEMENT				
Date :		2014-10-27 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2013-08-13 00:00:00				
Action:		Notice of Responsibility				
Action Type:		ENFORCEMENT				
Date :		2013-01-02 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2012-12-27 00:00:00				
Action:		Request for Closure - Regulator Responded				
Action Type:		ENFORCEMENT				
Date :		2012-01-26 00:00:00				
Action:		File review				
Action Type:		ENFORCEMENT				
Date :		2011-02-08 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2011-01-25 00:00:00				
Action:		Notification - Public Notice of ROD/RAP/CAP				
Action Type:		ENFORCEMENT				
Date :		2010-04-05 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-09-21 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-07-14 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-06-24 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-04-21 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2007-08-21 00:00:00				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:					Staff Letter	
Action Type:					ENFORCEMENT	
Date :					2007-06-29 00:00:00	
Action:					Staff Letter	
Action Type:					REMEDICATION	
Date :					2007-04-03 00:00:00	
Action:					Dual Phase Extraction	
Action Type:					ENFORCEMENT	
Date :					2007-01-29 00:00:00	
Action:					Staff Letter	
Action Type:					ENFORCEMENT	
Date :					2007-01-18 00:00:00	
Action:					Staff Letter	
Action Type:					ENFORCEMENT	
Date :					2006-02-03 00:00:00	
Action:					Staff Letter	
Action Type:					REMEDICATION	
Date :					2005-01-20 00:00:00	
Action:					Excavation	
Action Type:					ENFORCEMENT	
Date :					2004-10-06 00:00:00	
Action:					Staff Letter	
Action Type:					REMEDICATION	
Date :					1996-09-25 00:00:00	
Action:					Soil Vapor Extraction (SVE)	
Action Type:					REMEDICATION	
Date :					1994-04-14 00:00:00	
Action:					Excavation	
Action Type:					REMEDICATION	
Date :					1991-12-12 00:00:00	
Action:					Free Product Removal	
Action Type:					Other	
Date :					1991-09-23 00:00:00	
Action:					Leak Reported	
Action Type:					Other	
Date :					1991-05-01 00:00:00	
Action:					Leak Discovery	

Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: SHYAMALA RAJAGOPAL
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP

Address: 1241 E. DYER ROAD SUITE 120
Email: srajagopal@ochca.com
Phone Number: 7144336262

Contact Type: Regional Board Caseworker
Contact Name: VALERIE JAHN-BULL
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)

Address: 3737 MAIN STREET, SUITE 500
Email: valerie.jahn-bull@waterboards.ca.gov
Phone Number: 9517824903

Status History

Status: Open - Site Assessment
Status Date: 2014-10-27 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Status:		Open - Verification Monitoring				
Status Date:		2004-08-01 00:00:00				
Status:		Open - Remediation				
Status Date:		1996-09-25 00:00:00				
Status:		Open - Case Begin Date				
Status Date:		1991-05-01 00:00:00				

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	ARCO #3013	Address:	23742 EL TORO
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	OPEN - SITE ASSESSMENT	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	GASOLINE	CUF Claim:	10634
WDR Place Type:		CUF Priority Assig:	D
WDR File:		CUF Amount Paid:	
WDR Order:			
File Location:	LOCAL AGENCY		
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605901431		
Cleanup Status Detail:	OPEN - SITE ASSESSMENT AS OF 10/27/2014		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605901431&tabname=regulatoryhistory		
Potential Media Of Concern:	AQUIFER USED FOR DRINKING WATER SUPPLY		
User Defined Beneficial Use:	GW - AGRICULTURAL SUPPLY		
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
Post Closure Site Management:			
Future Land Use:			
Cleanup Oversight Agencies:	ORANGE COUNTY LOP (LEAD) - CASE #: 91UT105 CASEWORKER: SHYAMALA RAJAGOPAL SANTA ANA RWQCB (REGION 8) - CASE #: 083001923T CASEWORKER: VALERIE JAHN-BULL		

Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status:	Open - Site Assessment
Date :	10/27/2014
Status:	Open - Verification Monitoring
Date :	8/1/2004
Status:	Open - Remediation
Date :	9/25/1996
Status:	Open - Case Begin Date
Date :	5/1/1991

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type:	DUAL PHASE EXTRACTION	Begin Date:	4/3/2007
Phase:	Soil Vapor, Water	End Date:	4/4/2007
Contaminant Mass Removed:	56 Pounds		
Description:	DPE Pilot Test		
Action Type:	EXCAVATION	Begin Date:	1/20/2005
Phase:	Soil	End Date:	1/20/2005
Contaminant Mass Removed:	30 Tons		
Description:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:	SOIL VAPOR EXTRACTION (SVE)				Begin Date: 9/25/1996	
Phase:	Soil Vapor				End Date: 8/12/2004	
Contaminant Mass Removed:	7,107 Pounds					
Description:						
Action Type:	EXCAVATION				Begin Date: 4/14/1994	
Phase:	Soil				End Date: 4/14/1994	
Contaminant Mass Removed:	945 Tons					
Description:						
Action Type:	FREE PRODUCT REMOVAL				Begin Date: 12/12/1991	
Phase:					End Date: 7/22/1994	
Contaminant Mass Removed:						
Description:						

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type:	Response Requested - Reports					
Action Date:	4/16/2018					
Received Issue Date:	4/16/2018					
Action:	Clean Up Fund - 5-Year Review Summary					
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5962081					
Action Type:	Other Regulatory Actions					
Action Date:	7/5/2017					
Received Issue Date:	7/5/2017					
Action:	Staff Letter					
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6325366&template=ENFORCEMENT					
Action Type:	Other Regulatory Actions					
Action Date:	2/22/2017					
Received Issue Date:	2/22/2017					
Action:	Staff Letter					
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6312390&template=ENFORCEMENT					
Action Type:	Response Requested - Other					
Action Date:	12/30/2016					
Received Issue Date:	12/30/2016					
Action:	Request for Closure - Regulator Responded					
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5913516					
Action Type:	Other Regulatory Actions					
Action Date:	7/18/2016					
Received Issue Date:	7/18/2016					
Action:	File review					
Doc Link:						
Action Type:	Response Requested - Workplans					
Action Date:	11/24/2015					
Received Issue Date:	11/24/2015					
Action:	Site Investigation Workplan - Regulator Responded					
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5871558					
Action Type:	Response Requested - Workplans					
Action Date:	9/15/2015					
Received Issue Date:	9/15/2015					
Action:	Site Investigation Workplan - Regulator Responded					
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5860962					
Action Type:	Other Regulatory Actions					
Action Date:	10/27/2014					
Received Issue Date:	10/27/2014					
Action:	Staff Letter					
Doc Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6225910&template=ENFORCEMENT					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		Notices				
Action Date:		8/13/2013				
Received Issue Date:		8/13/2013				
Action:		Notice of Responsibility				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6171495&temptable=ENFORCEMENT				
Action Type:		Other Regulatory Actions				
Action Date:		1/2/2013				
Received Issue Date:		1/2/2013				
Action:		Staff Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6146058&temptable=ENFORCEMENT				
Action Type:		Response Requested - Other				
Action Date:		12/27/2012				
Received Issue Date:		12/27/2012				
Action:		Request for Closure - Regulator Responded				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605901431&doc_id=5767512				
Action Type:		Other Regulatory Actions				
Action Date:		1/26/2012				
Received Issue Date:		1/26/2012				
Action:		File review				
Doc Link:						
Action Type:		Other Regulatory Actions				
Action Date:		2/8/2011				
Received Issue Date:		2/8/2011				
Action:		Staff Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6077258&temptable=ENFORCEMENT				
Action Type:		Notices				
Action Date:		1/25/2011				
Received Issue Date:		1/25/2011				
Action:		Notification - Public Notice of ROD/RAP/CAP				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6075481&temptable=ENFORCEMENT				
Action Type:		Other Regulatory Actions				
Action Date:		4/5/2010				
Received Issue Date:		4/5/2010				
Action:		Staff Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6047525&temptable=ENFORCEMENT				
Action Type:		Other Regulatory Actions				
Action Date:		9/21/2009				
Received Issue Date:		9/21/2009				
Action:		Staff Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6030943&temptable=ENFORCEMENT				
Action Type:		Other Regulatory Actions				
Action Date:		7/14/2009				
Received Issue Date:		7/14/2009				
Action:		Staff Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6021038&temptable=ENFORCEMENT				
Action Type:		Other Regulatory Actions				
Action Date:		6/24/2009				
Received Issue Date:		6/24/2009				
Action:		Staff Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6018185&temptable=ENFORCEMENT				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:					Other Regulatory Actions	
Action Date:					4/21/2009	
Received Issue Date:					4/21/2009	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6010741&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					8/21/2007	
Received Issue Date:					8/21/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					6/29/2007	
Received Issue Date:					6/29/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					4/3/2007	
Received Issue Date:						
Action:					Dual Phase Extraction	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					1/29/2007	
Received Issue Date:					1/29/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					1/18/2007	
Received Issue Date:					1/18/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					2/3/2006	
Received Issue Date:					2/3/2006	
Action:					Staff Letter	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					1/20/2005	
Received Issue Date:						
Action:					Excavation	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					10/6/2004	
Received Issue Date:					10/6/2004	
Action:					Staff Letter	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					9/25/1996	
Received Issue Date:						
Action:					Soil Vapor Extraction (SVE)	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					4/14/1994	
Received Issue Date:						
Action:					Excavation	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					12/12/1991	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Received Issue Date:						
Action:		Free Product Removal				
Doc Link:						
Action Type:						
Action Date:		Leak Action				
Received Issue Date:		9/23/1991				
Action:						
Doc Link:		Leak Reported				
Action Type:						
Action Date:		Leak Action				
Received Issue Date:		5/1/1991				
Action:						
Doc Link:		Leak Discovery				

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title:	HP-1 (HP-1)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2685983479/T0605901431.PDF
Size :	125 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	VE-5 (VE-5)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5363273322/T0605901431.PDF
Size :	438 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	B-11A (B-11A)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3104551851/T0605901431.PDF
Size :	362 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	VE-1 (VE-1)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9381934821/T0605901431.PDF
Size :	412 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	VE-4 (VE-4)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8904542922/T0605901431.PDF
Size :	458 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	AV-2 (AV-2)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4163840949/T0605901431.PDF
Size :	413 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	VP-12 (VP 12)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6185905218/T0605901431.PDF
Size :	45 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	MW-2 (MW-2)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4458304047/T0605901431.PDF
Size :	584 KB
Submitted By:	ARCADIS (AUTH_RP)
Submitted:	3/1/2017
Title:	MW-3 (MW-3)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4483068883/T0605901431.PDF

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Size :			518 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			VE-7 (VE-7)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7242347419/T0605901431.PDF			
Size :			459 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			VE-8 (VE-8)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1817465424/T0605901431.PDF			
Size :			363 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			AV-3 (AV-3)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7599481940/T0605901431.PDF			
Size :			414 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			B-6 (B-6)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5711265265/T0605901431.PDF			
Size :			225 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			MW-4 (MW-4)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9453512787/T0605901431.PDF			
Size :			329 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			VE-6 (VE-6)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8084138870/T0605901431.PDF			
Size :			438 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			VE-9 (VE-9)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8308534622/T0605901431.PDF			
Size :			364 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			VE-3 (VE-3)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2133047699/T0605901431.PDF			
Size :			427 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			AV-1 (AV-1)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2192857742/T0605901431.PDF			
Size :			409 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			AV-5 (AV-5)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8189058303/T0605901431.PDF			
Size :			414 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			
Title:			AV-4 (AV-4)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4927328526/T0605901431.PDF			
Size :			412 KB			
Submitted By:			ARCADIS (AUTH_RP)			
Submitted:			3/1/2017			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:		VP-9 (VP 9)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3902778327/T0605901431.PDF				
Size :		46 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		3/1/2017				
Title:		VP-10 (VP 10)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9350378632/T0605901431.PDF				
Size :		46 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		3/1/2017				
Title:		HP-3 (HP-3)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8755468964/T0605901431.PDF				
Size :		92 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		3/1/2017				
Title:		B-1 (B-1)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3158072113/T0605901431.PDF				
Size :		398 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		3/1/2017				
Title:		B-5 (B-5)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3903190314/T0605901431.PDF				
Size :		426 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		3/1/2017				
Title:		VE-10 (VE-10)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5280738532/T0605901431.PDF				
Size :		358 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		3/1/2017				
Title:		VP-8 (VP 8)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9192283332/T0605901431.PDF				
Size :		45 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		3/1/2017				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/4268927216/T0605901431.PDF				
Size :		1,069 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		2/17/2017				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5507448494/T0605901431.PDF				
Size :		140 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		8/24/2010				
Title:		B-21 WELL CONSTRUCTION/BORING LOG (B-21)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7883332610/T0605901431.PDF				
Size :		183 KB				
Submitted By:		ARCADIS (AUTH_RP)				
Submitted:		8/17/2010				
Title:		B15 (B-15)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2302074611/T0605901431.PDF				
Size :		63 KB				
Submitted By:		DELTA ENVIRONMENTAL (CONTRACTOR)				
Submitted:		6/15/2009*				
Title:		B8 (B-8)				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9150926887/T0605901431.PDF				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Size :			62 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			B14 (B-14)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2161736607/T0605901431.PDF			
Size :			61 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			B9 (B-9)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8811336696/T0605901431.PDF			
Size :			64 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			B12 (B-12)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1122530281/T0605901431.PDF			
Size :			94 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			B10 (B-10)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3710497200/T0605901431.PDF			
Size :			64 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			B13 (B-13)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7577447056/T0605901431.PDF			
Size :			93 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			VE2 (VE-2)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3452867805/T0605901431.PDF			
Size :			47 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			B11 (B-11)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2983725309/T0605901431.PDF			
Size :			95 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			B7 (B-7)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6434856593/T0605901431.PDF			
Size :			62 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/15/2009*			
Title:			GEO_BORE (VE-12)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3312727212/T0605901431.pdf			
Size :			65 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			10/4/2007*			
Title:			GEO_BORE (CB-2)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3039675652/T0605901431.pdf			
Size :			31 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			10/4/2007			
Title:			GEO_BORE (VE-13)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7575243890/T0605901431.pdf			
Size :			66 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			10/4/2007*			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:			GEO_BORE (B-20)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7223996818/T0605901431.pdf			
Size :			44 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			10/4/2007*			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2417437493/T0605901431.pdf			
Size :			45 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			6/6/2006			
Title:			GEO_BORE (B-16)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3616027653/T0605901431.pdf			
Size :			48 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/17/2006			
Title:			GEO_BORE (B-18)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1224459588/T0605901431.pdf			
Size :			53 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (CB-3)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9705080926/T0605901431.pdf			
Size :			32 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (CB-4)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5698486149/T0605901431.pdf			
Size :			33 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (CB-1B)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7697370231/T0605901431.pdf			
Size :			35 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (CB-1)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4501310586/T0605901431.pdf			
Size :			29 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (B-17)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1933746159/T0605901431.pdf			
Size :			56 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (CB-5)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1084228336/T0605901431.pdf			
Size :			28 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (B-19)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/6073531925/T0605901431.pdf			
Size :			63 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (VE-11)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2397566080/T0605901431.pdf			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Size :			60 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (CB-6)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1022704899/T0605901431.pdf			
Size :			29 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_BORE (CB-7)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2584548771/T0605901431.pdf			
Size :			37 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			5/2/2006			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3497022330/T0605901431.pdf			
Size :			24 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			9/19/2005			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1496686637/T0605901431.pdf			
Size :			44 KB			
Submitted By:			DELTA ENVIRONMENTAL (CONTRACTOR)			
Submitted:			2/5/2002			

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type:	Monitoring Reports	Size :	10,487 KB
Document Date:	6/21/2018*	Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - SEMI-ANNUALLY	Submitted:	
Title:	2Q 2018 GMR		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4211160480/T0605901431.PDF		
Document Type:	Site Documents	Size :	
Document Date:	4/16/2018	Submitted By:	SUKHMANI BRAR (REGULATOR)
Type:	CLEAN UP FUND - 5-YEAR REVIEW SUMMARY	Submitted:	
Title:	10634 1ST RSR RATIONALE FOR ADDITIONAL WORK APRIL 2018		
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&document_id=5962081		
Document Type:	Monitoring Reports	Size :	7,945 KB
Document Date:	2/2/2018*	Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - SEMI-ANNUALLY	Submitted:	
Title:	4Q 2017 GMR_02.02.2018		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3414436042/T0605901431.PDF		
Document Type:	Monitoring Reports	Size :	9,320 KB
Document Date:	7/27/2017*	Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY	Submitted:	
Title:	CA 03013 2Q17 GWM_072717		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3100740432/T0605901431.PDF		
Document Type:	Site Documents	Size :	125 KB
Document Date:	7/14/2017*	Submitted By:	ARCADIS (AUTH_RP)
Type:	CORRESPONDENCE	Submitted:	
Title:	TESORO ARCADIS CONTACT INFORMATION LETTER_071417		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7781580328/T0605901431.PDF		
Document Type:	Site Documents	Size :	
Document Date:	7/5/2017	Submitted By:	GENIECE HIGGINS (REGULATOR)
Type:	STAFF LETTER	Submitted:	
Title:	DENIAL OF REQUEST FOR CASE CLOSURE		
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6325366		
Document Type:	Site Documents	Size :	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date:	2/22/2017				Submitted By: TAMARA ESCOBEDO (REGULATOR)	
Type:	STAFF LETTER				Submitted:	
Title:	SEMI-ANNUAL GROUNDWATER MONITORING REPORT AND CLOSURE REQUEST					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6312390					
Document Type:	Site Documents			Size :	10,821 KB	
Document Date:	12/30/2016			Submitted By:	ARCADIS (AUTH_RP)	
Type:	REQUEST FOR CLOSURE			Submitted:		
Title:	CA 3013 4Q16 GMR AND REQUEST FOR CLOSURE					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6666868746/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	15,981 KB	
Document Date:	7/18/2016*			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	CA 03013 2Q16 GMR_071516					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6370245397/T0605901431.PDF					
Document Type:	Site Documents			Size :	6,974 KB	
Document Date:	5/2/2016			Submitted By:	ARCADIS (AUTH_RP)	
Type:	SITE INVESTIGATION			Submitted:		
Title:	OFFSITE HYDROPUNCH@ BORING INVESTIGATION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7254087984/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	10,500 KB	
Document Date:	2/3/2016*			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	3013 4Q15 GWM REPORT_020116					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3805490851/T0605901431.PDF					
Document Type:	Site Documents			Size :	1,859 KB	
Document Date:	11/24/2015			Submitted By:	ARCADIS (AUTH_RP)	
Type:	SITE INVESTIGATION WORKPLAN			Submitted:		
Title:	OFFSITE HYDROPUNCH INVESTIGATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6872320592/T0605901431.PDF					
Document Type:	Site Documents			Size :		
Document Date:	11/24/2015			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	SITE INVESTIGATION WORKPLAN			Submitted:		
Title:	OFFSITE HYDROPUNCH INVESTIGATION WORK PLAN - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&document_id=5871558					
Document Type:	Site Documents			Size :	1,219 KB	
Document Date:	9/15/2015			Submitted By:	ARCADIS (AUTH_RP)	
Type:	SITE INVESTIGATION WORKPLAN			Submitted:		
Title:	WORK PLAN FOR OFFSITE HYDROPUNCH@ BORING INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9548864781/T0605901431.PDF					
Document Type:	Site Documents			Size :		
Document Date:	9/15/2015			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	SITE INVESTIGATION WORKPLAN			Submitted:		
Title:	WORK PLAN FOR OFFSITE HYDROPUNCH@ BORING INVESTIGATION - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&document_id=5860962					
Document Type:	Monitoring Reports			Size :	10,418 KB	
Document Date:	8/20/2015			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	3013 2Q15 GROUNDWATER MONITORING REPORT_082015_REVISED					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2598776280/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	9,865 KB	
Document Date:	2/10/2015			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	3013 4Q14 GWM REPORT_020615					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1008658707/T0605901431.PDF					
Document Type:	Site Documents			Size :		
Document Date:	10/27/2014			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	LOW-THREAT CASE CLOSURE					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6225910	
Document Type:	Monitoring Reports			Size :	6,988 KB	
Document Date:	12/13/2013			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	CA-3013 20131213 4Q13_GW_REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4884843945/T0605901431.PDF					
Document Type:	Site Documents			Size :	56 KB	
Document Date:	8/30/2013*			Submitted By:	ARCADIS (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	CA-3013 20130830 FEE TITLE OWNER LETTER					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3769288539/T0605901431.PDF					
Document Type:	Site Documents			Size :		
Document Date:	8/13/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	NOTICE OF RESPONSIBILITY			Submitted:		
Title:	NOR					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6171495					
Document Type:	Monitoring Reports			Size :	8,227 KB	
Document Date:	6/21/2013			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	BP 3013 2Q13 GW REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5491093456/T0605901431.PDF					
Document Type:	Site Documents			Size :	119 KB	
Document Date:	4/12/2013*			Submitted By:	ARCADIS (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	CA-3013_REGULATORY NOTIFICATION LETTER 041213					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9601117968/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	7,333 KB	
Document Date:	1/11/2013			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	CA-3013_4Q12 GW REPORT 01112013					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3368854582/T0605901431.PDF					
Document Type:	Site Documents			Size :		
Document Date:	1/2/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	LOW-THREAT CLOSURE REQUEST					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6146058					
Document Type:	Site Documents			Size :	28,756 KB	
Document Date:	12/27/2012			Submitted By:	ARCADIS (AUTH_RP)	
Type:	REQUEST FOR CLOSURE			Submitted:		
Title:	CA-3013_LTCCR 12272012 PART 1					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2073285937/T0605901431.PDF					
Document Type:	Site Documents			Size :	14,392 KB	
Document Date:	12/27/2012			Submitted By:	ARCADIS (AUTH_RP)	
Type:	REQUEST FOR CLOSURE			Submitted:		
Title:	CA-3013_LTCCR 12272012 PART 2					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1894758105/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	6,225 KB	
Document Date:	6/6/2012			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	CA-3013 2Q12 QMR					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7030140697/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	3,798 KB	
Document Date:	12/8/2011			Submitted By:	ARCADIS (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3013 4Q11 GWM REPORT_111208					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4649323463/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	4,597 KB	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date:	6/10/2011				Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - SEMI-ANNUALLY				Submitted:	
Title:	2Q11 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4213715553/T0605901431.PDF					
Document Type:	Monitoring Reports				Size :	3,327 KB
Document Date:	3/8/2011				Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	1Q 2011 GWM REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7125367164/T0605901431.PDF					
Document Type:	Site Documents				Size :	
Document Date:	2/8/2011				Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:	REVISED CAP					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6077258					
Document Type:	Site Documents				Size :	
Document Date:	1/25/2011				Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	NOTIFICATION - PUBLIC NOTICE OF ROD/RAP/CAP				Submitted:	
Title:	PUBLIC NOTICE OF CAP					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6075481					
Document Type:	Site Documents				Size :	7,264 KB
Document Date:	1/18/2011				Submitted By:	ARCADIS (AUTH_RP)
Type:	CAP/RAP - FEASIBILITY STUDY REPORT				Submitted:	
Title:	REVISED RCAP					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7847239196/T0605901431.PDF					
Document Type:	Monitoring Reports				Size :	3,280 KB
Document Date:	12/10/2010				Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	4Q10 GWM REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4685166358/T0605901431.PDF					
Document Type:	Monitoring Reports				Size :	4,630 KB
Document Date:	9/10/2010				Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	3Q10 QMR					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2580468595/T0605901431.PDF					
Document Type:	Monitoring Reports				Size :	5,477 KB
Document Date:	6/16/2010				Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	QUARTERLY MONITORING REPORT (2Q10)					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6204446256/T0605901431.PDF					
Document Type:	Site Documents				Size :	
Document Date:	4/5/2010				Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:	WELL INSTALLATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6047525					
Document Type:	Monitoring Reports				Size :	5,401 KB
Document Date:	3/14/2010*				Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	10Q1 GMR					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4652215421/T0605901431.PDF					
Document Type:	Site Documents				Size :	5,160 KB
Document Date:	3/1/2010				Submitted By:	ARCADIS (AUTH_RP)
Type:	WELL INSTALLATION WORKPLAN				Submitted:	
Title:	WELL INSTALLATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1774706184/T0605901431.PDF					
Document Type:	Monitoring Reports				Size :	5,133 KB
Document Date:	12/10/2009				Submitted By:	ARCADIS (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:			CA-03013 09 Q4 GWM REPORT			
Title Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8210534214/T0605901431.PDF			
Document Type:	Site Documents			Size :		
Document Date:	9/21/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	F&EH SERVEY REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6030943					
Document Type:	Site Documents			Size :	6,697 KB	
Document Date:	9/14/2009			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	FIRE & EXPLOSIVE HAZARD SURVEY REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6249886631/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	3,307 KB	
Document Date:	9/11/2009			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3Q09 QUARTERLY REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5707452237/T0605901431.PDF					
Document Type:	Site Documents			Size :		
Document Date:	7/14/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	QUARTERLY GROUNDWATER MONITORING REQUIREMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6021038					
Document Type:	Site Documents			Size :		
Document Date:	6/24/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	WORK PLAN APPROVAL					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6018185					
Document Type:	Site Documents			Size :	2,173 KB	
Document Date:	6/9/2009			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	OTHER WORKPLAN			Submitted:		
Title:	WP FOR FIRE AND EXPLOSION HAZARD SURVEY					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3413341701/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	3,254 KB	
Document Date:	6/4/2009			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2Q09 QUARERLY MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3118920445/T0605901431.PDF					
Document Type:	Site Documents			Size :		
Document Date:	4/21/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	CASE STATUS REVIEW					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605901431&enforcement_id=6010741					
Document Type:	Monitoring Reports			Size :	2,849 KB	
Document Date:	2/20/2009			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1Q09 GW MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8907690763/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	3,480 KB	
Document Date:	1/14/2009			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4Q08 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5820558845/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	14,147 KB	
Document Date:	9/11/2008			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3Q08 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8456890285/T0605901431.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports			Size :	5,237 KB	
Document Date:	7/24/2008			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2Q08 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2457386851/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,711 KB	
Document Date:	3/5/2008			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1Q08 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6490522623/T0605901431.PDF					
Document Type:	Site Documents			Size :	6,697 KB	
Document Date:	2/25/2008			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	REPORTS - OTHER			Submitted:		
Title:	EVALUATION OF SUBSURFACE VAPOR INTRUSION TO INDOOR AIR					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5683517277/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	3,780 KB	
Document Date:	1/22/2008			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4Q07 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9431974649/T0605901431.PDF					
Document Type:	Site Documents			Size :	5,127 KB	
Document Date:	10/3/2007*			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	REPORTS - OTHER			Submitted:		
Title:	CA 3013 071003 WELL INSTALLATION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8489993035/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	3,011 KB	
Document Date:	9/7/2007			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3Q07 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2233717978/T0605901431.PDF					
Document Type:	Site Documents			Size :	543 KB	
Document Date:	8/10/2007			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	WORKPLANS - OTHER WP			Submitted:		
Title:	WORK PLAN FOR SOIL GAS SURVEY					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6156496942/T0605901431.PDF					
Document Type:	Site Documents			Size :	9,838 KB	
Document Date:	6/29/2007			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	CORRESPONDENCE - DIRECTIVE RELATED			Submitted:		
Title:	REVISED CORRECTIVE ACTION PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3691892325/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,471 KB	
Document Date:	6/11/2007			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2ND QUARTER 2007 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2494520425/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,432 KB	
Document Date:	3/15/2007			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	FIRST QUARTER 2007 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7579894840/T0605901431.PDF					
Document Type:	Site Documents			Size :	980 KB	
Document Date:	1/29/2007			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	CORRESPONDENCE - DIRECTIVE RELATED			Submitted:		
Title:	WORKPLAN FOR WELL INSTALLATION AND FEASIBILITY TEST					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4326312005/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	1,815 KB	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date:	12/15/2006				Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	4TH QUARTER 2006 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6414538323/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,192 KB	
Document Date:	9/12/2006			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3RD QUARTER 2006 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3313786149/T0605901431.PDF					
Document Type:	Site Documents			Size :	1,968 KB	
Document Date:	8/2/2006			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	WORKPLANS - OTHER WP			Submitted:		
Title:	WORK PLAN FOR ADDITIONAL WELL INSTALLATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7296310245/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,458 KB	
Document Date:	6/30/2006			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2ND QUARTER 2006 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6651197671/T0605901431.PDF					
Document Type:	Site Documents			Size :	4,864 KB	
Document Date:	4/28/2006			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	REPORTS - OTHER			Submitted:		
Title:	WELL INSTALLATION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7960218131/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,179 KB	
Document Date:	3/13/2006			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1ST QUARTER 2006 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6146375358/T0605901431.PDF					
Document Type:	Site Documents			Size :	1,461 KB	
Document Date:	1/27/2006			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	WORKPLANS - INVESTIGATION WP			Submitted:		
Title:	REVISION TO WORK PLAN FOR ADD'L SITE ASSESSMENT & WELL INSTALLATIONS, 1/20/06					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5292463004/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,019 KB	
Document Date:	12/9/2005			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4TH QUARTER 2005 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9816358268/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	948 KB	
Document Date:	11/15/2005			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3RD QUARTER 2005 MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2282974064/T0605901431.PDF					
Document Type:	Site Documents			Size :	2,500 KB	
Document Date:	11/14/2005			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	WORKPLANS - INVESTIGATION WP			Submitted:		
Title:	WORK PLAN FOR ADD'L SITE ASSESSMENT & WELL INSTALL, 11/10/05					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8007557511/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,163 KB	
Document Date:	8/2/2005			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2005 QMR					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2954650700/T0605901431.PDF					
Document Type:	Monitoring Reports			Size :	2,717 KB	
Document Date:	4/26/2005			Submitted By:	DELTA ENVIRONMENTAL (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	FIRST QUARTER 2005 QMR					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4987592399/T0605901431.PDF

Document Type: Site Documents **Size :** 4,666 KB
Document Date: 3/15/2005 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: REPORTS - TANK REMOVAL RPT. **Submitted:**
Title: UNDERGROUND STORAGE TANK REMOVAL REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4753936588/T0605901431.PDF

Document Type: Site Documents **Size :** 329 KB
Document Date: 3/4/2005 **Submitted By:** DELTA ENVIRONMENTAL (CONTRACTOR)
Type: REPORTS - OTHER **Submitted:**
Title: SOIL MONITORING RECORDS, 2/24/05
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3174298942/T0605901431.PDF

31	1 of 1	ENE	0.39 / 2,064.04	424.77 / 24	KENITA ENTERPRISES 24961 WHISLER DR LAKE FOREST CA 92630	LUST
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Global ID: T0605902476 **County:** ORANGE
Status: COMPLETED - CASE CLOSED **Latitude:** 33.6247385
Status Date: 1989-05-19 00:00:00 **Longitude:** -117.6936389
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 9UT241 **Potential COC:**
Local Case Number: **How Discovered:**
Begin Date: 1986-12-16 00:00:00 **Stop Method:**
Lead Agency: SAN DIEGO RWQCB (REGION 9) **Stop Description:**
Local Agency: **Case Worker:**
CUF Case: NO **File Location:**
Potential Media of Concern: Soil
How Discovered Description:
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
DWR GW Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1986-12-16 00:00:00
Action: * Historical Enforcement

Action Type: Other
Date : 1986-12-16 00:00:00
Action: Leak Reported

Status History

Status: Completed - Case Closed
Status Date: 1989-05-19 00:00:00

Status: Open - Case Begin Date
Status Date: 1986-12-16 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: KENITA ENTERPRISES **Address:** 24961 WHISLER DR
Site Facility Type: LUST CLEANUP SITE **City:** LAKE FOREST
Cleanup Status: COMPLETED - CASE CLOSED **Zip:** 92630

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Project Status:
Potential COC:
WDR Place Type:
WDR File:
WDR Order:
File Location:
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902476
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 5/19/1989
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902476&tabname=regulatoryhistory
Potential Media Of Concern: SOIL
User Defined Beneficial Use: SW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SAN DIEGO RWQCB (REGION 9) (LEAD) - CASE #: 9UT241
Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 5/19/1989

Status: Open - Case Begin Date
Date : 12/16/1986

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Enforcement/Orders
Action Date: 12/16/1986
Received Issue Date: 12/16/1986
Action: * Historical Enforcement
Doc Link:

Action Type: Leak Action
Action Date: 12/16/1986
Received Issue Date:
Action: Leak Reported
Doc Link:

32	1 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL #18-378 23771 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP
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Record ID: RO0000891
Case ID: 98UT091
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

Case Closed Date:
Type of Closure:

32	2 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL OIL 23771 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP
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Record ID: RO0002874
Case ID: 86UT087
Case Type: U
Case Type Desc: Undetermined affected
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

Case Closed Date: 9/2/1986
Type of Closure: Closure certification issued

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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32	3 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL OIL 23771 EL TORO LAKE FOREST CA 92630	LUST
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Global ID: T0605900211
Status: COMPLETED - CASE CLOSED
Status Date: 1986-09-02 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

County: ORANGE
Latitude: 33.6171240101737
Longitude: -117.705594506885

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083000271T
Local Case Number: 86UT087
Begin Date: 1986-09-02 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: NO
Potential Media of Concern: Under Investigation
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method: Close and Remove Tank
Stop Description:
Case Worker: KL
File Location: Local Agency

Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: ROSE SCOTT
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)

Address: 3737 MAIN STREET, SUITE 500
Email: rose.scott@waterboards.ca.gov
Phone Number: 9513206375

Contact Type: Local Agency Caseworker
Contact Name: JAMES STROZIER
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP

Address: 1241 E. DYER ROAD SUITE 120
Email: jstrozier@ochca.com
Phone Number: 7144336273

Contact Type: Local Agency Caseworker
Contact Name: KEVIN LAMBERT
City: SANTA ANA
Organization Name: ORANGE COUNTY LOP

Address: 1241 E DYER ROAD SUITE 120
Email: klambert@ochca.com
Phone Number: 7144336261

Status History

Status: Completed - Case Closed
Status Date: 1986-09-02 00:00:00

Status: Open - Case Begin Date
Status Date: 1986-09-02 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: MOBIL OIL
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:

Address: 23771 EL TORO
City: LAKE FOREST
Zip: 92630
County: ORANGE
CUF Claim:
CUF Priority Assig:
CUF Amount Paid:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605900211
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 9/2/1986
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605900211&tabname=regulatoryhistory
Potential Media Of Concern: UNDER INVESTIGATION
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 86UT087
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083000271T
CASEWORKER: ROSE SCOTT

Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 9/2/1986

Status: Open - Case Begin Date
Date : 9/2/1986

32	4 of 4	SW	0.40 / 2,095.40	384.35 / -16	MOBIL #18-378 23771 EL TORO LAKE FOREST CA 92630	LUST
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Global ID: T0605902221
Status: OPEN - SITE ASSESSMENT
Status Date: 2009-03-10 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download
County: ORANGE
Latitude: 33.6169788
Longitude: -117.7052813

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083003311T
Local Case Number: 98UT091
Begin Date: 1998-11-09 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: NO
Potential Media of Concern: Aquifer used for drinking water supply, Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:
Potential COC: Gasoline
How Discovered: UST System Modification
Stop Method: Replace product piping
Stop Description:
Case Worker: SR
File Location: Local Agency

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2019-03-21 00:00:00
Action: Email Correspondence

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2019-03-21 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2019-03-08 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2019-02-18 00:00:00				
Action:		Soil and Water Investigation Workplan - Regulator Responded				
Action Type:		ENFORCEMENT				
Date :		2018-08-03 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2018-06-06 00:00:00				
Action:		Soil and Water Investigation Workplan - Regulator Responded				
Action Type:		ENFORCEMENT				
Date :		2018-04-13 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2018-02-14 00:00:00				
Action:		Well Installation Workplan - Regulator Responded				
Action Type:		ENFORCEMENT				
Date :		2016-11-14 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2016-08-30 00:00:00				
Action:		Other Report / Document				
Action Type:		RESPONSE				
Date :		2016-04-29 00:00:00				
Action:		Soil Vapor Intrusion Investigation Workplan - Regulator Responded				
Action Type:		ENFORCEMENT				
Date :		2015-10-22 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2015-09-30 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2015-05-13 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2015-01-26 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2013-10-03 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2013-07-08 00:00:00				
Action:		Access Agreement				
Action Type:		ENFORCEMENT				
Date :		2012-10-23 00:00:00				
Action:		Staff Letter				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2012-09-10 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2012-05-04 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2011-06-30 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2011-02-17 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2010-11-18 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2010-04-26 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-07-14 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-04-28 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-03-10 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-01-30 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2008-12-02 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2008-05-09 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2007-10-11 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2007-06-01 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2007-01-18 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2006-11-27 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2006-11-03 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				

Date : 2003-10-30 00:00:00
Action: Soil and Water Investigation Report

Action Type: ENFORCEMENT
Date : 2003-08-07 00:00:00
Action: * Historical Enforcement

Action Type: REMEDIATION
Date : 2002-07-11 00:00:00
Action: Free Product Removal

Action Type: REMEDIATION
Date : 2001-04-01 00:00:00
Action: In Situ Physical/Chemical Treatment (other than SVE)

Action Type: Other
Date : 1998-11-23 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1998-11-09 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type: Local Agency Caseworker Contact Name: SHYAMALA RAJAGOPAL City: SANTA ANA Organization Name: ORANGE COUNTY LOP	Address: 1241 E. DYER ROAD SUITE 120 Email: srajagopal@ochca.com Phone Number: 7144336262
Contact Type: Regional Board Caseworker Contact Name: ROSE SCOTT City: RIVERSIDE Organization Name: SANTA ANA RWQCB (REGION 8)	Address: 3737 MAIN STREET, SUITE 500 Email: rose.scott@waterboards.ca.gov Phone Number: 9513206375

Status History

Status: Open - Site Assessment
Status Date: 2009-03-10 00:00:00

Status: Open - Site Assessment
Status Date: 2001-01-10 00:00:00

Status: Open - Site Assessment
Status Date: 2000-01-11 00:00:00

Status: Open - Site Assessment
Status Date: 1999-02-11 00:00:00

Status: Open - Case Begin Date
Status Date: 1998-11-09 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name: MOBIL #18-378 Site Facility Type: LUST CLEANUP SITE Cleanup Status: OPEN - SITE ASSESSMENT Project Status: Potential COC: GASOLINE WDR Place Type: WDR File: WDR Order: File Location: LOCAL AGENCY Designated Beneficial Use: MUN, AGR Project Oversight Agencies:	Address: 23771 EL TORO City: LAKE FOREST Zip: 92630 County: ORANGE CUF Claim: CUF Priority Assig: CUF Amount Paid:
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Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902221
Cleanup Status Detail: OPEN - SITE ASSESSMENT AS OF 3/10/2009
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902221&tabname=regulatoryhistory
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY, OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)
User Defined Beneficial Use: GW - AGRICULTURAL SUPPLY, GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 98UT091
CASEWORKER: SHYAMALA RAJAGOPAL
SANTA ANA RWQCB (REGION 8) - CASE #: 083003311T
CASEWORKER: ROSE SCOTT

Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Open - Site Assessment
Date : 3/10/2009

Status: Open - Site Assessment
Date : 1/10/2001

Status: Open - Site Assessment
Date : 1/11/2000

Status: Open - Site Assessment
Date : 2/11/1999

Status: Open - Case Begin Date
Date : 11/9/1998

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type:	FREE PRODUCT REMOVAL	Begin Date:	7/11/2002
Phase:		End Date:	9/9/9999
Contaminant Mass Removed:			
Description:			
Action Type:	IN SITU PHYSICAL/CHEMICAL TREATMENT (OTHER THAN SVE)	Begin Date:	4/1/2001
Phase:		End Date:	2/1/2002
Contaminant Mass Removed:			
Description:			

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 8/3/2018
Received Issue Date: 8/3/2018
Action: Staff Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6365822&template=ENFORCEMENT

Action Type: Response Requested - Workplans
Action Date: 6/6/2018
Received Issue Date: 6/6/2018
Action: Soil and Water Investigation Workplan - Regulator Responded
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5971328

Action Type: Other Regulatory Actions

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Date:			4/13/2018			
Received Issue Date:			4/13/2018			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6354994&template=ENFORCEMENT			
Action Type:			Response Requested - Workplans			
Action Date:			2/14/2018			
Received Issue Date:			2/14/2018			
Action:			Well Installation Workplan - Regulator Responded			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5961967			
Action Type:			Other Regulatory Actions			
Action Date:			11/14/2016			
Received Issue Date:			11/14/2016			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6313051&template=ENFORCEMENT			
Action Type:			Response Requested - Other			
Action Date:			8/30/2016			
Received Issue Date:			8/30/2016			
Action:			Other Report / Document			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5898833			
Action Type:			Response Requested - Workplans			
Action Date:			4/29/2016			
Received Issue Date:			4/29/2016			
Action:			Soil Vapor Intrusion Investigation Workplan - Regulator Responded			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0605902221&doc_id=5888884			
Action Type:			Other Regulatory Actions			
Action Date:			10/22/2015			
Received Issue Date:			10/22/2015			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6265204&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			9/30/2015			
Received Issue Date:			9/30/2015			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6262825&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			5/13/2015			
Received Issue Date:			5/13/2015			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6244838&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			1/26/2015			
Received Issue Date:			1/26/2015			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6234292&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			10/3/2013			
Received Issue Date:			10/3/2013			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6177783&template=ENFORCEMENT			
Action Type:			Agreements			
Action Date:			7/8/2013			
Received Issue Date:			7/8/2013			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:					Access Agreement	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6166231&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					10/23/2012	
Received Issue Date:					10/23/2012	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6140794&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					9/10/2012	
Received Issue Date:					9/10/2012	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6137393&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					5/4/2012	
Received Issue Date:					5/4/2012	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6120864&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					6/30/2011	
Received Issue Date:					6/30/2011	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6090963&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					2/17/2011	
Received Issue Date:					2/17/2011	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6078289&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					11/18/2010	
Received Issue Date:					11/18/2010	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6069630&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					4/26/2010	
Received Issue Date:					4/26/2010	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6049173&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					7/14/2009	
Received Issue Date:					7/14/2009	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6021035&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					4/28/2009	
Received Issue Date:					4/28/2009	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6011551&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					3/10/2009	
Received Issue Date:					3/10/2009	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6006980&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					1/30/2009	
Received Issue Date:					1/30/2009	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6001108&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					12/2/2008	
Received Issue Date:					12/2/2008	
Action:					Staff Letter	
Doc Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=5995425&template=ENFORCEMENT	
Action Type:					Other Regulatory Actions	
Action Date:					5/9/2008	
Received Issue Date:					5/9/2008	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					10/11/2007	
Received Issue Date:					10/11/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					6/1/2007	
Received Issue Date:					6/1/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					1/18/2007	
Received Issue Date:					1/18/2007	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					11/27/2006	
Received Issue Date:					11/27/2006	
Action:					Staff Letter	
Doc Link:						
Action Type:					Other Regulatory Actions	
Action Date:					11/3/2006	
Received Issue Date:					11/3/2006	
Action:					Staff Letter	
Doc Link:						
Action Type:					Response Requested - Reports	
Action Date:					10/30/2003	
Received Issue Date:					1/1/1965	
Action:					Soil and Water Investigation Report	
Doc Link:						
Action Type:					Enforcement/Orders	
Action Date:					8/7/2003	
Received Issue Date:					8/7/2003	
Action:					* Historical Enforcement	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					7/11/2002	
Received Issue Date:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:					Free Product Removal	
Doc Link:						
Action Type:					Cleanup Action	
Action Date:					4/1/2001	
Received Issue Date:						
Action:					In Situ Physical/Chemical Treatment (other than SVE)	
Doc Link:						
Action Type:					Leak Action	
Action Date:					11/23/1998	
Received Issue Date:						
Action:					Leak Reported	
Doc Link:						
Action Type:					Leak Action	
Action Date:					11/9/1998	
Received Issue Date:						
Action:					Leak Discovery	
Doc Link:						

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title:	MONITORING WELL INSTALLATION REPORT OF MW25 AND MW26 (MW26)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3187308192/T0605902221.PDF
Size :	106 KB
Submitted By:	ATC-SLO (CONTRACTOR)
Submitted:	8/12/2018*
Title:	MONITORING WELL INSTALLATION REPORT OF MW25 AND MW26 (MW25)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4445709466/T0605902221.PDF
Size :	104 KB
Submitted By:	ATC-SLO (CONTRACTOR)
Submitted:	8/12/2018*
Title:	GEO_MAP
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1977932870/T0605902221.PDF
Size :	172 KB
Submitted By:	ATC-SLO (CONTRACTOR)
Submitted:	7/19/2018*
Title:	GEO_MAP
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/8854257404/T0605902221.PDF
Size :	353 KB
Submitted By:	ATC-SLO (CONTRACTOR)
Submitted:	1/24/2018*
Title:	GEO_MAP
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3139032185/T0605902221.PDF
Size :	4,009 KB
Submitted By:	CARDNO (AUTH_RP)
Submitted:	5/24/2017*
Title:	B43-SV14SD (B43-SV14SD)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2181976556/T0605902221.PDF
Size :	448 KB
Submitted By:	CARDNO (AUTH_RP)
Submitted:	9/29/2016
Title:	B41-SV12SD (B41-SV12SD)
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5914375007/T0605902221.PDF
Size :	451 KB
Submitted By:	CARDNO (AUTH_RP)
Submitted:	9/29/2016
Title:	GEO_MAP
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5468908905/T0605902221.PDF
Size :	4,002 KB

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Submitted By: Submitted:		CARDNO (AUTH_RP)				
		9/29/2016				
Title: Link: Size : Submitted By: Submitted:		B42-SV13SD (B42-SV13SD)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7930228888/T0605902221.PDF	
		448 KB				
		CARDNO (AUTH_RP)				
		9/29/2016				
Title: Link: Size : Submitted By: Submitted:		GEO_MAP			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3332655489/T0605902221.PDF	
		272 KB				
		ATC-SLO (CONTRACTOR)				
		7/1/2016*				
Title: Link: Size : Submitted By: Submitted:		GEO_MAP			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3463255465/T0605902221.PDF	
		274 KB				
		ATC-SLO (CONTRACTOR)				
		4/28/2016				
Title: Link: Size : Submitted By: Submitted:		B38-AS/SVE11 (B38-AS/SVE11)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9816602349/T0605902221.PDF	
		59 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				
Title: Link: Size : Submitted By: Submitted:		B34-AS/SVE7 (B34-AS/SVE7)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3504927873/T0605902221.PDF	
		38 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				
Title: Link: Size : Submitted By: Submitted:		B35-AS/SVE8 (B35-AS/SVE8)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3729710400/T0605902221.PDF	
		34 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				
Title: Link: Size : Submitted By: Submitted:		B31-AS/SVE4 (B31-AS/SVE4)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/4898783385/T0605902221.PDF	
		37 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				
Title: Link: Size : Submitted By: Submitted:		B39-AS/SVE12 (B39-AS/SVE12)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9558423638/T0605902221.PDF	
		64 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				
Title: Link: Size : Submitted By: Submitted:		B32-AS/SVE5 (B32-AS/SVE5)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2836850762/T0605902221.PDF	
		35 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				
Title: Link: Size : Submitted By: Submitted:		B40-AS/SVE13 (B40-AS/SVE13)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3801421403/T0605902221.PDF	
		61 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				
Title: Link: Size : Submitted By: Submitted:		B36-AS/SVE9 (B36-AS/SVE9)			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/2180832862/T0605902221.PDF	
		34 KB				
		CARDNO (AUTH_RP)				
		11/16/2011				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title: Link: Size : Submitted By: Submitted:			B37-AS/SVE10 (B37-AS/SVE10)		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3603357970/T0605902221.PDF 40 KB CARDNO (AUTH_RP) 11/16/2011	
Title: Link: Size : Submitted By: Submitted:			B33-AS/SVE6 (B33-AS/SVE6)		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1830860912/T0605902221.PDF 36 KB CARDNO (AUTH_RP) 11/16/2011	
Title: Link: Size : Submitted By: Submitted:			GEO_MAP		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5345249950/T0605902221.PDF 39 KB CARDNO (AUTH_RP) 11/15/2011	
Title: Link: Size : Submitted By: Submitted:			B29- AS/SVE2 (B29- AS/SVE2)		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7507737517/T0605902221.PDF 3,063 KB CARDNO (AUTH_RP) 6/17/2011	
Title: Link: Size : Submitted By: Submitted:			GEO_MAP		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7987075090/T0605902221.PDF 1,589 KB CARDNO (AUTH_RP) 6/17/2011	
Title: Link: Size : Submitted By: Submitted:			B28- AS/SVE1 (B28- AS/SVE1)		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8659687817/T0605902221.PDF 3,400 KB CARDNO (AUTH_RP) 6/17/2011	
Title: Link: Size : Submitted By: Submitted:			B30- AS/SVE3 (B30- AS/SVE3)		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1303007006/T0605902221.PDF 3,097 KB CARDNO (AUTH_RP) 6/17/2011	
Title: Link: Size : Submitted By: Submitted:			GEO_MAP		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2687447965/T0605902221.PDF 39 KB CARDNO (AUTH_RP) 3/24/2010	
Title: Link: Size : Submitted By: Submitted:			GEO_MAP		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9131262540/T0605902221.PDF 196 KB CARDNO (AUTH_RP) 3/23/2010	
Title: Link: Size : Submitted By: Submitted:			B27/MW24 (B27/MW24)		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8813348352/T0605902221.PDF 1,488 KB CARDNO (AUTH_RP) 3/23/2010	
Title: Link: Size : Submitted By: Submitted:			GEO_BORE (B26)		http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/7358813226/T0605902221.pdf 62 KB CARDNO (AUTH_RP) 8/15/2007	
Title: Link: Size :			GEO_MAP		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7602966129/T0605902221.pdf 337 KB	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Submitted By:		CARDNO (AUTH_RP)				
Submitted:		8/15/2007				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9872113883/T0605902221.jpg				
Size :		274 KB				
Submitted By:		CARDNO (AUTH_RP)				
Submitted:		12/10/2004				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/6674543082/T0605902221.jpg				
Size :		168 KB				
Submitted By:		CARDNO (AUTH_RP)				
Submitted:		7/6/2004				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3842817008/T0605902221.jpg				
Size :		153 KB				
Submitted By:		CARDNO (AUTH_RP)				
Submitted:		2/27/2004				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/9824284195/T0605902221.pdf				
Size :		130 KB				
Submitted By:		CARDNO (AUTH_RP)				
Submitted:		12/2/2003				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/5938459098/T0605902221.pdf				
Size :		53 KB				
Submitted By:		CARDNO (AUTH_RP)				
Submitted:		5/8/2002				
Title:		GEO_MAP				
Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7714536368/T0605902221.pdf				
Size :		49 KB				
Submitted By:		CARDNO (AUTH_RP)				
Submitted:		3/20/2002				

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type:	Monitoring Reports	Size :	12,358 KB
Document Date:	10/26/2018*	Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY	Submitted:	
Title:	THIRD QUARTER 2018 GROUNDWATER MONITORING REPORT		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8690414667/T0605902221.PDF		
Document Type:	Site Documents	Size :	8,788 KB
Document Date:	8/12/2018*	Submitted By:	ATC-SLO (CONTRACTOR)
Type:	WELL INSTALLATION REPORT	Submitted:	
Title:	MONITORING WELL INSTALLATION REPORT OF MW25 AND MW26		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5733527064/T0605902221.PDF		
Document Type:	Site Documents	Size :	
Document Date:	8/3/2018	Submitted By:	SHYAMALA RAJAGOPAL (REGULATOR)
Type:	STAFF LETTER	Submitted:	
Title:	RESPONSE TO WORK PLAN FOR CPT/UJOST SOIL BORINGS		
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6365822		
Document Type:	Monitoring Reports	Size :	16,166 KB
Document Date:	6/8/2018*	Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY	Submitted:	
Title:	SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4628659188/T0605902221.PDF		
Document Type:	Site Documents	Size :	2,577 KB
Document Date:	6/6/2018	Submitted By:	ATC-SLO (CONTRACTOR)
Type:	SOIL AND WATER INVESTIGATION	Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
					WORKPLAN	
Title:					CPT/UVOST SOIL BORINGS WORK PLAN	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2867483735/T0605902221.PDF	
Document Type:	Site Documents				Size :	
Document Date:	4/13/2018				Submitted By:	SHYAMALA RAJAGOPAL (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:					RESPONSE TO WORK PLAN FOR MONITORING WELL INSTALLATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6354994	
Document Type:	Monitoring Reports				Size :	12,790 KB
Document Date:	3/23/2018*				Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:					FIRST QUARTER 2018 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4157045841/T0605902221.PDF	
Document Type:	Site Documents				Size :	2,796 KB
Document Date:	2/14/2018				Submitted By:	ATC-SLO (CONTRACTOR)
Type:	WELL INSTALLATION WORKPLAN				Submitted:	
Title:					MONITORING WELL INSTALLATION WORK PLAN	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6344970941/T0605902221.PDF	
Document Type:	Monitoring Reports				Size :	14,667 KB
Document Date:	1/26/2018*				Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:					FOURTH QUARTER 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2689270257/T0605902221.PDF	
Document Type:	Monitoring Reports				Size :	14,014 KB
Document Date:	9/7/2017*				Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:					THIRD QUARTER 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2166938483/T0605902221.PDF	
Document Type:	Monitoring Reports				Size :	12,515 KB
Document Date:	6/23/2017*				Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:					SECOND QUARTER 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4445878982/T0605902221.PDF	
Document Type:	Site Documents				Size :	4,537 KB
Document Date:	5/24/2017*				Submitted By:	CARDNO (AUTH_RP)
Type:	WELL DESTRUCTION REPORT				Submitted:	
Title:					WELL DESTRUCTION AND REMEDIATION SYSTEM ENCLOSURE DEMOLITION REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6571524262/T0605902221.PDF	
Document Type:	Monitoring Reports				Size :	11,464 KB
Document Date:	3/30/2017*				Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:					FIRST QUARTER 2017 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9870767414/T0605902221.PDF	
Document Type:	Monitoring Reports				Size :	11,752 KB
Document Date:	12/30/2016				Submitted By:	ATC-SLO (CONTRACTOR)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:					FOURTH QUARTER 2016 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2942053437/T0605902221.PDF	
Document Type:	Site Documents				Size :	
Document Date:	11/14/2016				Submitted By:	GENIECE HIGGINS (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:					RESPONSE TO SOIL VAPOR SAMPLING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6313051	
Document Type:	Site Documents				Size :	8,484 KB
Document Date:	9/29/2016				Submitted By:	CARDNO (AUTH_RP)
Type:	WELL INSTALLATION REPORT				Submitted:	
Title:					REPORT FOR THE INSTALLATION OF THREE SOIL VAPOR SAMPLING WELLS	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7575712740/T0605902221.PDF	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports			Size :	14,892 KB	
Document Date:	9/19/2016			Submitted By:	ATC-SLO (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	THIRD QUARTER 2016 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2394148409/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	8/30/2016			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	NOTIFICATION OF CONSULTANT CHANGE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&document_id=5898833					
Document Type:	Monitoring Reports			Size :	30,769 KB	
Document Date:	7/15/2016			Submitted By:	ATC-SLO (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2016 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4357917547/T0605902221.PDF					
Document Type:	Site Documents			Size :	245 KB	
Document Date:	5/23/2016			Submitted By:	CARDNO (AUTH_RP)	
Type:	SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN			Submitted:		
Title:	309402.W08A 18378 ADDENDUM TO WORK PLAN FOR ADDITIONAL SOIL VAPOR ASSESSMENT. 05-23-16					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8746131658/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	4/29/2016			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN			Submitted:		
Title:	309401.W08 18378 WORK PLAN FOR ADDITIONAL SOIL VAPOR ASSESSMENT. 04-28-16 - REGULATOR RESPONSE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&document_id=5888884					
Document Type:	Monitoring Reports			Size :	18,569 KB	
Document Date:	4/28/2016			Submitted By:	ATC-SLO (CONTRACTOR)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	FIRST QUARTER 2016 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7684213995/T0605902221.PDF					
Document Type:	Site Documents			Size :	7,224 KB	
Document Date:	4/28/2016			Submitted By:	CARDNO (AUTH_RP)	
Type:	SOIL VAPOR INTRUSION INVESTIGATION WORKPLAN			Submitted:		
Title:	309401.W08 18378 WORK PLAN FOR ADDITIONAL SOIL VAPOR ASSESSMENT. 04-28-16					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7667792975/T0605902221.PDF					
Document Type:	Site Documents			Size :	33,626 KB	
Document Date:	2/1/2016			Submitted By:	CARDNO (AUTH_RP)	
Type:	CONCEPTUAL SITE MODEL			Submitted:		
Title:	RELLC LAKE FOREST SCM FINAL 020116					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7818384528/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	7,448 KB	
Document Date:	12/18/2015			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 4TH QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 12-18-15					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9542002081/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	10,123 KB	
Document Date:	12/1/2015			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 3RD QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 12-01-15					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7454688787/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	10/22/2015			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	OCLOP DIRECTIVE LETTER DATED SEPTEMBER 30, 2015 AND INTERIM REMEDIAL ACTION					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6265204				
Document Type:	Site Documents			Size :		
Document Date:	9/30/2015			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	IRAP					
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6262825				
Document Type:	Site Documents			Size :	8,358 KB	
Document Date:	9/4/2015			Submitted By:	CARDNO (AUTH_RP)	
Type:	CAP/RAP - OTHER REPORT			Submitted:		
Title:	309405.R26 18378 REVISED CORRECTIVE ACTION PLAN. 09-04-15					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1676054537/T0605902221.PDF				
Document Type:	Site Documents			Size :	7,746 KB	
Document Date:	9/2/2015			Submitted By:	CARDNO (AUTH_RP)	
Type:	FEASIBILITY STUDY (FS)			Submitted:		
Title:	309405.R05 18378 SLUG TEST- PUMP TEST REPORT. 09-02-15					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5689508795/T0605902221.PDF				
Document Type:	Monitoring Reports			Size :	12,082 KB	
Document Date:	8/25/2015			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 2ND QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 08-25-15					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9148279547/T0605902221.PDF				
Document Type:	Site Documents			Size :		
Document Date:	5/13/2015			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	FEASIBILITY STUDY/CAP					
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6244838				
Document Type:	Monitoring Reports			Size :	10,401 KB	
Document Date:	5/4/2015			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 1ST QUARTER 2015 GROUNDWATER MONITORING AND STATUS REPORT. 05-04-15					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5491904556/T0605902221.PDF				
Document Type:	Site Documents			Size :		
Document Date:	1/26/2015			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	AGENCY MEETING DATED JANUARY 14, 2015					
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6234292				
Document Type:	Monitoring Reports			Size :	10,328 KB	
Document Date:	1/21/2015			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 4TH QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. 01-21-15					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2904289007/T0605902221.PDF				
Document Type:	Monitoring Reports			Size :	8,644 KB	
Document Date:	12/5/2014			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 3RD QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. REVISED. 12-05-14					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9400911450/T0605902221.PDF				
Document Type:	Site Documents			Size :	110 KB	
Document Date:	8/28/2014			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	3094C.L75 18378 TRANSFER OF EXXONMOBIL ENVIRONMENTAL SERVICES PROJECT MANAGEMENT. 08-28-14					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1232917129/T0605902221.PDF				
Document Type:	Monitoring Reports			Size :	9,855 KB	
Document Date:	7/25/2014			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 2ND QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. 07-25-14					
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2648027539/T0605902221.PDF				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports			Size :	13,103 KB	
Document Date:	5/8/2014			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 1ST QUARTER 2014 GROUNDWATER MONITORING AND STATUS REPORT. 05-08-14					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6655840039/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	12,645 KB	
Document Date:	1/7/2014			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 4TH QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 01-07-14					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4095692455/T0605902221.PDF					
Document Type:	Site Documents			Size :	130 KB	
Document Date:	12/9/2013			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	3094 18378 (3559C.L02 18HDR) TRANSFER OF EMES PROJECT MANAGEMENT. 12-09-13					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6363395035/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	10/3/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	JOINT SAMPLING REQUIREMENT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6177783					
Document Type:	Monitoring Reports			Size :	9,408 KB	
Document Date:	9/27/2013			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 3RD QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 09-27-13					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6194442689/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	7/8/2013			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	ACCESS AGREEMENT			Submitted:		
Title:	PROPERTY ACCESS REQUEST					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6166231					
Document Type:	Site Documents			Size :	363 KB	
Document Date:	6/19/2013			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	3094CKL.72 18378 OFF-SITE PROPERTY ACCESS UPDATE. 06-19-13					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2574715793/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	11,421 KB	
Document Date:	6/11/2013			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 2ND QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 06-11-13					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5524414002/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	13,366 KB	
Document Date:	3/1/2013			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 1ST QUARTER 2013 GROUNDWATER MONITORING AND STATUS REPORT. 03-01-13					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9042176723/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	9,927 KB	
Document Date:	1/11/2013			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 4TH QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 01-11-13					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3613754212/T0605902221.PDF					
Document Type:	Site Documents			Size :	20 KB	
Document Date:	12/21/2012*			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	3094 FORMER MOBIL 18378 (OCHCA #98UT091) EXTENSION REQUEST CORRESPONDENCE 12-21-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9494776427/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	10/23/2012			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:	BORING INSTALLATION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6140794					
Document Type:	Site Documents			Size :	7,791 KB	
Document Date:	10/16/2012*			Submitted By:	CARDNO (AUTH_RP)	
Type:	OTHER WORKPLAN			Submitted:		
Title:	3094C.W07 18378 WORK PLAN FOR THE SAMPLING OF THREE OFF-SITE HYDROPUNCH BORINGS. 10-16-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7980359911/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	9,179 KB	
Document Date:	9/12/2012			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 3RD QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 09-12-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9259678661/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	9/10/2012			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	PLUME DELINEATION REQUIREMENT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6137393					
Document Type:	Site Documents			Size :	329 KB	
Document Date:	8/14/2012			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	3094KL.L67 18378 RESPONSE TO AGENCY LETTER DATED MAY 04, 2012 OCHCA MEETING ON JUNE 26, 2012. 08-14-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2274335741/T0605902221.PDF					
Document Type:	Site Documents			Size :	51 KB	
Document Date:	7/3/2012			Submitted By:	CARDNO (AUTH_RP)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	309414KL.L66 18378 RESPONSE TO AGENCY LETTER DATED MAY 4,2012 AND OCHCA MEETING DOCUMENTATION. 07-03-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4217803239/T0605902221.PDF					
Document Type:	Site Documents			Size :	15 KB	
Document Date:	6/22/2012			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	309414KL.L64 18378 TRANSFER OF EXXONMOBIL ENVIRONMENTAL SERVICES PROJECT MANAGEMENT. 06-22-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7749145448/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	2,914 KB	
Document Date:	5/17/2012*			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 SECOND QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 5-17-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4633560121/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	5/4/2012			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	CASE FILE REVIEW					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6120864					
Document Type:	Monitoring Reports			Size :	5,752 KB	
Document Date:	3/1/2012			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 1ST QUARTER 2012 GROUNDWATER MONITORING AND STATUS REPORT. 03-01-12					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7650510430/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	4,514 KB	
Document Date:	12/8/2011			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 FOURTH QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 12-8-2011					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3463880419/T0605902221.PDF					
Document Type:	Site Documents			Size :	17,374 KB	
Document Date:	11/30/2011			Submitted By:	CARDNO (AUTH_RP)	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:		WELL INSTALLATION REPORT			Submitted:	
Title:		309412.R22 18378 REPORT FOR THE INSTALLATION OF SEVEN ON-SITE AND THREE OFF-SITE AIR SPARGE SOIL VAPOR EXTRACTION WELLS. 11-30-11				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1020109057/T0605902221.PDF				
Document Type:		Monitoring Reports			Size :	4,412 KB
Document Date:		11/7/2011			Submitted By:	CARDNO (AUTH_RP)
Type:		MONITORING REPORT - QUARTERLY			Submitted:	
Title:		3094 18378 3RD QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 11-07-11				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9257206737/T0605902221.PDF				
Document Type:		Site Documents			Size :	
Document Date:		6/30/2011			Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:		STAFF LETTER			Submitted:	
Title:		REVISED CAP				
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6090963				
Document Type:		Site Documents			Size :	28,026 KB
Document Date:		6/17/2011			Submitted By:	CARDNO (AUTH_RP)
Type:		WELL INSTALLATION REPORT			Submitted:	
Title:		309405.R20 18378 REVISED CORRECTIVE ACTION PLAN. 06-17-11				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1663035094/T0605902221.PDF				
Document Type:		Monitoring Reports			Size :	8,781 KB
Document Date:		6/9/2011			Submitted By:	CARDNO (AUTH_RP)
Type:		MONITORING REPORT - QUARTERLY			Submitted:	
Title:		3094 18378 2ND QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 06-09-11				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1106165587/T0605902221.PDF				
Document Type:		Monitoring Reports			Size :	11,090 KB
Document Date:		3/7/2011			Submitted By:	CARDNO (AUTH_RP)
Type:		MONITORING REPORT - QUARTERLY			Submitted:	
Title:		3094 18378 1ST QUARTER 2011 GROUNDWATER MONITORING AND STATUS REPORT. 03-07-11				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5678750455/T0605902221.PDF				
Document Type:		Site Documents			Size :	466 KB
Document Date:		3/1/2011*			Submitted By:	CARDNO (AUTH_RP)
Type:		SITE INVESTIGATION WORKPLAN			Submitted:	
Title:		309405.W06A 18378 WORK PLAN ADDENDDUM TO INSTALL 3 AS-SVE WELLS AND CONDUCT AN AS-SVE FEASIBILITY TEST. 03-01-11				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8783421337/T0605902221.PDF				
Document Type:		Site Documents			Size :	
Document Date:		2/17/2011			Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:		STAFF LETTER			Submitted:	
Title:		WORK PLAN APPROVAL				
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6078289				
Document Type:		Site Documents			Size :	6,644 KB
Document Date:		1/26/2011			Submitted By:	CARDNO (AUTH_RP)
Type:		SITE INVESTIGATION WORKPLAN			Submitted:	
Title:		309405.W06 18378 WORK PLAN TO INSTALL THREE AS-SVE WELLS AND CONDUCT AN AS-SVE FEASIBILITY TEST. 01-26-11				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4873719215/T0605902221.PDF				
Document Type:		Monitoring Reports			Size :	7,493 KB
Document Date:		12/10/2010			Submitted By:	CARDNO (AUTH_RP)
Type:		MONITORING REPORT - QUARTERLY			Submitted:	
Title:		3094 18378 FOURTH QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 12-10-10				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2680368006/T0605902221.PDF				
Document Type:		Site Documents			Size :	
Document Date:		11/18/2010			Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:		STAFF LETTER			Submitted:	
Title:		DUAL PHASE HIGH INTENSITY TARGETED EVENT REPORT				
Title Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6069630				
Document Type:		Site Documents			Size :	5,935 KB
Document Date:		10/7/2010			Submitted By:	CARDNO (AUTH_RP)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:	REMEDIAL INVESTIGATION REPORT				Submitted:	
Title:	309405.R19 18378 30-DAY DUAL-PHASE EXTRACTION HIGH INTENSITY TARGETED EVENT REPORT. 10-07-10					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5191019713/T0605902221.PDF					
Document Type:	Monitoring Reports				Size :	12,545 KB
Document Date:	9/29/2010				Submitted By:	CARDNO (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	3094 18378 THIRD QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 9-29-10					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6225656092/T0605902221.PDF					
Document Type:	Monitoring Reports				Size :	7,159 KB
Document Date:	6/10/2010*				Submitted By:	CARDNO (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	3094 18378 2ND QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 06-10-10.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9587060511/T0605902221.PDF					
Document Type:	Site Documents				Size :	
Document Date:	4/26/2010				Submitted By:	KEVIN LAMBERT (REGULATOR)
Type:	STAFF LETTER				Submitted:	
Title:	SOIL VAPOR SURVEY					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6049173					
Document Type:	Site Documents				Size :	9,041 KB
Document Date:	3/25/2010				Submitted By:	CARDNO (AUTH_RP)
Type:	RISK ASSESSMENT REPORT				Submitted:	
Title:	309403.R18 18378 SOIL VAPOR SURVEY AND VAPOR INTRUSION RISK ASSESSMENT REPORT. 03-25-10.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1691049158/T0605902221.PDF					
Document Type:	Site Documents				Size :	7,775 KB
Document Date:	3/25/2010				Submitted By:	CARDNO (AUTH_RP)
Type:	WELL INSTALLATION REPORT				Submitted:	
Title:	309403.R17 18378 REPORT FOR THE INSTALLATION OF ONE OFF-SITE GROUNDWATER MONITORING WELL. 03-25-10.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9590216398/T0605902221.PDF					
Document Type:	Site Documents				Size :	54 KB
Document Date:	3/18/2010*				Submitted By:	CARDNO (AUTH_RP)
Type:	CORRESPONDENCE				Submitted:	
Title:	309403KL.L54 (18378) CHANGE IN EXXONMOBIL OIL CORPORATION PROJECT MANGEMENT. 03-18-10.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9121263802/T0605902221.PDF					
Document Type:	Monitoring Reports				Size :	9,239 KB
Document Date:	2/26/2010*				Submitted By:	CARDNO (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	3094 18378 1ST QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 02-26-10 PART 1 OF 2.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4825562834/T0605902221.PDF					
Document Type:	Monitoring Reports				Size :	14,637 KB
Document Date:	2/26/2010*				Submitted By:	CARDNO (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	3094 18378 1ST QUARTER 2010 GROUNDWATER MONITORING AND STATUS REPORT. 02-26-10-2 PART 2 OF 2.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1734559416/T0605902221.PDF					
Document Type:	Site Documents				Size :	140 KB
Document Date:	1/15/2010				Submitted By:	CARDNO (AUTH_RP)
Type:	CORRESPONDENCE				Submitted:	
Title:	309403KL.L53 18378 WORK PLAN ADDENDUM TO CONDUCT A SOIL VAPOR ASSESSMENT. 01-15-10.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1851647496/T0605902221.PDF					
Document Type:	Monitoring Reports				Size :	13,569 KB
Document Date:	12/11/2009				Submitted By:	CARDNO (AUTH_RP)
Type:	MONITORING REPORT - QUARTERLY				Submitted:	
Title:	3094 18378 4TH QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT. 12-11-09.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7537996590/T0605902221.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports			Size :	12,452 KB	
Document Date:	11/6/2009			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 3RD QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT. 11-06-09.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2382549464/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	7/14/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	QUARTERLY GROUNDWATER MONITORING REQUIREMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6021035					
Document Type:	Monitoring Reports			Size :	8,046 KB	
Document Date:	6/5/2009			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 2ND QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT. 06-05-09.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3680996119/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	4/28/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	WORK PLAN APPROVAL					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6011551					
Document Type:	Site Documents			Size :	3,657 KB	
Document Date:	4/16/2009			Submitted By:	CARDNO (AUTH_RP)	
Type:	SOIL AND WATER INVESTIGATION WORKPLAN			Submitted:		
Title:	309403.W05 18378 WORK PLAN FOR THE INSTALLATION OF ONE OFF-SITE GROUNDWATER MONITORING WELL. 04-16-09.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8631997227/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	8,927 KB	
Document Date:	3/13/2009			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 1ST QUARTER 2009 GROUNDWATER MONITORING AND STATUS REPORT. 03-12-09.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6607753932/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	3/10/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	WORK PLAN ADDENDUM SOIL VAPOR ASSESSMENT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6006980					
Document Type:	Site Documents			Size :	959 KB	
Document Date:	3/5/2009			Submitted By:	CARDNO (AUTH_RP)	
Type:	OTHER WORKPLAN			Submitted:		
Title:	309403.W04A 18378 WORK PLAN ADDENDUM TO CONDUCT A SOIL VAPOR ASSESSMENT.3-5-09.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3112191319/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	1/30/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	SOIL VAPOR ASSESSMENT WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=6001108					
Document Type:	Site Documents			Size :	2,400 KB	
Document Date:	1/8/2009			Submitted By:	CARDNO (AUTH_RP)	
Type:	OTHER WORKPLAN			Submitted:		
Title:	309403.W04 18378 WORK PLAN TO CONDUCT A SOIL VAPOR ASSESSEMENT. 01-08-09.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9808757960/T0605902221.PDF					
Document Type:	Site Documents			Size :		
Document Date:	12/2/2008			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	SOIL VAPOR SURVEY REQUEST					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902221&enforcement_id=5995425					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports			Size :	6,687 KB	
Document Date:	8/29/2008			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 3RD QUARTER 2008 GROUNDWATER MONITORING AND STATUS REPORT. 08-29-08 REVISED.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8007187366/T0605902221.PDF					
Document Type:	Site Documents			Size :	1,842 KB	
Document Date:	8/1/2008			Submitted By:	CARDNO (AUTH_RP)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	309403.R16 18378 FIRE AND EXPLOSION VAULT SURVEY REPORT. 08-01-08					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6975239634/T0605902221.PDF					
Document Type:	Site Documents			Size :	45 KB	
Document Date:	6/27/2008*			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE - OTHER			Submitted:		
Title:	309414KL.L48 18378 CHANGE IN EXXONMOBIL OIL CORPORATION PROJECT MANAGEMENT. 06-26-08					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2420323014/T0605902221.PDF					
Document Type:	Site Documents			Size :	10,553 KB	
Document Date:	5/30/2008			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	3094 18378 2ND QUARTER 2008 GROUNDWATER MONITORING AND STATUS REPORT. 05-30-08					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6496962606/T0605902221.PDF					
Document Type:	Site Documents			Size :	5,627 KB	
Document Date:	4/23/2008			Submitted By:	CARDNO (AUTH_RP)	
Type:	WORKPLANS - OTHER WP			Submitted:		
Title:	309403.W03 18378 WORK PLAN FOR A UTILITY VAULT FIRE AND EXPLOSION SURVEY. 04-23-08					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5566929697/T0605902221.PDF					
Document Type:	Site Documents			Size :	10,717 KB	
Document Date:	3/28/2008			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	3094 18378 1ST QUARTER 2008 GROUNDWATER MONITORING AND STATUS REPORT. 03-28-08					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7064148426/T0605902221.PDF					
Document Type:	Site Documents			Size :	3,587 KB	
Document Date:	1/16/2008			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	3094 18378 4TH QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT. 01-16-08					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3990294516/T0605902221.PDF					
Document Type:	Site Documents			Size :	8,366 KB	
Document Date:	10/26/2007			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	3094 18378 3RD QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT.10-26-07 PART 2 OF 2					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8469942986/T0605902221.PDF					
Document Type:	Site Documents			Size :	5,415 KB	
Document Date:	8/21/2007			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - INVESTIGATION RPT.			Submitted:		
Title:	309403.R15 18378 REPORT FOR THE INSTALLATION OF ONE ON-SITE GROUNDWATER MONITORING WELL AND THE RAISING OF ONE OFF-SITE GROUNDWATER MONITORING WELL. 08-21-07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7160496592/T0605902221.PDF					
Document Type:	Site Documents			Size :	8,265 KB	
Document Date:	7/26/2007			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	3094 18378 2ND QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT. 07-26-07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4888168811/T0605902221.PDF					
Document Type:	Site Documents			Size :	5,387 KB	
Document Date:	5/10/2007			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	3094 18378 1ST QUARTER 2007 GROUNDWATER MONITORING AND STATUS REPORT. 05-10-07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5137103021/T0605902221.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents			Size :	4,602 KB	
Document Date:	2/27/2007			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - REMEDIAL ACTION RPT.			Submitted:		
Title:	309405.R14 18378 CORRECTIVE ACTION PLAN ADDENDUM. 02-27-07.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9274398624/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	2,495 KB	
Document Date:	2/15/2007*			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 4TH QUARTER 2005 GROUNDWATER MONITORING REPORT. 12-09-05.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9060361564/T0605902221.PDF					
Document Type:	Site Documents			Size :	933 KB	
Document Date:	1/15/2007*			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:	309414.R13 18378 WELL DESTRUCTION AND WELL CASING LOWERING LETTER REPORT. 2-9-05.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6654218912/T0605902221.PDF					
Document Type:	Site Documents			Size :	1,208 KB	
Document Date:	1/15/2007*			Submitted By:	CARDNO (AUTH_RP)	
Type:	CORRESPONDENCE - OTHER			Submitted:		
Title:	309413GH.L39 18378 STATUS REPORT FOR ACCESS . 11-21-06.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4081893026/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	3,799 KB	
Document Date:	1/11/2007			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 4TH QUARTER 2006 GROUNDWATER MONITORING AND STATUS REPORT. 01-10-07					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5276080071/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	2,694 KB	
Document Date:	12/4/2006			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 2ND QUARTER 2006 GROUNDWATER MONITORING AND STATUS REPORT. 06-02-06.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3512678384/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	4,758 KB	
Document Date:	10/25/2006			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094 18378 3RD QUARTER 2006 GROUNDWATER MONITORING AND STATUS REPORT. 09-08-06.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8503217935/T0605902221.PDF					
Document Type:	Site Documents			Size :	2,657 KB	
Document Date:	5/8/2006			Submitted By:	CARDNO (AUTH_RP)	
Type:	REPORTS - QUARTERLY STATUS REPORT			Submitted:		
Title:	3094 18378 1ST QUARTER 2006 STATUS REPORT. 03-29-06					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7218091666/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	2,495 KB	
Document Date:	12/22/2005			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094QRTR0305					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7479566276/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	1,523 KB	
Document Date:	11/3/2005			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094QRTR0305					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2577329337/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	2,415 KB	
Document Date:	7/8/2005			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3094QRTR0205					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6141784489/T0605902221.PDF					
Document Type:	Monitoring Reports			Size :	1,817 KB	
Document Date:	5/11/2005			Submitted By:	CARDNO (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Title: 3094 18378 1ST QUARTER 2005 STATUS REPORT. 04-22-05
 Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3805051505/T0605902221.PDF

33	1 of 1	NNW	0.42 / 2,239.75	369.06 / -31	UNOCAL #6186 24382 MUIRLANDS LAKE FOREST CA 92630	ORANGE LOP
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Record ID: RO0002900
 Case ID: 91UT084
 Case Type: S
 Case Type Desc: Soil only affected
 Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

Case Closed Date: 6/21/1994
 Type of Closure: Closure certification issued

34	1 of 1	NNW	0.43 / 2,262.68	371.83 / -29	CHEVRON #9-0884 22942 RIDGE ROUTE LAKE FOREST CA 92630	LUST
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Global ID: T0605979060
 Status: COMPLETED - CASE CLOSED
 Status Date: 2015-01-15 00:00:00
 Case Type: LUST CLEANUP SITE
 Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

County: ORANGE
 Latitude: 33.628758
 Longitude: -117.704037

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:		Potential COC:	Gasoline
Local Case Number:	02UT028	How Discovered:	* SA
Begin Date:	2002-10-02 00:00:00	Stop Method:	Other Means
Lead Agency:	ORANGE COUNTY LOP	Stop Description:	
Local Agency:	ORANGE COUNTY LOP	Case Worker:	KL
CUF Case:	NO	File Location:	Local Agency
Potential Media of Concern:	Aquifer used for drinking water supply		
How Discovered Description:			
Calwater Watershed Name:	Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)		
DWR GW Subbasin Name:	Coastal Plain Of Orange County (8-001)		
Disadvantaged Community:			
Site History:			

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

Regulatory Activity

Action Type:	ENFORCEMENT
Date :	2015-01-15 00:00:00
Action:	Closure/No Further Action Letter
Action Type:	ENFORCEMENT
Date :	2014-11-25 00:00:00
Action:	Notification - Preclosure
Action Type:	ENFORCEMENT
Date :	2014-09-17 00:00:00
Action:	Notification - Public Notice of Case Closure
Action Type:	ENFORCEMENT
Date :	2014-09-17 00:00:00
Action:	Notification - Public Participation Document
Action Type:	ENFORCEMENT
Date :	2013-05-21 00:00:00
Action:	File review

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2012-12-13 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2012-07-25 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2011-07-21 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2010-07-15 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2009-07-14 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2008-10-28 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2008-10-06 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2008-09-29 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2008-05-02 00:00:00				
Action:		Corrective Action Plan / Remedial Action Plan				
Action Type:		ENFORCEMENT				
Date :		2008-03-14 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2007-10-31 00:00:00				
Action:		Well Installation Report				
Action Type:		ENFORCEMENT				
Date :		2007-07-09 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2007-05-01 00:00:00				
Action:		Soil and Water Investigation Workplan				
Action Type:		ENFORCEMENT				
Date :		2007-03-20 00:00:00				
Action:		Staff Letter				
Action Type:		REMEDIATION				
Date :		2005-08-04 00:00:00				
Action:		Pump & Treat (P&T) Groundwater				
Action Type:		ENFORCEMENT				
Date :		2005-04-05 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2004-05-28 00:00:00				
Action:		Staff Letter				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2004-03-31 00:00:00				
Action:		Staff Letter				
Action Type:		ENFORCEMENT				
Date :		2004-02-05 00:00:00				
Action:		Staff Letter				
Action Type:		RESPONSE				
Date :		2003-08-04 00:00:00				
Action:		Preliminary Site Assessment Report				
Action Type:		ENFORCEMENT				
Date :		2003-04-18 00:00:00				
Action:		* Historical Enforcement				
Action Type:		Other				
Date :		2002-12-05 00:00:00				
Action:		Leak Reported				
Action Type:		Other				
Date :		2002-10-02 00:00:00				
Action:		Leak Discovery				

Regulatory Contacts

Contact Type:	Local Agency Caseworker	Address:	1241 E DYER ROAD SUITE 120
Contact Name:	KEVIN LAMBERT	Email:	klambert@ochca.com
City:	SANTA ANA	Phone Number:	7144336261
Organization Name:	ORANGE COUNTY LOP		
Contact Type:	Regional Board Caseworker	Address:	3737 Main Street, Suite 500
Contact Name:	MIGUEL OVIEDO	Email:	miguel.oviedo@waterboards.ca.gov
City:	RIVERSIDE	Phone Number:	9517823238
Organization Name:	SANTA ANA RWQCB (REGION 8)		

Status History

Status:	Completed - Case Closed
Status Date:	2015-01-15 00:00:00
Status:	Open - Eligible for Closure
Status Date:	2013-05-06 00:00:00
Status:	Open - Remediation
Status Date:	2005-04-05 00:00:00
Status:	Open - Site Assessment
Status Date:	2003-06-30 00:00:00
Status:	Open - Site Assessment
Status Date:	2003-04-09 00:00:00
Status:	Open - Site Assessment
Status Date:	2002-12-16 00:00:00
Status:	Open - Case Begin Date
Status Date:	2002-10-02 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	CHEVRON #9-0884	Address:	22942 RIDGE ROUTE
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	Zip:	92630
Project Status:		County:	ORANGE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Potential COC: GASOLINE
WDR Place Type:
WDR File:
WDR Order:
File Location: LOCAL AGENCY
Designated Beneficial Use: MUN, AGR, IND, PROC
Project Oversight Agencies:
Report Link: http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605979060
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 1/15/2015
Cleanup History Link: http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605979060&tabname=regulatoryhistory
Potential Media Of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use: GW - MUNICIPAL AND DOMESTIC SUPPLY
DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 02UT028
CASEWORKER: KEVIN LAMBERT
SANTA ANA RWQCB (REGION 8)
CASEWORKER: MIGUEL OVIEDO

Site History:

Please refer to recent Site Documents or Monitoring Reports in GeoTracker for site history. Orange County is not responsible for the accuracy of any professional interpretations provided in reports submitted by consultants for the responsible party.

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 1/15/2015

Status: Open - Eligible for Closure
Date : 5/6/2013

Status: Open - Remediation
Date : 4/5/2005

Status: Open - Site Assessment
Date : 6/30/2003

Status: Open - Site Assessment
Date : 4/9/2003

Status: Open - Site Assessment
Date : 12/16/2002

Status: Open - Case Begin Date
Date : 10/2/2002

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: PUMP & TREAT (P&T) GROUNDWATER
Phase: Water
Contaminant Mass Removed: 1,225 Gallons
Description: OVERPURGING USING WELLS MW-1, MW-2, MW-6, AND MW-7
Begin Date: 8/4/2005
End Date: 3/14/2006

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 1/15/2015
Received Issue Date: 1/15/2015
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233455&template=ENFORCEMENT

Action Type: Other Regulatory Actions

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Date:			1/15/2015			
Received Issue Date:			1/15/2015			
Action:			Closure/No Further Action Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233458&template=ENFORCEMENT			
Action Type:			Notices			
Action Date:			11/25/2014			
Received Issue Date:			11/25/2014			
Action:			Notification - Preclosure			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6228964&template=ENFORCEMENT			
Action Type:			Notices			
Action Date:			9/17/2014			
Received Issue Date:			9/17/2014			
Action:			Notification - Public Participation Document			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221258&template=ENFORCEMENT			
Action Type:			Notices			
Action Date:			9/17/2014			
Received Issue Date:			9/17/2014			
Action:			Notification - Public Notice of Case Closure			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221246&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			5/21/2013			
Received Issue Date:			5/21/2013			
Action:			File review			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			12/13/2012			
Received Issue Date:			12/13/2012			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6144933&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			7/25/2012			
Received Issue Date:			7/25/2012			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6131238&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			7/21/2011			
Received Issue Date:			7/21/2011			
Action:			Staff Letter			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			7/15/2010			
Received Issue Date:			7/15/2010			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6057526&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			7/14/2009			
Received Issue Date:			7/14/2009			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6020920&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			10/28/2008			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Received Issue Date:			10/28/2008			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5991824&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			10/6/2008			
Received Issue Date:			10/6/2008			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5989733&template=ENFORCEMENT			
Action Type:			Other Regulatory Actions			
Action Date:			9/29/2008			
Received Issue Date:			9/29/2008			
Action:			Staff Letter			
Doc Link:			http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5997279&template=ENFORCEMENT			
Action Type:			Response Requested - Workplans			
Action Date:			5/2/2008			
Received Issue Date:			1/1/1965			
Action:			Corrective Action Plan / Remedial Action Plan			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			3/14/2008			
Received Issue Date:			3/14/2008			
Action:			Staff Letter			
Doc Link:						
Action Type:			Response Requested - Reports			
Action Date:			10/31/2007			
Received Issue Date:			1/1/1965			
Action:			Well Installation Report			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			7/9/2007			
Received Issue Date:			7/9/2007			
Action:			Staff Letter			
Doc Link:						
Action Type:			Response Requested - Workplans			
Action Date:			5/1/2007			
Received Issue Date:			6/5/2007			
Action:			Soil and Water Investigation Workplan			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			3/20/2007			
Received Issue Date:			3/20/2007			
Action:			Staff Letter			
Doc Link:						
Action Type:			Cleanup Action			
Action Date:			8/4/2005			
Received Issue Date:						
Action:			Pump & Treat (P&T) Groundwater			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			4/5/2005			
Received Issue Date:			4/5/2005			
Action:			Staff Letter			
Doc Link:						
Action Type:			Other Regulatory Actions			
Action Date:			5/28/2004			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Received Issue Date:		5/28/2004				
Action:		Staff Letter				
Doc Link:						
Action Type:		Other Regulatory Actions				
Action Date:		3/31/2004				
Received Issue Date:		3/31/2004				
Action:		Staff Letter				
Doc Link:						
Action Type:		Other Regulatory Actions				
Action Date:		2/5/2004				
Received Issue Date:		2/5/2004				
Action:		Staff Letter				
Doc Link:						
Action Type:		Response Requested - Reports				
Action Date:		8/4/2003				
Received Issue Date:		1/1/1965				
Action:		Preliminary Site Assessment Report				
Doc Link:						
Action Type:		Enforcement/Orders				
Action Date:		4/18/2003				
Received Issue Date:		4/18/2003				
Action:		* Historical Enforcement				
Doc Link:						
Action Type:		Leak Action				
Action Date:		12/5/2002				
Received Issue Date:						
Action:		Leak Reported				
Doc Link:						
Action Type:		Leak Action				
Action Date:		10/2/2002				
Received Issue Date:						
Action:		Leak Discovery				
Doc Link:						

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: MW-1 (MW-1)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8288926601/T0605979060.PDF
Size : 832 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/25/2014

Title: MW-3 (MW-3)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/1479051113/T0605979060.PDF
Size : 818 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/25/2014

Title: MW-6 (MW-6)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9093692839/T0605979060.PDF
Size : 115 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: MW-9 (MW-9)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5587525844/T0605979060.PDF
Size : 83 KB
Submitted By: ARCADIS (CONTRACTOR)
Submitted: 4/22/2014

Title: MW-8 (MW-8)
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3105869352/T0605979060.PDF

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Size :			84 KB			
Submitted By:			ARCADIS (CONTRACTOR)			
Submitted:			4/22/2014			
Title:			MW-2 (MW-2)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/5132978320/T0605979060.PDF			
Size :			160 KB			
Submitted By:			ARCADIS (CONTRACTOR)			
Submitted:			4/22/2014			
Title:			MW-5 (MW-5)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3842759609/T0605979060.PDF			
Size :			90 KB			
Submitted By:			ARCADIS (CONTRACTOR)			
Submitted:			4/22/2014			
Title:			MW-7 (MW-7)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/3905434787/T0605979060.PDF			
Size :			92 KB			
Submitted By:			ARCADIS (CONTRACTOR)			
Submitted:			4/22/2014			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1940392673/T0605979060.PDF			
Size :			280 KB			
Submitted By:			ARCADIS (CONTRACTOR)			
Submitted:			4/22/2014			
Title:			GEOBORE: MW-11 (MW-11)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/9206432521/T0605979060.PDF			
Size :			100 KB			
Submitted By:			LEIDOS (SAIC) (AUTH_RP)			
Submitted:			3/18/2009			
Title:			GEOBORE: MW-10 (MW-10)			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_bore/8661797642/T0605979060.PDF			
Size :			104 KB			
Submitted By:			LEIDOS (SAIC) (AUTH_RP)			
Submitted:			3/18/2009			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7868172764/T0605979060.PDF			
Size :			69 KB			
Submitted By:			LEIDOS (SAIC) (AUTH_RP)			
Submitted:			3/18/2009			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/7948270499/T0605979060.pdf			
Size :			264 KB			
Submitted By:			JASON LEE (RP)			
Submitted:			10/19/2007			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/6042279899/T0605979060.pdf			
Size :			292 KB			
Submitted By:			JASON LEE (RP)			
Submitted:			8/14/2006			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1658695816/T0605979060.pdf			
Size :			265 KB			
Submitted By:			JASON LEE (RP)			
Submitted:			12/22/2005			
Title:			GEO_MAP			
Link:			http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/3717160880/T0605979060.pdf			
Size :			126 KB			
Submitted By:			JASON LEE (RP)			
Submitted:			5/6/2004			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :**
Document Date: 1/15/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: CCS FINAL
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233458

Document Type: Site Documents **Size :**
Document Date: 1/15/2015 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: RACC
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6233458

Document Type: Site Documents **Size :** 2,903 KB
Document Date: 12/9/2014* **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: WELL DESTRUCTION REPORT **Submitted:**
Title: 90884_WELL DECOMMISSIONING REPORT_FINAL_12092014
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2012611150/T0605979060.PDF

Document Type: Site Documents **Size :**
Document Date: 11/25/2014 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PRECLOSURE **Submitted:**
Title: NOTIFICATION OF PRE-CLOSURE REQUIREMENTS
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6228964

Document Type: Site Documents **Size :**
Document Date: 9/17/2014 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC PARTICIPATION DOCUMENT **Submitted:**
Title: DRAFT CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221258

Document Type: Site Documents **Size :**
Document Date: 9/17/2014 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: NOTIFICATION - PUBLIC NOTICE OF CASE CLOSURE **Submitted:**
Title: PUBLIC/LAND OWNER/RP NOTICE OF PROPOSED CASE CLOSURE
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6221246

Document Type: Monitoring Reports **Size :** 4,163 KB
Document Date: 5/15/2013 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 90884 FIN 1Q13 SAMR 05152013
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3783052563/T0605979060.PDF

Document Type: Site Documents **Size :**
Document Date: 12/13/2012 **Submitted By:** KEVIN LAMBERT (REGULATOR)
Type: STAFF LETTER **Submitted:**
Title: LOW-THREAT CLOSURE REQUEST LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6144933

Document Type: Site Documents **Size :** 69 KB
Document Date: 11/30/2012 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: CORRESPONDENCE **Submitted:**
Title: 90884 AUS PM CCN 10292012
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9696567595/T0605979060.PDF

Document Type: Monitoring Reports **Size :** 2,768 KB
Document Date: 11/11/2012 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: MONITORING REPORT - SEMI-ANNUALLY **Submitted:**
Title: 90884 2Q3Q12 SASR
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5652768969/T0605979060.PDF

Document Type: Site Documents **Size :** 10,083 KB
Document Date: 10/31/2012 **Submitted By:** REBECCA ANDRESEN (AUTH_RP)
Type: CLOSURE REPORT **Submitted:**

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:		LOW THREAT CLOSURE REQUEST				
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9174991667/T0605979060.PDF				
Document Type:	Site Documents			Size :		
Document Date:	7/25/2012			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	CASE CLOSURE REVIEW					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6131238					
Document Type:	Site Documents			Size :	14,177 KB	
Document Date:	7/11/2012			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	CLOSURE REPORT			Submitted:		
Title:	9-0884 CASE CLOSURE REQUEST					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5340193986/T0605979060.PDF					
Document Type:	Site Documents			Size :	87 KB	
Document Date:	5/30/2012			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	CVX PM CHANGE NOTIFICATION REGULATORY					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7221485197/T0605979060.PDF					
Document Type:	Site Documents			Size :	87 KB	
Document Date:	5/30/2012			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	CVX PM CHANGE NOTIFICATION PROPERTY OWNER					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4047529101/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,837 KB	
Document Date:	4/20/2012			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	90884 4Q11 & 1Q12 SASR FIN 04202012					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9145340919/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	3,929 KB	
Document Date:	9/2/2011*			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	90884 2Q11&3Q11 SASR FIN 0902011.PDF					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8640103936/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	7,263 KB	
Document Date:	4/1/2011			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	4Q10 & 1Q11 SAMR					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1309136927/T0605979060.PDF					
Document Type:	Site Documents			Size :	4,399 KB	
Document Date:	1/12/2011			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	WELL DESTRUCTION REPORT			Submitted:		
Title:	WELL DESTRUCTION REPORT (MW-2)					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3162531554/T0605979060.PDF					
Document Type:	Site Documents			Size :	59 KB	
Document Date:	11/11/2010			Submitted By:	REBECCA ANDRESEN (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	CHANGE OF CONTACT LETTER					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8790415465/T0605979060.PDF					
Document Type:	Site Documents			Size :		
Document Date:	7/15/2010			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	SCM & CASE CLOSURE REQUEST					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6057526					
Document Type:	Site Documents			Size :	11,272 KB	
Document Date:	3/31/2010			Submitted By:	MAY DELA CRUZ (AUTH_RP)	
Type:	REQUEST FOR CLOSURE			Submitted:		
Title:	UST REMOVAL SOIL SAMPLING & CHEMICAL ANALYSES					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7322022438/T0605979060.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents			Size :	3,518 KB	
Document Date:	3/5/2010			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	WELL DESTRUCTION REPORT			Submitted:		
Title:	WELL DESTRUCTION AND WELL BURIAL REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8159638762/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	7,380 KB	
Document Date:	2/17/2010*			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	SEMIANNUAL MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1316254973/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	4,450 KB	
Document Date:	10/1/2009			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - SEMI-ANNUALLY			Submitted:		
Title:	3Q09 GWM REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9034941732/T0605979060.PDF					
Document Type:	Site Documents			Size :		
Document Date:	7/14/2009			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	REDUCED GROUNDWATER MONITORING REQUIREMENTS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=6020920					
Document Type:	Monitoring Reports			Size :	4,034 KB	
Document Date:	7/10/2009			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2Q09 GWM REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4571999669/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	3,780 KB	
Document Date:	5/5/2009			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1Q09 GWM REPORT, REVISED					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9085770130/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	4,223 KB	
Document Date:	4/27/2009			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1Q09 GWM REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6437066197/T0605979060.PDF					
Document Type:	Site Documents			Size :	8,210 KB	
Document Date:	3/17/2009			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	WELL INSTALLATION REPORT			Submitted:		
Title:	WELL INSTALLATION REPORT: MW-10, MW-11					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6714608311/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	3,309 KB	
Document Date:	2/6/2009			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4TH QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6253582179/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,560 KB	
Document Date:	10/31/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3RD QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4680647909/T0605979060.PDF					
Document Type:	Site Documents			Size :		
Document Date:	10/28/2008			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	WELL INSTALLATION WORK PLAN APPROVAL					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5991824					
Document Type:	Site Documents			Size :	765 KB	
Document Date:	10/24/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:	NOTIFICATION OF RECORD OWNERS OF FEE TITLE					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1382431507/T0605979060.PDF					
Document Type:	Site Documents			Size :	466 KB	
Document Date:	10/24/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	CHANGE OF CONTACT INFORMATION FOR CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6373657703/T0605979060.PDF					
Document Type:	Site Documents			Size :	1,091 KB	
Document Date:	10/24/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	WELL INSTALLATION WORKPLAN			Submitted:		
Title:	WELL INSTALLATION WORKPLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4673885524/T0605979060.PDF					
Document Type:	Site Documents			Size :	628 KB	
Document Date:	10/24/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	CORRESPONDENCE			Submitted:		
Title:	RESPONSE TO OCHCA COMMENTS DATED OCTOBER 1, 2008					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5560529947/T0605979060.PDF					
Document Type:	Site Documents			Size :		
Document Date:	10/6/2008			Submitted By:	KEVIN LAMBERT (REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	CAP APPROVAL WITH CONDITIONS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5989733					
Document Type:	Site Documents			Size :		
Document Date:	9/29/2008			Submitted By:	(REGULATOR)	
Type:	STAFF LETTER			Submitted:		
Title:	UNKNOWN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605979060&enforcement_id=5997279					
Document Type:	Site Documents			Size :	1,029 KB	
Document Date:	9/8/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	CAP/RAP - OTHER REPORT			Submitted:		
Title:	REVISED CORRECTIVE ACTION PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6620970785/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	4,782 KB	
Document Date:	8/9/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2ND QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7503819346/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	4,022 KB	
Document Date:	6/5/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1ST QUARTER 2008 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4579312980/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,795 KB	
Document Date:	2/1/2008			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4TH QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8847172617/T0605979060.PDF					
Document Type:	Site Documents			Size :	96 KB	
Document Date:	12/13/2007			Submitted By:	LEIDOS (SAIC) (AUTH_RP)	
Type:	CORRESPONDENCE - DIRECTIVE RELATED			Submitted:		
Title:	CHANGE OF CONTACT INFORMATION FOR CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2582533895/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,378 KB	
Document Date:	10/24/2007			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3RD QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2764097452/T0605979060.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents			Size :	5,613 KB	
Document Date:	10/19/2007			Submitted By:	JASON LEE (RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:	WELL INSTALLATION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3372561395/T0605979060.PDF					
Document Type:	Site Documents			Size :	103 KB	
Document Date:	9/17/2007			Submitted By:	JASON LEE (RP)	
Type:	CORRESPONDENCE - OTHER			Submitted:		
Title:	CHANGE OF CONTACT INFORMATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4065917789/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,846 KB	
Document Date:	8/1/2007			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	2ND QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7507389903/T0605979060.PDF					
Document Type:	Site Documents			Size :	402 KB	
Document Date:	6/28/2007			Submitted By:	JASON LEE (RP)	
Type:	CORRESPONDENCE - OTHER			Submitted:		
Title:	REVISED PLATE 3 FROM THE WELL INSTALLATION WORKPLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9717604696/T0605979060.PDF					
Document Type:	Site Documents			Size :	2,585 KB	
Document Date:	6/11/2007			Submitted By:	JASON LEE (RP)	
Type:	WORKPLANS - OTHER WP			Submitted:		
Title:	WELL INSTALLATION WORKPLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7922961175/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	3,239 KB	
Document Date:	5/8/2007			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	1ST QUARTER 2007 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5756773233/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	3,498 KB	
Document Date:	2/8/2007			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	4TH QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9989393472/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,642 KB	
Document Date:	12/13/2006			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	3RD QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8158919394/T0605979060.PDF					
Document Type:	Site Documents			Size :	588 KB	
Document Date:	12/4/2006			Submitted By:	JASON LEE (RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:	2ND AND 3RD QUARTER 2006 GROUNDWATER DATA EVALUATION AND RECOMMENDATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5605244517/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,436 KB	
Document Date:	8/3/2006			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY			Submitted:		
Title:	SECOND QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3014036417/T0605979060.PDF					
Document Type:	Site Documents			Size :	8,436 KB	
Document Date:	6/21/2006			Submitted By:	JASON LEE (RP)	
Type:	REPORTS - OTHER			Submitted:		
Title:	GROUNDWATER REMEDIATION REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6451736271/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	2,807 KB	
Document Date:	5/2/2006			Submitted By:	JASON LEE (RP)	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:	MONITORING REPORT - QUARTERLY		Submitted:			
Title:	FIRST QUARTER 2006 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2735944986/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	4,077 KB	
Document Date:	2/1/2006			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY		Submitted:			
Title:	FOURTH QUARTER 2005 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6283018350/T0605979060.PDF					
Document Type:	Site Documents			Size :	6,224 KB	
Document Date:	12/22/2005			Submitted By:	JASON LEE (RP)	
Type:	REPORTS - OTHER		Submitted:			
Title:	REPORT FOR GROUNDWATER OVERPURGING ACTIVITIES					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4490873038/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	1,923 KB	
Document Date:	10/26/2005			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY		Submitted:			
Title:	3RD QUARTER 2005 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8153381168/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	1,388 KB	
Document Date:	7/29/2005			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY		Submitted:			
Title:	2Q2005 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5958371818/T0605979060.PDF					
Document Type:	Site Documents			Size :	40 KB	
Document Date:	4/29/2005			Submitted By:	JASON LEE (RP)	
Type:	CORRESPONDENCE - OTHER		Submitted:			
Title:	CHANGE OF CONTACT INFORMATION FOR CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY AND SCIENCE APPLICATIONS INTERNATIONAL CORPORATION					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8753705680/T0605979060.PDF					
Document Type:	Monitoring Reports			Size :	1,571 KB	
Document Date:	4/27/2005			Submitted By:	JASON LEE (RP)	
Type:	MONITORING REPORT - QUARTERLY		Submitted:			
Title:	1ST QUARTER 2005 GROUNDWATER MONITORING AND PROGRESS REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1707624137/T0605979060.PDF					
Document Type:	Site Documents			Size :	1,375 KB	
Document Date:	4/5/2005			Submitted By:	JASON LEE (RP)	
Type:	WORKPLANS - REMEDIAL ACTION PLAN		Submitted:			
Title:	INTERIM REMEDIAL ACTION PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5359754264/T0605979060.PDF					

[35](#) 1 of 1 **NNW** 0.43 / 2,284.90 372.10 / -28 **CHEVRON 22942 RIDGE ROUTE LAKE FOREST CA 92630** **LUST**

Global ID: T0605902054 **County:** ORANGE
Status: COMPLETED - CASE CLOSED **Latitude:** 33.628763
Status Date: 1998-06-03 00:00:00 **Longitude:** -117.704197
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083003004T **Potential COC:** Gasoline
Local Case Number: 97UT013 **How Discovered:** Tank Closure
Begin Date: 1997-05-09 00:00:00 **Stop Method:** Close and Remove Tank
Lead Agency: ORANGE COUNTY LOP **Stop Description:**
Local Agency: ORANGE COUNTY LOP **Case Worker:** KL
CUF Case: YES **File Location:** Local Agency
Potential Media of Concern: Soil

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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How Discovered Description:

Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
DWR GW Subbasin Name: Coastal Plain Of Orange County (8-001)
Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 1998-05-19 00:00:00
Action: LOP Case Closure Summary to RB

Action Type: Other
Date : 1997-05-09 00:00:00
Action: Leak Discovery

Action Type: Other
Date : 1997-05-09 00:00:00
Action: Leak Reported

Regulatory Contacts

Contact Type:	Local Agency Caseworker	Address:	1241 E DYER ROAD SUITE 120
Contact Name:	KEVIN LAMBERT	Email:	klambert@ochca.com
City:	SANTA ANA	Phone Number:	7144336261
Organization Name:	ORANGE COUNTY LOP		

Contact Type:	Regional Board Caseworker	Address:	3737 Main Street, Suite 500
Contact Name:	MIGUEL OVIEDO	Email:	miguel.oviedo@waterboards.ca.gov
City:	RIVERSIDE	Phone Number:	9517823238
Organization Name:	SANTA ANA RWQCB (REGION 8)		

Contact Type:	Local Agency Caseworker	Address:	1241 E. DYER ROAD SUITE 120
Contact Name:	JAMES STROZIER	Email:	jstrozier@ochca.com
City:	SANTA ANA	Phone Number:	7144336273
Organization Name:	ORANGE COUNTY LOP		

Status History

Status: Completed - Case Closed
Status Date: 1998-06-03 00:00:00

Status: Open - Case Begin Date
Status Date: 1997-05-09 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	CHEVRON	Address:	22942 RIDGE ROUTE
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	GASOLINE	CUF Claim:	15981
WDR Place Type:		CUF Priority Assig:	D
WDR File:		CUF Amount Paid:	
WDR Order:			
File Location:	LOCAL AGENCY		
Designated Beneficial Use:	MUN, AGR, IND, PROC		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902054		
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 6/3/1998		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902054&tabname=regulatoryhistory		
Potential Media Of Concern:	SOIL		
User Defined Beneficial Use:	GW - MUNICIPAL AND DOMESTIC SUPPLY		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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DWR GW Sub Basin: Coastal Plain Of Orange County (8-001)
Calwater Watershed Name: Santa Ana River - Lower Santa Ana River - East Coastal Plain (801.11)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 97UT013
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SANTA ANA RWQCB (REGION 8) - CASE #: 083003004T
CASEWORKER: MIGUEL OVIEDO

Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 6/3/1998

Status: Open - Case Begin Date
Date : 5/9/1997

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION **Begin Date:** 1/1/1965
Phase: **End Date:** 1/1/1965
Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 5/19/1998
Received Issue Date: 5/19/1998
Action: LOP Case Closure Summary to RB
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902054&enforcement_id=6161788&template=ENFORCEMENT

Action Type: Leak Action
Action Date: 5/9/1997
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 5/9/1997
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :**
Document Date: 5/19/1998 **Submitted By:** PAMELA YBARRA (REGULATOR)
Type: LOP CASE CLOSURE SUMMARY TO RB **Submitted:**
Title: UNKNOWN
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902054&enforcement_id=6161788

[36](#)

1 of 2

NNW

0.45 /
2,391.12

369.35 /
-31

CHEVRON
22942 RIDGE ROUTE
LAKE FOREST CA 92630

ORANGE LOP

Record ID: RO0001283 **Case Closed Date:** 6/3/1998
Case ID: 97UT013 **Type of Closure:** Closure certification issued

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Case Type: S
Case Type Desc: Soil only affected
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

36	2 of 2	NNW	0.45 / 2,391.12	369.35 / -31	CHEVRON #9-0884 22942 RIDGE ROUTE DR LAKE FOREST CA 92630	ORANGE LOP
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Record ID: RO0003116
Case ID: 02UT028
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

Case Closed Date: 1/15/2015
Type of Closure: Closure certification issued

37	1 of 3	SSW	0.46 / 2,440.52	375.17 / -25	7-Eleven 33626 23842 EL TORO RD LAKE FOREST CA 92630	DELISTED HAZ
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Siteid: 87740
Latitude: 33.615929
Longitude: -117.705582
Original Source: CHAZ
Record Date: 20-OCT-2017

37	2 of 3	SSW	0.46 / 2,440.52	375.17 / -25	SHELL OIL 23842 EL TORO RD LAKE FOREST CA 92630	ORANGE LOP
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Record ID: RO0001822
Case ID: 99UT030
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

Case Closed Date: 9/29/2005
Type of Closure: Closure certification issued

37	3 of 3	SSW	0.46 / 2,440.52	375.17 / -25	SHELL OIL 23842 EL TORO LAKE FOREST CA 92630	LUST
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Global ID: T0605902278
Status: COMPLETED - CASE CLOSED
Status Date: 2005-09-29 00:00:00
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

County: ORANGE
Latitude: 33.6158299
Longitude: -117.7059824

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number:
Local Case Number: 99UT030
Begin Date: 1999-01-07 00:00:00
Lead Agency: ORANGE COUNTY LOP
Local Agency: ORANGE COUNTY LOP
CUF Case: YES

Potential COC: Gasoline
How Discovered: Tank Closure
Stop Method: Close and Remove Tank
Stop Description:
Case Worker: KL
File Location: Local Agency

Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Regulatory Activity

Action Type: ENFORCEMENT
Date : 2005-09-29 00:00:00
Action: Closure/No Further Action Letter

Action Type: Other
Date : 1999-03-17 00:00:00
Action: Leak Reported

Action Type: REMEDIATION
Date : 1999-01-15 00:00:00
Action: Excavation

Action Type: Other
Date : 1999-01-07 00:00:00
Action: Leak Discovery

Regulatory Contacts

Contact Type:	Local Agency Caseworker	Address:	1241 E DYER ROAD SUITE 120
Contact Name:	KEVIN LAMBERT	Email:	klambert@ochca.com
City:	SANTA ANA	Phone Number:	7144336261
Organization Name:	ORANGE COUNTY LOP		

Contact Type:	Local Agency Caseworker	Address:	1241 E. DYER ROAD SUITE 120
Contact Name:	JAMES STROZIER	Email:	jstrozier@ochca.com
City:	SANTA ANA	Phone Number:	7144336273
Organization Name:	ORANGE COUNTY LOP		

Contact Type:	Regional Board Caseworker	Address:	3737 MAIN STREET, SUITE 500
Contact Name:	CARL BERNHARDT	Email:	carl.bernhardt@waterboards.ca.gov
City:	RIVERSIDE	Phone Number:	9517824495
Organization Name:	SANTA ANA RWQCB (REGION 8)		

Status History

Status: Completed - Case Closed
Status Date: 2005-09-29 00:00:00

Status: Open - Site Assessment
Status Date: 1999-12-08 00:00:00

Status: Open - Case Begin Date
Status Date: 1999-01-07 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	SHELL OIL	Address:	23842 EL TORO
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	GASOLINE	CUF Claim:	18950
WDR Place Type:		CUF Priority Assig:	D
WDR File:		CUF Amount Paid:	
WDR Order:			
File Location:	LOCAL AGENCY		
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605902278		
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 9/29/2005		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605902278&tabname=regulatoryhistory		
Potential Media Of Concern:	OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)		
User Defined Beneficial Use:	GW - MUNICIPAL AND DOMESTIC SUPPLY		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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DWR GW Sub Basin:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: ORANGE COUNTY LOP (LEAD) - CASE #: 99UT030
CASEWORKER: KEVIN LAMBERT
CASEWORKER: JAMES STROZIER
SAN DIEGO RWQCB (REGION 9)

Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 9/29/2005

Status: Open - Site Assessment
Date : 12/8/1999

Status: Open - Case Begin Date
Date : 1/7/1999

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type: EXCAVATION
Phase:
Contaminant Mass Removed:
Description:

Begin Date: 1/15/1999
End Date: 9/9/9999

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 9/29/2005
Received Issue Date: 9/29/2005
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902278&enforcement_id=5959327&template=ENFORCEMENT

Action Type: Leak Action
Action Date: 3/17/1999
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Cleanup Action
Action Date: 1/15/1999
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Leak Action
Action Date: 1/7/1999
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/6239072501/T0605902278.pdf
Size : 48 KB
Submitted By: DONNA NGO (CONTRACTOR)
Submitted: 9/10/2002

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type:	Site Documents	Size :	139 KB
Document Date:	10/7/2005	Submitted By:	(REGULATOR)
Type:		Submitted:	
Title:	REMEDIAL ACTION COMPLETION CERTIFICATION		
Title Link:	http://geotracker.waterboards.ca.gov/site_documents/3692265152/99UT030%2Epdf		
Document Type:	Site Documents	Size :	6,046 KB
Document Date:	10/7/2005	Submitted By:	(REGULATOR)
Type:		Submitted:	
Title:	CASE CLOSURE SUMMARY		
Title Link:	http://geotracker.waterboards.ca.gov/site_documents/6276798844/99UT030%2Epdf		
Document Type:	Site Documents	Size :	
Document Date:	9/29/2005	Submitted By:	PAMELA YBARRA (REGULATOR)
Type:	CLOSURE/NO FURTHER ACTION LETTER	Submitted:	
Title:	REMEDIAL ACTION COMPLETION CERTIFICATION AND CASE CLOSURE SUMMARY		
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605902278&enforcement_id=5959327		
Document Type:	Site Documents	Size :	14 KB
Document Date:	6/3/2005	Submitted By:	DONNA NGO (CONTRACTOR)
Type:	REPORTS - CLOSURE RPT.	Submitted:	
Title:	ADDENDUM 2 TO EVALUATION OF DISSOLVED-PHASE PLUME CONDITIONS		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5721341788/T0605902278.PDF		
Document Type:	Site Documents	Size :	8 KB
Document Date:	6/3/2005	Submitted By:	DONNA NGO (CONTRACTOR)
Type:	REPORTS - CLOSURE RPT.	Submitted:	
Title:	ADDENDUM TO EVALUATIO OF DISSOLVED-PHASE PLUME CONDITIONS		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3377821207/T0605902278.PDF		
Document Type:	Site Documents	Size :	1,905 KB
Document Date:	6/3/2005	Submitted By:	DONNA NGO (CONTRACTOR)
Type:	REPORTS - CLOSURE RPT.	Submitted:	
Title:	EVALUATION OF DISSOLVED-PHASE PLUME CONDITIONS, STABILITY, LONGEVITY AND POTENTIAL BENEFICIAL USE GROUNDWATER IMPAIRMENT		
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1790982902/T0605902278.PDF		

38	1 of 2	SSW	0.47 / 2,497.58	374.20 / -26	THE SHOPS AT LAKE FOREST SHOPPING CENTER 24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	DEED
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Global ID: SL208213876
Site Type: Cleanup Program Site
Status: Open - Remediation
Status Date: 1/14/2013
County: Orange
Latitude: 33.6155271839302
Longitude: -117.704966068267
Search URL: https://geotracker.waterboards.ca.gov/profile_report?global_id=SL208213876

38	2 of 2	SSW	0.47 / 2,497.58	374.20 / -26	THE SHOPS AT LAKE FOREST SHOPPING CENTER 24312-24422 ROCKFIELD BOULEVARD LAKE FOREST CA 92630	CLEANUP SITES
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Global ID: SL208213876
Status: OPEN - REMEDIATION
Status Date: 2013-01-14 00:00:00
Site Code:
Data Source: Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download

Site Facility Type: CLEANUP PROGRAM SITE
County: ORANGE
Latitude: 33.6155271839302
Longitude: -117.704966068267

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: SL208213876
Local Case Number:
Begin Date: 1996-01-01 00:00:00
Stop Method:
Lead Agency: SANTA ANA RWQCB (REGION 8)
Local Agency:
Potential COC:
Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered: * RPR
How Discovered Description:
Stop Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

The Site is in the Orange County Groundwater Management Zone of the Santa Ana River Watershed. The Site is a former dry cleaner located in a shopping center on the southeast corner of El Toro Road and Rockfield Boulevard in Lake Forest, approximately 700 feet to the north of Interstate 5 Freeway (the freeway). The shopping center was developed in the late 1960s and early 1970s. The dry cleaner location was operational since the completion of the shopping center until February 2007. The former dry cleaning facility is currently vacant. Several subsurface investigations were performed at the Site between 1991 and 1998. Chlorinated volatile organic compounds (VOCs), including tetrachloroethylene (PCE), trichloroethylene (TCE), 1,2-dichloroethylene (DCE), 1,1-DCE, and 1,2-dichloroethane (DCA) have been detected as a result of this release. However, PCE was the primary contaminant that was encountered in the soil and groundwater at the Site. Groundwater monitoring wells MW-1A, MW-2, MW-3, and MW-6 and deep monitoring wells DMW-1, DMW-2, and DMW-3 were installed in the parking lot just to the south of the dry cleaner building. Two additional wells, MW-4 (shallow) and MW-103 (deep) were also installed on the southern edge of the shopping center prior to 1999. Additional monitoring wells MW-7 through MW-12 and MW-14 were installed in the vegetation covered areas next to the entrance and exit ramps for the freeway. One monitoring well, MW-13, was installed to the south of the freeway as a downgradient well to monitor the migration of the groundwater plume in that area. The highest PCE concentration detected in the groundwater was in monitoring well MW-1A at 40,000 micrograms per liter (µg/L) in February 1997. MW-1A is located approximately 20 feet to the south of the former dry cleaning building. From March 2000 to June 2004, ENVIRON operated a 2-PHASE extraction system at the Site to treat impacted soil and groundwater. A horizontal vapor extraction well was extended from the parking lot under the dry cleaning facility to improve soil vapor recovery in that area. Pneumatic fracturing of the soil around well SVE-1 was also applied, to enhance the recovery of soil gas from that well. Approximately 224 million cubic feet of vapor were treated, and 704 pounds of VOCs were removed. A pilot test for injection of sodium permanganate was conducted in August 2005, and a full-scale injection was conducted in February 2007. A total of 31,700 gallons of 10% sodium permanganate solution was injected into soil and groundwater at 32 injection points at on and off-site locations. Depth to groundwater in the onsite wells is in the range of 12.50 and 13.50 feet below ground surface (bgs). Groundwater appears to flow towards the west to southwest with an onsite gradient of 0.004 foot/foot. In April 2009, RB agreed to a reduction of groundwater monitoring frequency from quarterly to semi-annual. PCE concentration in some of the on-site and downgradient wells have shown considerable rebound from their values immediately after the implementation of ISCO. In August 2009 CPT and groundwater sampling was conducted in the off-site downgradient area located to the South of I-5 Freeway. Low concentrations of PCE was detected in the shallow groundwater. Sampling results from September 2009 groundwater monitoring showed higher concentrations of PCE in some of the on-site wells located immediately downgradient of the source area. This provided evidence that a) ISCO does not provide a long-term and permanent solution for the groundwater issue and b) residual concentrations of PCE in soil are still contributing to the groundwater contamination. Additional soil and soil gas sampling was conducted in March 2010 at the source area. A RAP was submitted in December 2011 and commented on in January 2012. Soil excavation in the source area was proposed in the RAP.

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Acitivity

Action Type: ENFORCEMENT
Date : 2019-01-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2019-01-15 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 2018-08-14 00:00:00
Action: Correspondence

Action Type: ENFORCEMENT
Date : 2018-07-25 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2018-06-20 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:		Letter - Notice				
Action Type:		ENFORCEMENT				
Date :		2018-06-06 00:00:00				
Action:		Annual Estimation Letter				
Action Type:		ENFORCEMENT				
Date :		2018-05-24 00:00:00				
Action:		Access Agreement				
Action Type:		ENFORCEMENT				
Date :		2018-05-14 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2018-05-10 00:00:00				
Action:		Access Agreement				
Action Type:		ENFORCEMENT				
Date :		2018-05-03 00:00:00				
Action:		Amendment to Order				
Action Type:		ENFORCEMENT				
Date :		2018-05-01 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2018-04-19 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2018-03-01 00:00:00				
Action:		Electronic Reporting Submittal Due				
Action Type:		ENFORCEMENT				
Date :		2018-01-11 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2017-12-20 00:00:00				
Action:		Response to Comments				
Action Type:		ENFORCEMENT				
Date :		2017-12-07 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2017-11-30 00:00:00				
Action:		Well Installation Workplan				
Action Type:		RESPONSE				
Date :		2017-11-10 00:00:00				
Action:		Proposed Plan				
Action Type:		RESPONSE				
Date :		2017-10-27 00:00:00				
Action:		Proposed Plan				
Action Type:		ENFORCEMENT				
Date :		2017-10-12 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2017-09-14 00:00:00				
Action:		Proposed Plan				
Action Type:		RESPONSE				
Date :		2017-09-14 00:00:00				
Action:		Other Workplan				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		RESPONSE				
Date :		2017-06-30 00:00:00				
Action:		Correspondence				
Action Type:		ENFORCEMENT				
Date :		2017-06-08 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2017-05-12 00:00:00				
Action:		Letter - Notice				
Action Type:		ENFORCEMENT				
Date :		2017-01-12 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2016-07-12 00:00:00				
Action:		Letter - Notice				
Action Type:		ENFORCEMENT				
Date :		2016-02-25 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2016-02-24 00:00:00				
Action:		Well Installation Workplan				
Action Type:		ENFORCEMENT				
Date :		2015-09-15 00:00:00				
Action:		Closure/No Further Action Letter				
Action Type:		ENFORCEMENT				
Date :		2015-07-15 00:00:00				
Action:		Deed Restriction / Land Use Restriction / Covenant - #2015000378120				
Action Type:		ENFORCEMENT				
Date :		2014-06-20 00:00:00				
Action:		Waste Discharge Requirements - #R8-2013-0029-016				
Action Type:		ENFORCEMENT				
Date :		2014-04-28 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2014-04-11 00:00:00				
Action:		Other Report / Document				
Action Type:		RESPONSE				
Date :		2013-12-18 00:00:00				
Action:		Corrective Action Plan / Remedial Action Plan - Addendum				
Action Type:		RESPONSE				
Date :		2013-11-06 00:00:00				
Action:		Feasibility Study Report				
Action Type:		RESPONSE				
Date :		2013-10-03 00:00:00				
Action:		Correspondence				
Action Type:		ENFORCEMENT				
Date :		2013-06-12 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2013-06-05 00:00:00				
Action:		Correspondence				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		ENFORCEMENT				
Date :		2013-02-25 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2012-12-06 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2012-12-04 00:00:00				
Action:		Other Workplan				
Action Type:		RESPONSE				
Date :		2012-11-15 00:00:00				
Action:		Fact Sheets - Public Participation				
Action Type:		ENFORCEMENT				
Date :		2012-10-15 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2012-10-10 00:00:00				
Action:		CAP/RAP - Other Report				
Action Type:		ENFORCEMENT				
Date :		2012-09-27 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2012-09-14 00:00:00				
Action:		Corrective Action Plan / Remedial Action Plan				
Action Type:		ENFORCEMENT				
Date :		2012-07-03 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2012-06-26 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2012-06-18 00:00:00				
Action:		Pilot Study / Treatability Workplan				
Action Type:		ENFORCEMENT				
Date :		2012-05-07 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		ENFORCEMENT				
Date :		2012-04-10 00:00:00				
Action:		Meeting				
Action Type:		RESPONSE				
Date :		2012-02-29 00:00:00				
Action:		Pilot Study/ Treatability Report				
Action Type:		ENFORCEMENT				
Date :		2012-01-10 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				
Date :		2011-12-09 00:00:00				
Action:		Corrective Action Plan / Remedial Action Plan				
Action Type:		ENFORCEMENT				
Date :		2011-10-26 00:00:00				
Action:		Technical Correspondence / Assistance / Other				
Action Type:		RESPONSE				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:					Technical Correspondence / Assistance / Other	
Action Type:					RESPONSE	
Date :					2010-10-15 00:00:00	
Action:					Monitoring Report - Semi-Annually	
Action Type:					RESPONSE	
Date :					2010-10-01 00:00:00	
Action:					Pilot Study / Treatability Workplan	
Action Type:					ENFORCEMENT	
Date :					2010-09-02 00:00:00	
Action:					Technical Correspondence / Assistance / Other	
Action Type:					RESPONSE	
Date :					2010-07-22 00:00:00	
Action:					Site Investigation Workplan	
Action Type:					RESPONSE	
Date :					2010-07-22 00:00:00	
Action:					Feasibility Study Report	
Action Type:					RESPONSE	
Date :					2010-05-12 00:00:00	
Action:					Technical Memos	
Action Type:					RESPONSE	
Date :					2010-04-15 00:00:00	
Action:					Monitoring Report - Semi-Annually	
Action Type:					RESPONSE	
Date :					2010-03-31 00:00:00	
Action:					Site Investigation	
Action Type:					ENFORCEMENT	
Date :					2010-01-28 00:00:00	
Action:					Technical Correspondence / Assistance / Other	
Action Type:					RESPONSE	
Date :					2009-12-14 00:00:00	
Action:					Correspondence	
Action Type:					ENFORCEMENT	
Date :					2009-11-12 00:00:00	
Action:					Technical Correspondence / Assistance / Other	
Action Type:					RESPONSE	
Date :					2009-10-15 00:00:00	
Action:					Monitoring Report - Semi-Annually	
Action Type:					RESPONSE	
Date :					2009-09-15 00:00:00	
Action:					Site Investigation	
Action Type:					ENFORCEMENT	
Date :					2009-06-18 00:00:00	
Action:					Technical Correspondence / Assistance / Other	
Action Type:					RESPONSE	
Date :					2009-05-01 00:00:00	
Action:					Other Workplan	
Action Type:					RESPONSE	
Date :					2009-04-15 00:00:00	
Action:					Monitoring Report - Other	
Action Type:					ENFORCEMENT	
Date :					2009-04-01 00:00:00	
Action:					Technical Correspondence / Assistance / Other	

Action Type: RESPONSE
Date : 2008-12-24 00:00:00
Action: Other Report / Document

Action Type: RESPONSE
Date : 2008-12-24 00:00:00
Action: Other Workplan

Action Type: ENFORCEMENT
Date : 2008-10-14 00:00:00
Action: Technical Correspondence / Assistance / Other

Action Type: Other
Date : 1965-01-02 00:00:00
Action: Leak Reported

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Open - Remediation
Status Date: 2013-01-14 00:00:00

Status: Open - Site Assessment
Status Date: 2012-04-01 00:00:00

Status: Open - Assessment & Interim Remedial Action
Status Date: 2009-06-18 00:00:00

Status: Open - Remediation
Status Date: 2009-06-18 00:00:00

Status: Open - Case Begin Date
Status Date: 1996-01-01 00:00:00

Status: Open
Status Date: 1996-01-01 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type:	Regional Board Caseworker	Address:	3737 Main St, Suite 500
Contact Name:	Mona Behrooz	City:	RIVERSIDE
Phone Number:	9517823237		
Organization Name:	SANTA ANA RWQCB (REGION 8)		
Email:	mehrhoosh.behrooz@waterboards.ca.gov		

Cleanup Program Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Project Status:		WDR Place Type:	
CUF Claim:		WDR File:	
CUF Priority Assign:		WDR Order:	
CUF Amount Paid:		File Location:	REGIONAL BOARD
User Defined Beneficial Use:			
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=SL208213876		
Cleanup Status Detail:	OPEN - REMEDIATION AS OF 1/14/2013		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL208213876&tabname=regulatoryhistory		
Potential COC:	VOLATILE ORGANIC COMPOUNDS		
Potential Media Of Concern:	OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)		
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
Post Closure Site Management:	ACTIVITIES PROHIBITED WHICH DISTURB THE REMEDY AND MONITORING SYSTEMS WITHOUT APPROVAL DAY CARE CENTER PROHIBITED ELDER CARE CENTER PROHIBITED HOSPITAL USE PROHIBITED		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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LAND USE COVENANT
 NO EXCAVATION OF CONTAMINATED SOILS WITHOUT AGENCY REVIEW AND APPROVAL
 NOTIFY PRIOR TO DEVELOPMENT
 NOTIFY PRIOR TO SUBSURFACE WORK
 PUBLIC OR PRIVATE SCHOOL FOR PERSONS UNDER 21 PROHIBITED
 RAISING OF FOOD PROHIBITED
 RESIDENCE USE PROHIBITED

Future Land Use:

COMMERCIAL
 INDUSTRIAL

Cleanup Oversight Agencies:

SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: SL208213876
 CASEWORKER: Mona Behrooz

Site History:

The Site is in the Orange County Groundwater Management Zone of the Santa Ana River Watershed. The Site is a former dry cleaner located in a shopping center on the southeast corner of El Toro Road and Rockfield Boulevard in Lake Forest, approximately 700 feet to the north of Interstate 5 Freeway (the freeway). The shopping center was developed in the late 1960s and early 1970s. The dry cleaner location was operational since the completion of the shopping center until February 2007. The former dry cleaning facility is currently vacant.

Several subsurface investigations were performed at the Site between 1991 and 1998. Chlorinated volatile organic compounds (VOCs), including tetrachloroethylene (PCE), trichloroethylene (TCE), 1,2-dichloroethylene (DCE), 1,1-DCE, and 1,2-dichloroethane (DCA) have been detected as a result of this release. However, PCE was the primary contaminant that was encountered in the soil and groundwater at the Site. Groundwater monitoring wells MW-1A, MW-2, MW-3, and MW-6 and deep monitoring wells DMW-1, DMW-2, and DMW-3 were installed in the parking lot just to the south of the dry cleaner building. Two additional wells, MW-4 (shallow) and MW-103 (deep) were also installed on the southern edge of the shopping center prior to 1999. Additional monitoring wells MW-7 through MW-12 and MW-14 were installed in the vegetation covered areas next to the entrance and exit ramps for the freeway. One monitoring well, MW-13, was installed to the south of the freeway as a downgradient well to monitor the migration of the groundwater plume in that area.

The highest PCE concentration detected in the groundwater was in monitoring well MW-1A at 40,000 micrograms per liter (µg/L) in February 1997. MW-1A is located approximately 20 feet to the south of the former dry cleaning building. From March 2000 to June 2004, ENVIRON operated a 2-PHASE extraction system at the Site to treat impacted soil and groundwater. A horizontal vapor extraction well was extended from the parking lot under the dry cleaning facility to improve soil vapor recovery in that area. Pneumatic fracturing of the soil around well SVE-1 was also applied, to enhance the recovery of soil gas from that well. Approximately 224 million cubic feet of vapor were treated, and 704 pounds of VOCs were removed.

A pilot test for injection of sodium permanganate was conducted in August 2005, and a full-scale injection was conducted in February 2007. A total of 31,700 gallons of 10% sodium permanganate solution was injected into soil and groundwater at 32 injection points at on and off-site locations. Depth to groundwater in the onsite wells is in the range of 12.50 and 13.50 feet below ground surface (bgs). Groundwater appears to flow towards the west to southwest with an onsite gradient of 0.004 foot/foot. In April 2009, RB agreed to a reduction of groundwater monitoring frequency from quarterly to semi-annual. PCE concentration in some of the on-site and downgradient wells have shown considerable rebound from their values immediately after the implementation of ISCO. In August 2009 CPT and groundwater sampling was conducted in the off-site downgradient area located to the South of I-5 Freeway. Low concentrations of PCE was detected in the shallow groundwater. Sampling results from September 2009 groundwater monitoring showed higher concentrations of PCE in some of the on-site wells located immediately downgradient of the source area. This provided evidence that a) ISCO does not provide a long-term and permanent solution for the groundwater issue and b) residual concentrations of PCE in soil are still contributing to the groundwater contamination. Additional soil and soil gas sampling was conducted in March 2010 at the source area.

A RAP was submitted in December 2011 and commented on in January 2012. Soil excavation in the source area was proposed in the RAP.

Cleanup Program Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 1/15/2019
Received Issue Date: 1/15/2019
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6382201&tempable=ENFORCEMENT

Title Description Comments:

RE Remedial Action Work Plan Addendum for Off-Site Groundwater Remediation

Action Type: Response Requested - Other
Action Date: 8/14/2018
Received Issue Date: 8/14/2018
Action: Correspondence
Doc Link:

Title Description Comments:

BH Revised CSM Submittal Date - Rev.2

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Type:		Other Regulatory Actions				
Action Date:		7/25/2018				
Received Issue Date:		7/25/2018				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6364857&template=ENFORCEMENT				
Title Description Comments:						
Soil Confirmation Sampling at the Proposed Excavation Area						
Action Type:		Notices				
Action Date:		6/20/2018				
Received Issue Date:		6/20/2018				
Action:		Letter - Notice				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361765&template=ENFORCEMENT				
Title Description Comments:						
2 nd Access Request						
Action Type:		Other Regulatory Actions				
Action Date:		6/6/2018				
Received Issue Date:		6/6/2018				
Action:		Annual Estimation Letter				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6360325&template=ENFORCEMENT				
Title Description Comments:						
The Shop at Lake Forest						
Action Type:		Agreements				
Action Date:		5/24/2018				
Received Issue Date:		5/24/2018				
Action:		Access Agreement				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361173&template=ENFORCEMENT				
Title Description Comments:						
Access Request						
Action Type:		Other Regulatory Actions				
Action Date:		5/14/2018				
Received Issue Date:		5/14/2018				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:						
Title Description Comments:						
RE Work Plan for Additional Investigation-Goldenwest 2						
Action Type:		Agreements				
Action Date:		5/10/2018				
Received Issue Date:		5/10/2018				
Action:		Access Agreement				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6357563&template=ENFORCEMENT				
Title Description Comments:						
The Second Access Request Letter						
Action Type:		Enforcement/Orders				
Action Date:		5/3/2018				
Received Issue Date:		5/3/2018				
Action:		Amendment to Order				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356809&template=ENFORCEMENT				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Title Description Comments:

Amended WDR

Action Type: Other Regulatory Actions
Action Date: 5/1/2018
Received Issue Date: 5/1/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356813&temptable=ENFORCEMENT

Title Description Comments:

CONCURRENCE WITH THE PROPOSED EXCAVATION

Action Type: Other Regulatory Actions
Action Date: 5/1/2018
Received Issue Date: 5/1/2018
Action: Technical Correspondence / Assistance / Other
Doc Link:

Title Description Comments:

The Former Shops at Lake Forest

Action Type: Other Regulatory Actions
Action Date: 4/19/2018
Received Issue Date: 4/19/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356812&temptable=ENFORCEMENT

Title Description Comments:

REQUEST FOR ACCESS TO CONDUCT GROUNDWATER INVESTIGATION

Action Type: Response Requested - Other
Action Date: 3/1/2018
Received Issue Date: 3/1/2018
Action: Electronic Reporting Submittal Due
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5958598

Title Description Comments:

2018-03-01 WDR Application

Action Type: Other Regulatory Actions
Action Date: 1/11/2018
Received Issue Date: 1/11/2018
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6345513&temptable=ENFORCEMENT

Title Description Comments:

RE Revised Pre-Design Work Plan for Full-Scale Groundwater Remedy

Action Type: Response Requested - Other
Action Date: 12/20/2017
Received Issue Date: 12/20/2017
Action: Response to Comments
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5951863

Title Description Comments:

Response to RWQCB Comments Regarding the Revised Pre-Design Work Plan for Full-Scale Groundwater Remedy, Dated December 7, 2017

Action Type: Other Regulatory Actions
Action Date: 12/7/2017
Received Issue Date: 12/7/2017

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342770&template=ENFORCEMENT				
Title Description Comments:						
RE Well Installation Technical Memorandum						
Action Type:		Other Regulatory Actions				
Action Date:		12/7/2017				
Received Issue Date:		12/7/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342747&template=ENFORCEMENT				
Title Description Comments:						
Revised Pre-Design Work Plan for Full-Scale Groundwater Remedy						
Action Type:		Response Requested - Workplans				
Action Date:		11/30/2017				
Received Issue Date:		11/30/2017				
Action:		Well Installation Workplan				
Doc Link:						
Title Description Comments:						
SENTRY-METALS-WELL-INSTALL-MEMO						
Action Type:		Response Requested - Workplans				
Action Date:		11/10/2017				
Received Issue Date:		11/10/2017				
Action:		Proposed Plan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5948854				
Title Description Comments:						
Revised Pre-Design Work Plan_111017						
Action Type:		Response Requested - Workplans				
Action Date:		10/27/2017				
Received Issue Date:		10/27/2017				
Action:		Proposed Plan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5948853				
Title Description Comments:						
Response to RWQCB Comments Regarding the Pre-Design Work Plan						
Action Type:		Other Regulatory Actions				
Action Date:		10/12/2017				
Received Issue Date:		10/12/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6338716&template=ENFORCEMENT				
Title Description Comments:						
RE Pre-Design Work Plan for Full-Scale Groundwater Remedy						
Action Type:		Response Requested - Workplans				
Action Date:		9/14/2017				
Received Issue Date:		9/14/2017				
Action:		Other Workplan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5946033				
Title Description Comments:						
Pre-Design Work Plan for Full-Scale Groundwater Remedy						
Action Type:		Response Requested - Workplans				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action Date:		9/14/2017				
Received Issue Date:		9/14/2017				
Action:		Proposed Plan				
Doc Link:						
Title Description Comments:						
		Pre-Design Work Plan_091417				
Action Type:		Response Requested - Other				
Action Date:		6/30/2017				
Received Issue Date:		6/30/2017				
Action:		Correspondence				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5945222				
Title Description Comments:		Responses to Water Board Comments June 30 2017				
Action Type:		Other Regulatory Actions				
Action Date:		6/8/2017				
Received Issue Date:		6/8/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6322444&template=ENFORCEMENT				
Title Description Comments:		The_Shops_at_the_Lake_Forest_RE_Pilot_Test				
Action Type:		Notices				
Action Date:		5/12/2017				
Received Issue Date:		5/12/2017				
Action:		Letter - Notice				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6319789&template=ENFORCEMENT				
Title Description Comments:		Annual Cost Estimate				
Action Type:		Other Regulatory Actions				
Action Date:		1/12/2017				
Received Issue Date:		1/12/2017				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6308394&template=ENFORCEMENT				
Title Description Comments:		Request for Reports				
Action Type:		Notices				
Action Date:		7/12/2016				
Received Issue Date:		7/12/2016				
Action:		Letter - Notice				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6291892&template=ENFORCEMENT				
Title Description Comments:		Notice of Change of Case Manager				
Action Type:		Other Regulatory Actions				
Action Date:		2/25/2016				
Received Issue Date:		2/25/2016				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6277125&template=ENFORCEMENT				
Title Description Comments:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Comments on Work Plan for Installation of Off-Site Wells

Action Type: Response Requested - Workplans
Action Date: 2/24/2016
Received Issue Date: 2/24/2016
Action: Well Installation Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5881131
Title Description Comments:

Work Plan for the Installation of Off-Site Groundwater Monitoring Wells

Action Type: Other Regulatory Actions
Action Date: 9/15/2015
Received Issue Date: 9/15/2015
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6260531&temptable=ENFORCEMENT
Title Description Comments:

Conditional Determination of No Further Action for Soil

Action Type: Other Regulatory Actions
Action Date: 7/15/2015
Received Issue Date: 7/15/2015
Action: Deed Restriction / Land Use Restriction / Covenant - #2015000378120
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6255157&temptable=ENFORCEMENT
Title Description Comments:

Land Use Covenant

Action Type: Enforcement/Orders
Action Date: 6/20/2014
Received Issue Date: 6/20/2014
Action: Waste Discharge Requirements - #R8-2013-0029-016
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6210816&temptable=ENFORCEMENT
Title Description Comments:

Discharge Authorization and Monitoring and Reporting Program No. R8-2013-0029-016

Action Type: Other Regulatory Actions
Action Date: 4/28/2014
Received Issue Date: 4/28/2014
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6201213&temptable=ENFORCEMENT
Title Description Comments:

Comments on the ROWD Application Package

Action Type: Response Requested - Other
Action Date: 4/11/2014
Received Issue Date: 4/11/2014
Action: Other Report / Document
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803155
Title Description Comments:

Waste Discharge Requirement (WDR) Permit Application

Action Type: Response Requested - Workplans
Action Date: 12/18/2013
Received Issue Date: 12/18/2013
Action: Corrective Action Plan / Remedial Action Plan - Addendum

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803149				
Title Description Comments:						
Second Addendum to Revised Remedial Action Work Plan						
Action Type:		Response Requested - Reports				
Action Date:		11/6/2013				
Received Issue Date:		11/6/2013				
Action:		Feasibility Study Report				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803150				
Title Description Comments:						
Amended Feasibility Study						
Action Type:		Response Requested - Other				
Action Date:		10/3/2013				
Received Issue Date:		10/3/2013				
Action:		Correspondence				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803148				
Title Description Comments:						
Joint Sampling Requirement						
Action Type:		Other Regulatory Actions				
Action Date:		6/12/2013				
Received Issue Date:		6/12/2013				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200872&template=ENFORCEMENT				
Title Description Comments:						
Change of Groundwater Monitoring Frequency						
Action Type:		Other Regulatory Actions				
Action Date:		6/12/2013				
Received Issue Date:		6/12/2013				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200873&template=ENFORCEMENT				
Title Description Comments:						
Comments on the On-Site Residual Source Removal Report						
Action Type:		Response Requested - Other				
Action Date:		6/5/2013				
Received Issue Date:		6/5/2013				
Action:		Correspondence				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803147				
Title Description Comments:						
Pilot test of Enhanced Reductive Dechlorination for Groundwater						
Action Type:		Response Requested - Other				
Action Date:		6/5/2013				
Received Issue Date:		6/5/2013				
Action:		Correspondence				
Doc Link:						
Title Description Comments:						
Pilot test of Enhanced Reductive Dechlorination for Groundwater						
Action Type:		Other Regulatory Actions				
Action Date:		2/25/2013				
Received Issue Date:		2/25/2013				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200877&template=ENFORCEMENT				
Title Description Comments:						
SVE-1 Abandonment						
Action Type:		Other Regulatory Actions				
Action Date:		12/6/2012				
Received Issue Date:		12/6/2012				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200867&template=ENFORCEMENT				
Title Description Comments:						
Comments on th Contingency Plan						
Action Type:		Response Requested - Workplans				
Action Date:		12/4/2012				
Received Issue Date:		12/4/2012				
Action:		Other Workplan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803141				
Title Description Comments:						
Contingency Plan to Continue the Migration Pattern for the VOCs in the Downgradient Area of MW-13						
Action Type:		Response Requested - Other				
Action Date:		11/15/2012				
Received Issue Date:		11/15/2012				
Action:		Fact Sheets - Public Participation				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5803140				
Title Description Comments:						
Fact Sheet - Environmental Cleanup Program Planned to Begin January 2013						
Action Type:		Other Regulatory Actions				
Action Date:		10/15/2012				
Received Issue Date:		10/15/2012				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6142238&template=ENFORCEMENT				
Title Description Comments:						
Approval of the Remedial Action Work Plan						
Action Type:		Response Requested - Reports				
Action Date:		10/10/2012				
Received Issue Date:		10/10/2012				
Action:		CAP/RAP - Other Report				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5756961				
Title Description Comments:						
Addendum to revised Remedial Action Work Plan						
Action Type:		Other Regulatory Actions				
Action Date:		9/27/2012				
Received Issue Date:		9/27/2012				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139320&template=ENFORCEMENT				
Title Description Comments:						
Comments on the Revised Remedial Action Work Plan						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type:		Response Requested - Workplans				
Action Date:		9/14/2012				
Received Issue Date:		9/14/2012				
Action:		Corrective Action Plan / Remedial Action Plan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5753834				
Title Description Comments:		Revised Remedial Action Work Plan				
Action Type:		Other Regulatory Actions				
Action Date:		7/3/2012				
Received Issue Date:		7/3/2012				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139324&template=ENFORCEMENT				
Title Description Comments:		Comments on Work Plan for Off-Site Pilot Test of Enhanced Reductive Dechlorination				
Action Type:		Response Requested - Workplans				
Action Date:		6/18/2012				
Received Issue Date:		6/18/2012				
Action:		Pilot Study / Treatability Workplan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5753835				
Title Description Comments:		Work Plan for Off-Site Pilot Test of Enhanced Reductive Dechlorination				
Action Type:		Other Regulatory Actions				
Action Date:		5/7/2012				
Received Issue Date:		5/7/2012				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121151&template=ENFORCEMENT				
Title Description Comments:		Comments on the Report of Off-Site Bio-Trap Extended Field Study				
Action Type:		Other Regulatory Actions				
Action Date:		4/10/2012				
Received Issue Date:		4/10/2012				
Action:		Meeting				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121154&template=ENFORCEMENT				
Title Description Comments:		Summary of the Meeting for the Shops at Lake Forest				
Action Type:		Response Requested - Reports				
Action Date:		2/29/2012				
Received Issue Date:		2/29/2012				
Action:		Pilot Study/ Treatability Report				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5736574				
Title Description Comments:		Report of Off-Site Bio-Trap Extended Field Study				
Action Type:		Other Regulatory Actions				
Action Date:		1/10/2012				
Received Issue Date:		1/10/2012				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6119120&template=ENFORCEMENT				
Title Description Comments:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Comments on Remedial Action Work Plan

Action Type: Response Requested - Workplans
Action Date: 12/9/2011
Received Issue Date: 12/9/2011
Action: Corrective Action Plan / Remedial Action Plan
Doc Link:
Title Description Comments:

Remedial Action Work Plan

Action Type: Response Requested - Workplans
Action Date: 12/9/2011
Received Issue Date: 12/9/2011
Action: Corrective Action Plan / Remedial Action Plan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5735511
Title Description Comments:

Remedial Action Work Plan

Action Type: Other Regulatory Actions
Action Date: 10/26/2011
Received Issue Date: 10/26/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6105775&template=ENFORCEMENT
Title Description Comments:

Comments on the Vapor Intrusion and Human Health Risk Evaluation Report

Action Type: Response Requested - Reports
Action Date: 10/10/2011
Received Issue Date: 10/10/2011
Action: Monitoring Report - Semi-Annually
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5726821
Title Description Comments:

2011 Second Semi-Annual Groundwater Monitoring Report

Action Type: Response Requested - Reports
Action Date: 8/1/2011
Received Issue Date: 8/1/2011
Action: Risk Assessment Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5726820
Title Description Comments:

Vapor Intrusion and Human Health Risk Evaluation

Action Type: Other Regulatory Actions
Action Date: 7/6/2011
Received Issue Date: 7/6/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097004&template=ENFORCEMENT
Title Description Comments:

Comments on Work Plan for Additional Off-Site Microbial Sufficiency Field Study

Action Type: Response Requested - Workplans
Action Date: 6/23/2011
Received Issue Date: 6/23/2011
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720537
Title Description Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Work Plan for Additional Off-Site Microbial Sufficiency Field Study

Action Type: Other Regulatory Actions
Action Date: 6/1/2011
Received Issue Date: 6/1/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097002&template=ENFORCEMENT

Title Description Comments:

Comments on the Report of Indoor Air, Soil Vapor, and Soil Sampling at Adjacent Units

Action Type: Other Regulatory Actions
Action Date: 5/24/2011
Received Issue Date: 5/24/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096999&template=ENFORCEMENT

Title Description Comments:

Comments on the Report of Off-Site Bench-Scale Microbial Sufficiency Study

Action Type: Response Requested - Other
Action Date: 5/20/2011
Received Issue Date: 5/20/2011
Action: Correspondence
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720539

Title Description Comments:

Response to Comments on the Revised Work Plan for On-Site Residual Source Removal

Action Type: Response Requested - Reports
Action Date: 4/29/2011
Received Issue Date: 4/29/2011
Action: Pilot Study/ Treatability Report
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720538

Title Description Comments:

Report of Off-Site Bench-Scale Microbial Sufficiency Study

Action Type: Other Regulatory Actions
Action Date: 4/21/2011
Received Issue Date: 4/21/2011
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096998&template=ENFORCEMENT

Title Description Comments:

Comments on the Revised Work Plan for On-Site Residual Source Removal

Action Type: Response Requested - Workplans
Action Date: 4/14/2011
Received Issue Date: 4/14/2011
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720540

Title Description Comments:

Revised Work Plan for On-Site Residual Source Removal

Action Type: Response Requested - Reports
Action Date: 4/14/2011
Received Issue Date: 4/14/2011
Action: Monitoring Report - Semi-Annually

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720542				
Title Description Comments:						
March 2011 Groundwater Monitoring Report						
Action Type:		Response Requested - Reports				
Action Date:		3/22/2011				
Received Issue Date:		3/22/2011				
Action:		Technical Memos				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5720541				
Title Description Comments:						
Report of Indoor Air, Soil, Soil Vapor, and Soil Sampling at Adjacent Tenant Units						
Action Type:		Other Regulatory Actions				
Action Date:		2/23/2011				
Received Issue Date:		2/23/2011				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6084131&template=ENFORCEMENT				
Title Description Comments:						
Comments on the Work Plan for On-Site Residual Source Removal						
Action Type:		Other Regulatory Actions				
Action Date:		1/20/2011				
Received Issue Date:		1/20/2011				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075144&template=ENFORCEMENT				
Title Description Comments:						
Comments on the Work Plan for Indoor Air, Soil Vapor, and Soil Sampling at Adjacent Tenant Units						
Action Type:		Response Requested - Workplans				
Action Date:		12/29/2010				
Received Issue Date:		12/29/2010				
Action:		Other Workplan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5703709				
Title Description Comments:						
Work Plan for Indoor Air, Soil vapor, and Soil Sampling at Adjacent Tenant Units						
Action Type:		Other Regulatory Actions				
Action Date:		11/30/2010				
Received Issue Date:		11/30/2010				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075141&template=ENFORCEMENT				
Title Description Comments:						
Comments on the Report of October 2010 Additional On-Site Investigation						
Action Type:		Response Requested - Reports				
Action Date:		11/5/2010				
Received Issue Date:		11/5/2010				
Action:		Site Investigation				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5703710				
Title Description Comments:						
Report of October 2010 Additional On-Site Investigation						
Action Type:		Other Regulatory Actions				
Action Date:		11/4/2010				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Received Issue Date:		11/4/2010				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6069249&template=ENFORCEMENT				
Title Description Comments:						
Comments on Work Plan for Off-Site Bench-Scale Microbial Sufficiency Study						
Action Type:		Response Requested - Reports				
Action Date:		10/15/2010				
Received Issue Date:		10/15/2010				
Action:		Monitoring Report - Semi-Annually				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5703711				
Title Description Comments:						
August 2010 Groundwater Monitoring Report						
Action Type:		Response Requested - Workplans				
Action Date:		10/1/2010				
Received Issue Date:		10/1/2010				
Action:		Pilot Study / Treatability Workplan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5699400				
Title Description Comments:						
Work Plan for Off-Site Bench-Scale Microbial Sufficiency Study						
Action Type:		Other Regulatory Actions				
Action Date:		9/2/2010				
Received Issue Date:		9/2/2010				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062897&template=ENFORCEMENT				
Title Description Comments:						
Comments on Feasibility Study for Off-Site Area						
Action Type:		Other Regulatory Actions				
Action Date:		9/2/2010				
Received Issue Date:		9/2/2010				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062896&template=ENFORCEMENT				
Title Description Comments:						
Comments on Work pLan for Additional On-Site Soil and Soil Vapor Sampling						
Action Type:		Response Requested - Workplans				
Action Date:		7/22/2010				
Received Issue Date:		7/22/2010				
Action:		Site Investigation Workplan				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5699405				
Title Description Comments:						
Work Plan for Additional On-Site Soil and Soil Vapor Sampling						
Action Type:		Response Requested - Reports				
Action Date:		7/22/2010				
Received Issue Date:		7/22/2010				
Action:		Feasibility Study Report				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5699407				
Title Description Comments:						
Feasibility Study for Off-Site Area						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type:		Response Requested - Reports				
Action Date:		5/12/2010				
Received Issue Date:		5/12/2010				
Action:		Technical Memos				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5667741				
Title Description Comments:		Focused Feasibility Study and Risk Based Target Concentration for Off-Site Groundwater Remediation - Reviewed the RBTC. Requested a stand alone FS document.				
Action Type:		Response Requested - Reports				
Action Date:		4/15/2010				
Received Issue Date:		4/15/2010				
Action:		Monitoring Report - Semi-Annually				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5667742				
Title Description Comments:		March 2010 Groundwater Monitoring Report - Reviewed the report.				
Action Type:		Response Requested - Reports				
Action Date:		3/31/2010				
Received Issue Date:		3/31/2010				
Action:		Site Investigation				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5667743				
Title Description Comments:		Report of March 2010 Additional On-Site Investigation - Reviewed the report.				
Action Type:		Other Regulatory Actions				
Action Date:		1/28/2010				
Received Issue Date:		1/28/2010				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045889&template=ENFORCEMENT				
Title Description Comments:		Comments on Environ's December 14, 2009 Submittal				
Action Type:		Response Requested - Other				
Action Date:		12/14/2009				
Received Issue Date:		12/14/2009				
Action:		Correspondence				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5663540				
Title Description Comments:		Responses to Comments on the Report for Additional Investigation - Reviewed the response.				
Action Type:		Other Regulatory Actions				
Action Date:		11/12/2009				
Received Issue Date:		11/12/2009				
Action:		Technical Correspondence / Assistance / Other				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045887&template=ENFORCEMENT				
Title Description Comments:		Comments on the Report for Additional Off-Site Investigation and September 2009 Groundwater Monitoring Report				
Action Type:		Response Requested - Reports				
Action Date:		10/15/2009				
Received Issue Date:		10/15/2009				
Action:		Monitoring Report - Semi-Annually				
Doc Link:		http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5663536				
Title Description Comments:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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September 2009 Groundwater Monitoring Report - Reviewed the report.

Action Type: Response Requested - Reports
Action Date: 9/15/2009
Received Issue Date: 9/15/2009
Action: Site Investigation
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5651165
Title Description Comments:

Report of Additional Off-Site Investigation 2009 - Reviewed the report and responded through e-mail requesting iso-concentration contours for PCE.

Action Type: Other Regulatory Actions
Action Date: 6/18/2009
Received Issue Date: 6/18/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6027437&template=ENFORCEMENT

Title Description Comments:

Approval of the Work Plan for Additional Off-Site Investigation

Action Type: Response Requested - Workplans
Action Date: 5/1/2009
Received Issue Date: 5/1/2009
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5648522
Title Description Comments:

Work Plan for Additional Off-Site Investigation - Reviewed the work plan.

Action Type: Response Requested - Reports
Action Date: 4/15/2009
Received Issue Date: 4/15/2009
Action: Monitoring Report - Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5636631
Title Description Comments:

March 2009 Groundwater Monitoring Report - Reviewed the report and discussed with the consultant.

Action Type: Other Regulatory Actions
Action Date: 4/1/2009
Received Issue Date: 4/1/2009
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6009352&template=ENFORCEMENT

Title Description Comments:

Comments on the Responses to Comments for the March and June 2008 Groundwater Monitoring Report and Work Plan for Confirmation Soil Vapor Sampling

Action Type: Response Requested - Workplans
Action Date: 12/24/2008
Received Issue Date: 12/24/2008
Action: Other Workplan
Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5627546
Title Description Comments:

March and June Groundwater Monitoring Report and Work Plan for Confirmation Soil Vapor Sampling - Reviewed the document and discussed with the consultant.

Action Type: Response Requested - Other
Action Date: 12/24/2008
Received Issue Date: 12/24/2008
Action: Other Report / Document

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Doc Link: http://geotracker.waterboards.ca.gov/view_documents_all?global_id=SL208213876&doc_id=5627547
Title Description Comments:

Responses to Comments for the March and June 2008 Groundwater Monitoring Report and Work Plan for Confirmation Soil Sampling - Reviewed the document and discussed with the consultant.

Action Type: Other Regulatory Actions
Action Date: 10/14/2008
Received Issue Date: 10/14/2008
Action: Technical Correspondence / Assistance / Other
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=5997738&temptable=ENFORCEMENT

Title Description Comments:

Comments on the Work Plan for Confirmation Soil Vapor Sampling

Action Type: Leak Action
Action Date: 1/2/1965
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Cleanup Program Sites from GeoTracker Search - Deed Restrictions(as of Jan 18, 2019)

Date Recorded: 7/15/2015
Site Management Requirements: DAY CARE CENTER PROHIBITED, ELDER CARE CENTER PROHIBITED, HOSPITAL USE PROHIBITED, LAND USE COVENANT, NO EXCAVATION OF CONTAMINATED SOILS WITHOUT AGENCY REVIEW AND APPROVAL, NOTIFY PRIOR TO SUBSURFACE WORK, RESIDENCE USE PROHIBITED
Covenant Doc Link: http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/8256808221/Land%20Use%20Covenant_recorded.pdf

Cleanup Program Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents
Document Date: 1/15/2019
Submitted:
Submitted By: MONA BEHROOZ (REGULATOR)
Size :
Title: RE REMEDIAL ACTION WORK PLAN ADDENDUM FOR OFF-SITE GROUNDWATER REMEDIATION
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6382201
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER

Document Type: Site Documents
Document Date: 10/16/2018
Submitted:
Submitted By: RAY HANNON (AUTH_RP)
Size : 13,515 KB
Title: THIRD QUARTER 2018 WDR COMPLIANCE MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5542447030/SL208213876.PDF
Type: NPDES / WDR REPORTS

Document Type: Site Documents
Document Date: 10/12/2018
Submitted:
Submitted By: RAY HANNON (AUTH_RP)
Size : 18,077 KB
Title: 2018-10-12 CPS RAW ADENDUM
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8474890589/SL208213876.PDF
Type: REMOVAL ACTION WORK PLAN

Document Type: Monitoring Reports
Document Date: 8/2/2018
Submitted:
Submitted By: RAY HANNON (AUTH_RP)
Size : 10,528 KB
Title: FIRST SEMI-ANNUAL 2018 GROUNDWATER MONITORING REPORT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7061856210/SL208213876.PDF
Type: MONITORING REPORT - SEMI-ANNUALLY

Document Type: Site Documents
Document Date: 7/31/2018
Submitted:
Submitted By: RAY HANNON (AUTH_RP)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Size :	17,338 KB					
Title:					SECOND QUARTER 2018 WDR COMPLIANCE MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6596285343/SL208213876.PDF	
Type:					NPDES / WDR REPORTS	
Document Type:	Site Documents				Submitted:	
Document Date:	7/25/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					SOIL CONFIRMATION SAMPLING AT THE PROPOSED EXCAVATION AREA	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6364857	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	6/20/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					2 ND ACCESS REQUEST	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361765	
Type:					LETTER - NOTICE	
Document Type:	Site Documents				Submitted:	
Document Date:	6/6/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					THE SHOP AT LAKE FOREST	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6360325	
Type:					ANNUAL ESTIMATION LETTER	
Document Type:	Site Documents				Submitted:	
Document Date:	5/24/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					ACCESS REQUEST	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6361173	
Type:					ACCESS AGREEMENT	
Document Type:	Site Documents				Submitted:	
Document Date:	5/10/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					THE SECOND ACCESS REQUEST LETTER	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6357563	
Type:					ACCESS AGREEMENT	
Document Type:	Site Documents				Submitted:	
Document Date:	5/3/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					AMENDED WDR	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356809	
Type:					AMENDMENT TO ORDER	
Document Type:	Site Documents				Submitted:	
Document Date:	5/1/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					CONCURRENCE WITH THE PROPOSED EXCAVATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356813	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	4/19/2018				Submitted By:	MONA BEHROOZ (REGULATOR)
Size :						
Title:					REQUEST FOR ACCESS TO CONDUCT GROUNDWATER INVESTIGATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6356812	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/13/2018				Submitted By:	RAY HANNON (AUTH_RP)
Size :	9,668 KB					
Title:					SHOPS AT LAKE FOREST_2SA17 GWMR_FINAL_0401218	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4508358895/SL208213876.PDF	
Type:					MONITORING REPORT - SEMI-ANNUALLY	
Document Type:	Site Documents				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date: Size : Title: Title Link: Type:	3/1/2018				Submitted By: MONA BEHROOZ (REGULATOR)	
					2018-03-01 WDR APPLICATION - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5958598 ELECTRONIC REPORTING SUBMITTAL DUE	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 1/11/2018				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE REVISED PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6345513 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 12/20/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RESPONSE TO RWQCB COMMENTS REGARDING THE REVISED PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY, DATED DECEMBER 7, 2017 - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5951863 RESPONSE TO COMMENTS	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 12/7/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					REVISED PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342747 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 12/7/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE WELL INSTALLATION TECHNICAL MEMORANDUM http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6342770 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 11/10/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					REVISED PRE-DESIGN WORK PLAN_111017 - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5948854 PROPOSED PLAN	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 10/27/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RESPONSE TO RWQCB COMMENTS REGARDING THE PRE-DESIGN WORK PLAN - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5948853 PROPOSED PLAN	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 10/12/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					RE PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6338716 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 9/14/2017				Submitted: Submitted By: MONA BEHROOZ (REGULATOR)	
					PRE-DESIGN WORK PLAN FOR FULL-SCALE GROUNDWATER REMEDY - REGULATOR RESPONSE http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5946033 OTHER WORKPLAN	
Document Type: Document Date: Size : Title:	Monitoring Reports 9/13/2017 16,760 KB				Submitted: Submitted By: RAMBOLL ENVIRON (AUTH_RP)	
					2017 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS AND OFF-SITE WELL INSTALLATION	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1977012336/SL208213876.PDF	
Type:					MONITORING REPORT - SEMI-ANNUALLY	
Document Type:	Site Documents			Submitted:		
Document Date:	6/30/2017			Submitted By:	RAMBOLL ENVIRON (AUTH_RP)	
Size :	649 KB					
Title:					RESPONSES TO COMMENTS ON THE REPORT OF THE ENHANCED IN-SITU REDUCTIVE DECHLORINATION PILOT STUDY	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9532172858/SL208213876.PDF	
Type:					CORRESPONDENCE	
Document Type:	Site Documents			Submitted:		
Document Date:	6/30/2017			Submitted By:	MONA BEHROOZ (REGULATOR)	
Size :						
Title:					RESPONSES TO WATER BOARD COMMENTS JUNE 30 2017 - REGULATOR RESPONSE	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5945222	
Type:					CORRESPONDENCE	
Document Type:	Site Documents			Submitted:		
Document Date:	6/8/2017			Submitted By:	MONA BEHROOZ (REGULATOR)	
Size :						
Title:					THE_SHOPS_AT_THE_LAKE_FOREST_RE_PILOT_TEST	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6322444	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents			Submitted:		
Document Date:	5/12/2017			Submitted By:	MONA BEHROOZ (REGULATOR)	
Size :						
Title:					ANNUAL COST ESTIMATE	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6319789	
Type:					LETTER - NOTICE	
Document Type:	Site Documents			Submitted:		
Document Date:	4/13/2017			Submitted By:	RAMBOLL ENVIRON (AUTH_RP)	
Size :	4,567 KB					
Title:					REPORT OF ENHANCED IN-SITU REDUCTIVE DECHLORINATION PILOT TEST	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8413244843/SL208213876.PDF	
Type:					PILOT STUDY/ TREATABILITY REPORT	
Document Type:	Monitoring Reports			Submitted:		
Document Date:	1/30/2017			Submitted By:	RAMBOLL ENVIRON (AUTH_RP)	
Size :	21,861 KB					
Title:					2016 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7231737136/SL208213876.PDF	
Type:					MONITORING REPORT - SEMI-ANNUALLY	
Document Type:	Site Documents			Submitted:		
Document Date:	1/12/2017			Submitted By:	MONA BEHROOZ (REGULATOR)	
Size :						
Title:					REQUEST FOR REPORTS	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6308394	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports			Submitted:		
Document Date:	11/18/2016			Submitted By:	RAMBOLL ENVIRON (AUTH_RP)	
Size :	20,187 KB					
Title:					2016 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS AND OFF-SITE WELL INSTALLATION	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4221620559/SL208213876.PDF	
Type:					MONITORING REPORT - SEMI-ANNUALLY	
Document Type:	Site Documents			Submitted:		
Document Date:	10/14/2016			Submitted By:	RAMBOLL ENVIRON (AUTH_RP)	
Size :	20,959 KB					
Title:					SECOND QUARTER 2016 WDR REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5826239228/SL208213876.PDF	
Type:					NPDES / WDR REPORTS	
Document Type:	Site Documents			Submitted:		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date:	7/12/2016				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:						NOTICE OF CHANGE OF CASE MANAGER
Title Link:						http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6291892
Type:						LETTER - NOTICE
Document Type:	Site Documents				Submitted:	
Document Date:	6/7/2016				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	12,435 KB					
Title:						FIRST QUARTER 2016 WDR REPORT
Title Link:						http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2517206549/SL208213876.PDF
Type:						NPDES / WDR REPORTS
Document Type:	Monitoring Reports				Submitted:	
Document Date:	5/3/2016				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	9,404 KB					
Title:						2015 GROUNDWATER MONITORING REPORT FOR OFF-SITE WELLS
Title Link:						http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2754457592/SL208213876.PDF
Type:						MONITORING REPORT - OTHER
Document Type:	Site Documents				Submitted:	
Document Date:	2/25/2016				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:						COMMENTS ON WORK PLAN FOR INSTALLATION OF OFF-SITE WELLS
Title Link:						http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6277125
Type:						TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER
Document Type:	Site Documents				Submitted:	
Document Date:	2/24/2016				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:						WORK PLAN FOR THE INSTALLATION OF OFF-SITE GROUNDWATER MONITORING WELLS
Title Link:						http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5881131
Type:						WELL INSTALLATION WORKPLAN
Document Type:	Site Documents				Submitted:	
Document Date:	2/1/2016				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	6,766 KB					
Title:						FOURTH QUARTER 2015 WDR REPORT
Title Link:						http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9056807100/SL208213876.PDF
Type:						NPDES / WDR REPORTS
Document Type:	Site Documents				Submitted:	
Document Date:	10/30/2015				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	9,914 KB					
Title:						THIRD QUARTER 2015 WDR REPORT
Title Link:						http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7135847628/SL208213876.PDF
Type:						NPDES / WDR REPORTS
Document Type:	Site Documents				Submitted:	
Document Date:	9/15/2015				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:						CONDITIONAL DETERMINATION OF NO FURTHER ACTION FOR SOIL
Title Link:						http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6260531
Type:						CLOSURE/NO FURTHER ACTION LETTER
Document Type:	Site Documents				Submitted:	
Document Date:	8/1/2015				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	17,600 KB					
Title:						SECOND QUARTER 2015 WDR REPORT
Title Link:						http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7721351325/SL208213876.PDF
Type:						NPDES / WDR REPORTS
Document Type:	Site Documents				Submitted:	
Document Date:	7/15/2015				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:						LAND USE COVENANT
Title Link:						http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6255157
Type:						DEED RESTRICTION / LAND USE RESTRICTION / COVENANT

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents				Submitted:	
Document Date:	12/22/2014				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	16,354 KB					
Title:	SIXTH POST-REMEDIAL GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2832185864/SL208213876.PDF					
Type:	REQUEST FOR CLOSURE					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	9/11/2014				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	7,264 KB					
Title:	FIFTH POST-REMEDIAL GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9704102993/SL208213876.PDF					
Type:	MONITORING REPORT - OTHER					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	7/28/2014				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	8,690 KB					
Title:	FOURTH POST-REMEDIAL MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3373312413/SL208213876.PDF					
Type:	MONITORING REPORT - OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	6/20/2014				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	DISCHARGE AUTHORIZATION AND MONITORING AND REPORTING PROGRAM NO. R8-2013-0029-016					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6210816					
Type:	WASTE DISCHARGE REQUIREMENTS					
Document Type:	Site Documents				Submitted:	
Document Date:	4/28/2014				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	COMMENTS ON THE ROWD APPLICATION PACKAGE					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6201213					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/17/2014				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	6,978 KB					
Title:	THIRD POST-REMEDIAL MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3715335905/SL208213876.PDF					
Type:	MONITORING REPORT - OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	4/11/2014				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	WASTE DISCHARGE REQUIREMENT (WDR) PERMIT APPLICATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803155					
Type:	OTHER REPORT / DOCUMENT					
Document Type:	Site Documents				Submitted:	
Document Date:	12/18/2013				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	SECOND ADDENDUM TO REVISED REMEDIAL ACTION WORK PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803149					
Type:	CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN - ADDENDUM					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	12/12/2013				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	9,060 KB					
Title:	SECOND POST-REMEDIAL MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8559633374/SL208213876.PDF					
Type:	MONITORING REPORT - OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	11/6/2013				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	AMENDED FEASIBILITY STUDY					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803150					
Type:	FEASIBILITY STUDY REPORT					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/11/2013				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	7,513 KB					
Title:	POST-REMEDIAL MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3039618790/SL208213876.PDF					
Type:	MONITORING REPORT - OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	10/3/2013				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	JOINT SAMPLING REQUIREMENT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803148					
Type:	CORRESPONDENCE					
Document Type:	Site Documents				Submitted:	
Document Date:	6/12/2013				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	CHANGE OF GROUNDWATER MONITORING FREQUENCY					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200872					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	6/12/2013				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	COMMENTS ON THE ON-SITE RESIDUAL SOURCE REMOVAL REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200873					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	6/5/2013				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	PILOT TEST OF ENHANCED REDUCTIVE DECHLORINATION FOR GROUNDWATER					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803147					
Type:	CORRESPONDENCE					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	5/31/2013				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	8,252 KB					
Title:	2013 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1620690524/SL208213876.PDF					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Site Documents				Submitted:	
Document Date:	5/16/2013				Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	50,125 KB					
Title:	ON-SITE RESIDUAL SOURCE REMOVAL REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7633535802/SL208213876.PDF					
Type:	REMOVAL ACTION COMPLETE					
Document Type:	Site Documents				Submitted:	
Document Date:	2/25/2013				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	SVE-1 ABANDONMENT					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200877					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	12/6/2012				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	COMMENTS ON TH CONTINGENCY PLAN					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6200867					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	12/4/2012				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	CONTINGENCY PLAN TO CONTINUE THE MIGRATION PATTERN FOR THE VOCs IN THE DOWNGRADIENT AREA OF MW-13					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link: Type:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803141 OTHER WORKPLAN	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 11/15/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	
					FACT SHEET - ENVIRONMENTAL CLEANUP PROGRAM PLANNED TO BEGIN JANUARY 2013 http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5803140 FACT SHEETS - PUBLIC PARTICIPATION	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 11/8/2012* 10,718 KB				Submitted: Submitted By: RAMBOLL ENVIRON (AUTH_RP)	
					2012 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4263691008/SL208213876.PDF MONITORING REPORT - SEMI-ANNUALLY	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 10/15/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	
					APPROVAL OF THE REMEDIAL ACTION WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6142238 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 10/10/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	
					ADDENDUM TO REVISED REMEDIAL ACTION WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5756961 CAP/RAP - OTHER REPORT	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 9/27/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	
					COMMENTS ON THE REVISED REMEDIAL ACTION WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139320 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 9/14/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	
					REVISED REMEDIAL ACTION WORK PLAN http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5753834 CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN	
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 7/12/2012 11,258 KB				Submitted: Submitted By: RAMBOLL ENVIRON (AUTH_RP)	
					2012 1ST SEMI-ANNUAL GROUNDWATER MONITORING REPORT http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4257642626/SL208213876.PDF MONITORING REPORT - SEMI-ANNUALLY	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 7/3/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	
					COMMENTS ON WORK PLAN FOR OFF-SITE PILOT TEST OF ENHANCED REDUCTIVE DECHLORINATION http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6139324 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 6/18/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	
					WORK PLAN FOR OFF-SITE PILOT TEST OF ENHANCED REDUCTIVE DECHLORINATION http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5753835 PILOT STUDY / TREATABILITY WORKPLAN	
Document Type: Document Date: Size :	Site Documents 5/7/2012				Submitted: Submitted By: NICK AMINI (REGULATOR)	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:					COMMENTS ON THE REPORT OF OFF-SITE BIO-TRAP EXTENDED FIELD STUDY	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121151	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	4/10/2012				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					SUMMARY OF THE MEETING FOR THE SHOPS AT LAKE FOREST	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6121154	
Type:					MEETING	
Document Type:	Site Documents				Submitted:	
Document Date:	2/29/2012				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					REPORT OF OFF-SITE BIO-TRAP EXTENDED FIELD STUDY	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5736574	
Type:					PILOT STUDY/ TREATABILITY REPORT	
Document Type:	Site Documents				Submitted:	
Document Date:	1/10/2012				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					COMMENTS ON REMEDIAL ACTION WORK PLAN	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6119120	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	12/9/2011				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					REMEDIAL ACTION WORK PLAN	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5735511	
Type:					CORRECTIVE ACTION PLAN / REMEDIAL ACTION PLAN	
Document Type:	Site Documents				Submitted:	
Document Date:	10/26/2011				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					COMMENTS ON THE VAPOR INTRUSION AND HUMAN HEALTH RISK EVALUATION REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6105775	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/10/2011				Submitted By:	NICK AMINI (REGULATOR)
Size :	5,976 KB					
Title:					2011 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT -	
Title Link:					http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/2149235367/2011%202nd%20Semiannual%20GW%20Monitoring%20Report%20Final%20Epdf	
Type:					MONITORING REPORT - SEMI-ANNUALLY	
Document Type:	Site Documents				Submitted:	
Document Date:	8/1/2011				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					VAPOR INTRUSION AND HUMAN HEALTH RISK EVALUATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5726820	
Type:					RISK ASSESSMENT REPORT	
Document Type:	Site Documents				Submitted:	
Document Date:	7/6/2011				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					COMMENTS ON WORK PLAN FOR ADDITIONAL OFF-SITE MICROBIAL SUFFICIENCY FIELD STUDY	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097004	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	6/23/2011				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					WORK PLAN FOR ADDITIONAL OFF-SITE MIVROBIAL SUFFICIENCY FIELD STUDY	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720537	
Type:					OTHER WORKPLAN	
Document Type:	Site Documents				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date: Size : Title: Title Link: Type:	6/1/2011				Submitted By: NICK AMINI (REGULATOR)	
						COMMENTS ON THE REPORT OF INDOOR AIR, SOIL VAPOR, AND SOIL SAMPLING AT ADJACENT UNITS http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6097002 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/24/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						COMMENTS ON THE REPORT OF OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096999 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 5/20/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						RESPONSE TO COMMENTS ON THE REVISED WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMOVAL http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720539 CORRESPONDENCE
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 4/29/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						REPORT OF OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720538 PILOT STUDY/ TREATABILITY REPORT
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 4/21/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						COMMENTS ON THE REVISED WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMOVAL http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6096998 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER
Document Type: Document Date: Size : Title: Title Link: Type:	Monitoring Reports 4/14/2011 5,292 KB				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						MARCH 2011 GROUNDWATER MONITORING REPORT - http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/9594669938/March%202011%20GW%20Monitoring%20Report%20Final%2Epdf MONITORING REPORT - SEMI-ANNUALLY
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 4/14/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						REVISED WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMOVAL http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720540 OTHER WORKPLAN
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 3/22/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						REPORT OF INDOOR AIR, SOIL, SOIL VAPOR, AD SOIL SAMPLING AT ADJACENT TENANT UNITS http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5720541 TECHNICAL MEMOS
Document Type: Document Date: Size : Title: Title Link: Type:	Site Documents 2/23/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						COMMENTS ON THE WORK PLAN FOR ON-SITE RESIDUAL SOURCE REMOVAL http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6084131 TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER
Document Type: Document Date: Size : Title: Title Link:	Site Documents 1/20/2011				Submitted: Submitted By: NICK AMINI (REGULATOR)	
						COMMENTS ON THE WORK PLAN FOR INDOOR AIR, SOIL VAPOR, AND SOIL SAMPLING AT ADJACENT TENANT UNITS http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075144

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:		TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER				
Document Type:	Site Documents			Submitted:		
Document Date:	12/29/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						
Title:	WORK PLAN FOR INDOOR AIR, SOIL VAPOR, AND SOIL SAMPLING AT ADJACENT TENANT UNITS					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5703709					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents			Submitted:		
Document Date:	11/30/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						
Title:	COMMENTS ON THE REPORT OF OCTOBER 2010 ADDITIONAL ON-SITE INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6075141					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents			Submitted:		
Document Date:	11/5/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						
Title:	REPORT OF OCTOBER 2010 ADDITIONAL ON-SITE INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5703710					
Type:	SITE INVESTIGATION					
Document Type:	Site Documents			Submitted:		
Document Date:	11/4/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						
Title:	COMMENTS ON WORK PLAN FOR OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6069249					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Monitoring Reports			Submitted:		
Document Date:	10/15/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :	5,318 KB					
Title:	AUGUST 2010 GROUNDWATER MONITORING REPORT -					
Title Link:	http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3290067374/August%202010%20GW%20Monitoring%20Report%20Final%2Epdf					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Monitoring Reports			Submitted:		
Document Date:	10/15/2010			Submitted By:	RAMBOLL ENVIRON (AUTH_RP)	
Size :	5,318 KB					
Title:	AUGUST 2010 GROUNDWATER MONITORING REPORT					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9097871184/SL208213876.PDF					
Type:	MONITORING REPORT - SEMI-ANNUALLY					
Document Type:	Site Documents			Submitted:		
Document Date:	10/1/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						
Title:	WORK PLAN FOR OFF-SITE BENCH-SCALE MICROBIAL SUFFICIENCY STUDY					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5699400					
Type:	PILOT STUDY / TREATABILITY WORKPLAN					
Document Type:	Site Documents			Submitted:		
Document Date:	9/2/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						
Title:	COMMENTS ON WORK PLAN FOR ADDITIONAL ON-SITE SOIL AND SOIL VAPOR SAMPLING					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062896					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents			Submitted:		
Document Date:	9/2/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						
Title:	COMMENTS ON FEASIBILITY STUDY FOR OFF-SITE AREA					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6062897					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents			Submitted:		
Document Date:	7/22/2010			Submitted By:	NICK AMINI (REGULATOR)	
Size :						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:					WORK PLAN FOR ADDITIONAL ON-SITE SOIL AND SOIL VAPOR SAMPLING	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5699405	
Type:					SITE INVESTIGATION WORKPLAN	
Document Type:	Site Documents				Submitted:	
Document Date:	7/22/2010				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					FEASIBILITY STUDY FOR OFF-SITE AREA	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5699407	
Type:					FEASIBILITY STUDY REPORT	
Document Type:	Site Documents				Submitted:	
Document Date:	5/12/2010				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					FOCUSED FEASIBILITY STUDY AND RISK BASED TARGET CONCENTRATION FOR OFF-SITE GROUNDWATER REMEDIATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5667741	
Type:					TECHNICAL MEMOS	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/15/2010				Submitted By:	NICK AMINI (REGULATOR)
Size :	4,478 KB					
Title:					MARCH 2010 GROUNDWATER MONITORING REPORT -	
Title Link:					http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3157132804/March%202010%20GW%20Monitoring%20Report%20Final%2Epdf	
Type:					MONITORING REPORT - SEMI-ANNUALLY	
Document Type:	Site Documents				Submitted:	
Document Date:	3/31/2010				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					REPORT OF MARCH 2010 ADDITIONAL ON-SITE INVESTIGATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5667743	
Type:					SITE INVESTIGATION	
Document Type:	Site Documents				Submitted:	
Document Date:	1/28/2010				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					COMMENTS ON ENVIRON'S DECEMBER 14, 2009 SUBMITTAL	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045889	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Site Documents				Submitted:	
Document Date:	12/14/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					RESPONSES TO COMMENTS ON THE REPORT FOR ADDITIONAL INVESTIGATION	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5663540	
Type:					CORRESPONDENCE	
Document Type:	Site Documents				Submitted:	
Document Date:	11/12/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					COMMENTS ON THE REPORT FOR ADDITIONAL OFF-SITE INVESTIGATION AND SEPTEMBER 2009 GROUNDWATER MONITORING REPORT	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6045887	
Type:					TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER	
Document Type:	Monitoring Reports				Submitted:	
Document Date:	10/15/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :	4,815 KB					
Title:					SEPTEMBER 2009 GROUNDWATER MONITORING REPORT -	
Title Link:					http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/3572553336/September%202009%20GW%20Monitoring%20Report%20Final%2Epdf	
Type:					MONITORING REPORT - SEMI-ANNUALLY	
Document Type:	Site Documents				Submitted:	
Document Date:	9/15/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:					REPORT OF ADDITIONAL OFF-SITE INVESTIGATION 2009	
Title Link:					http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5651165	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type: SITE INVESTIGATION						
Document Type:	Site Documents				Submitted:	
Document Date:	6/18/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	APPROVAL OF THE WORK PLAN FOR ADDITIONAL OFF-SITE INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6027437					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	5/1/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	WORK PLAN FOR ADDITIONAL OFF-SITE INVESTIGATION					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5648522					
Type:	OTHER WORKPLAN					
Document Type:	Monitoring Reports				Submitted:	
Document Date:	4/15/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :	4,171 KB					
Title:	MARCH 2009 GROUNDWATER MONITORING REPORT -					
Title Link:	http://geotracker.waterboards.ca.gov/regulators/deliverable_documents/1778211295/March%202009%20GW%20Monitoring%20Report%20Final%2Epdf					
Type:	MONITORING REPORT - OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	4/1/2009				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	COMMENTS ON THE RESPONSES TO COMMENTS FOR THE MARCH AND JUNE 2008 GROUNDWATER MONITORING REPORT AND WORK PLAN FOR CONFIRMATION SOIL VAPOR SAMPLING					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=6009352					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					
Document Type:	Site Documents				Submitted:	
Document Date:	12/24/2008				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	MARCH AND JUNE GROUNDWATER MONITORING REPORT AND WORK PLAN FOR CONFIRMATION SOIL VAPOR SAMPLING					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5627546					
Type:	OTHER WORKPLAN					
Document Type:	Site Documents				Submitted:	
Document Date:	12/24/2008				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	RESPONSES TO COMMENTS FOR THE MARCH AND JUNE 2008 GROUNDWATER MONITORING REPORT AND WORK PLAN FOR CONFIRMATION SOIL SAMPLING					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&document_id=5627547					
Type:	OTHER REPORT / DOCUMENT					
Document Type:	Site Documents				Submitted:	
Document Date:	10/14/2008				Submitted By:	NICK AMINI (REGULATOR)
Size :						
Title:	COMMENTS ON THE WORK PLAN FOR CONFIRMATION SOIL VAPOR SAMPLING					
Title Link:	http://geotracker.waterboards.ca.gov/view_documents?global_id=SL208213876&enforcement_id=5997738					
Type:	TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER					

Cleanup Program Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title:	GEO_MAP	Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	214 KB	Submitted:	9/14/2017
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2328241169/SL208213876.PDF		
Title:	GEO_MAP	Submitted By:	RAMBOLL ENVIRON (AUTH_RP)
Size :	3,777 KB	Submitted:	8/4/2015
Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/4297811925/SL208213876.PDF		

Cleanup Program Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Status:		Open - Remediation				
Date :		1/14/2013				
Status:		Open - Site Assessment				
Date :		4/1/2012				
Status:		Open - Assessment & Interim Remedial Action				
Date :		6/18/2009				
Status:		Open - Remediation				
Date :		6/18/2009				
Status:		Open				
Date :		1/1/1996				
Status:		Open - Case Begin Date				
Date :		1/1/1996				

[39](#) 1 of 4 SSW 0.49 / 2,583.88 373.59 / -27 EXXON 23852 EL TORO RD LAKE FOREST CA 92630 ORANGE LOP

Record ID: RO0002476 Case Closed Date: 8/19/2004
Case ID: 88UT067 Type of Closure: Closure certification issued
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

[39](#) 2 of 4 SSW 0.49 / 2,583.88 373.59 / -27 USA PETROLEUM #825 23852 EL TORO RD LAKE FOREST CA 92630 ORANGE LOP

Record ID: RO0003205 Case Closed Date: 12/14/2005
Case ID: 03UT024 Type of Closure: Closure certification issued
Case Type: O
Case Type Desc: Other groundwater affected (uses other than drinking water)
Released Substance: Diesel fuel oil and additives, Nos.1-D, 2-D, 2-4
Gasoline-Automotive (motor gasoline and additives), leaded & unleaded

[39](#) 3 of 4 SSW 0.49 / 2,583.88 373.59 / -27 EXXON 23852 EL TORO LAKE FOREST CA 92630 LUST

Global ID: T0605900965 County: ORANGE
Status: COMPLETED - CASE CLOSED Latitude: 33.6157689
Status Date: 2004-09-20 00:00:00 Longitude: -117.7060684
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: 083001244T Potential COC: Gasoline
Local Case Number: 88UT067 How Discovered: Other Means
Begin Date: 1988-04-06 00:00:00 Stop Method: Other Means
Lead Agency: ORANGE COUNTY LOP Stop Description:
Local Agency: ORANGE COUNTY LOP Case Worker: KL
CUF Case: YES File Location: Local Agency Warehouse
Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:

Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2004-09-20 00:00:00
Action: Closure/No Further Action Letter

Action Type: RESPONSE
Date : 2003-09-22 00:00:00
Action: Soil and Water Investigation Report

Action Type: ENFORCEMENT
Date : 2003-05-28 00:00:00
Action: * Historical Enforcement

Action Type: REMEDIATION
Date : 1996-02-01 00:00:00
Action: In Situ Physical/Chemical Treatment (other than SVE)

Action Type: REMEDIATION
Date : 1996-02-01 00:00:00
Action: Soil Vapor Extraction (SVE)

Action Type: REMEDIATION
Date : 1996-02-01 00:00:00
Action: Excavation

Action Type: Other
Date : 1988-04-06 00:00:00
Action: Leak Reported

Action Type: Other
Date : 1988-04-06 00:00:00
Action: Leak Discovery

Regulatory Contacts

<p>Contact Type: Local Agency Caseworker Contact Name: KEVIN LAMBERT City: SANTA ANA Organization Name: ORANGE COUNTY LOP</p>	<p>Address: 1241 E DYER ROAD SUITE 120 Email: klambert@ochca.com Phone Number: 7144336261</p>
<p>Contact Type: Regional Board Caseworker Contact Name: CARL BERNHARDT City: RIVERSIDE Organization Name: SANTA ANA RWQCB (REGION 8)</p>	<p>Address: 3737 MAIN STREET, SUITE 500 Email: carl.bernhardt@waterboards.ca.gov Phone Number: 9517824495</p>
<p>Contact Type: Local Agency Caseworker Contact Name: JAMES STROZIER City: SANTA ANA Organization Name: ORANGE COUNTY LOP</p>	<p>Address: 1241 E. DYER ROAD SUITE 120 Email: jstrozier@ochca.com Phone Number: 7144336273</p>

Status History

Status: Completed - Case Closed
Status Date: 2004-09-20 00:00:00

Status: Open - Verification Monitoring
Status Date: 1998-08-01 00:00:00

Status: Open - Remediation
Status Date: 1996-02-01 00:00:00

Status: Open - Site Assessment

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Status Date:		1993-07-22 00:00:00				
Status:		Open - Case Begin Date				
Status Date:		1988-04-06 00:00:00				
Status:		Open - Site Assessment				
Status Date:		1988-04-06 00:00:00				

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	EXXON	Address:	23852 EL TORO
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	GASOLINE	CUF Claim:	14466
WDR Place Type:		CUF Priority Assig:	D
WDR File:		CUF Amount Paid:	
WDR Order:			
File Location:	LOCAL AGENCY WAREHOUSE		
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605900965		
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 9/20/2004		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605900965&tabname=regulatoryhistory		
Potential Media Of Concern:	OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)		
User Defined Beneficial Use:	GW - MUNICIPAL AND DOMESTIC SUPPLY		
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
Post Closure Site Management:			
Future Land Use:			
Cleanup Oversight Agencies:	ORANGE COUNTY LOP (LEAD) - CASE #: 88UT067 CASEWORKER: KEVIN LAMBERT CASEWORKER: JAMES STROZIER SANTA ANA RWQCB (REGION 8) - CASE #: 083001244T CASEWORKER: CARL BERNHARDT		

Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status:	Completed - Case Closed
Date :	9/20/2004
Status:	Open - Verification Monitoring
Date :	8/1/1998
Status:	Open - Remediation
Date :	2/1/1996
Status:	Open - Site Assessment
Date :	7/22/1993
Status:	Open - Site Assessment
Date :	4/6/1988
Status:	Open - Case Begin Date
Date :	4/6/1988

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type:	EXCAVATION	Begin Date:	2/1/1996
Phase:		End Date:	8/1/1998
Contaminant Mass Removed:			
Description:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action Type: IN SITU PHYSICAL/CHEMICAL TREATMENT (OTHER THAN SVE) **Begin Date:** 2/1/1996

Phase: **End Date:** 8/1/1998

Contaminant Mass Removed:
Description:

Action Type: SOIL VAPOR EXTRACTION (SVE) **Begin Date:** 2/1/1996

Phase: **End Date:** 8/1/1998

Contaminant Mass Removed:
Description:

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 9/20/2004
Received Issue Date: 9/20/2004
Action: Closure/No Further Action Letter
Doc Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900965&enforcement_id=5979130&template=ENFORCEMENT

Action Type: Response Requested - Reports
Action Date: 9/22/2003
Received Issue Date: 1/1/1965
Action: Soil and Water Investigation Report
Doc Link:

Action Type: Enforcement/Orders
Action Date: 5/28/2003
Received Issue Date: 5/28/2003
Action: * Historical Enforcement
Doc Link:

Action Type: Cleanup Action
Action Date: 2/1/1996
Received Issue Date:
Action: In Situ Physical/Chemical Treatment (other than SVE)
Doc Link:

Action Type: Cleanup Action
Action Date: 2/1/1996
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Cleanup Action
Action Date: 2/1/1996
Received Issue Date:
Action: Soil Vapor Extraction (SVE)
Doc Link:

Action Type: Leak Action
Action Date: 4/6/1988
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 4/6/1988
Received Issue Date:
Action: Leak Discovery
Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/1906888663/T0605900965.pdf

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Size : 47 KB
Submitted By: CARDNO (AUTH_RP)
Submitted: 3/21/2002

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :**
Document Date: 9/20/2004 **Submitted By:** PAMELA YBARRA (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: CLOSURE LETTER
Title Link: http://geotracker.waterboards.ca.gov/view_documents?global_id=T0605900965&enforcement_id=5979130

Document Type: Site Documents **Size :** 134 KB
Document Date: 9/17/2004 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: REMEDIAL ACTION COMPLETION CERTIFICATION
Title Link: http://geotracker.waterboards.ca.gov/site_documents/3744214713/88UT067%2Epdf

Document Type: Site Documents **Size :** 4,529 KB
Document Date: 9/17/2004 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/site_documents/7522412955/88UT067%2Epdf

Document Type: Site Documents **Size :** 587 KB
Document Date: 7/30/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 2Q 2004 QUARTERLY REPORT DATED 07-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6131286859/T0605900965.PDF

Document Type: Site Documents **Size :** 245 KB
Document Date: 5/18/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - REVISED DEGREDDATION ESTIMATE DATED 05-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9769904017/T0605900965.PDF

Document Type: Site Documents **Size :** 3,395 KB
Document Date: 4/30/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 1Q 2004 QUARTERLY REPORT DATED 04-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4911813557/T0605900965.PDF

Document Type: Site Documents **Size :** 5,296 KB
Document Date: 4/6/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - STATISTICAL EVALUATION OF FUEL CONSTITUENTS DATED 04-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6834851205/T0605900965.PDF

Document Type: Site Documents **Size :** 389 KB
Document Date: 1/30/2004* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 4Q 2003 QUARTERLY REPORT DATED 01-2004
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2050991952/T0605900965.PDF

Document Type: Site Documents **Size :** 10,884 KB
Document Date: 11/24/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - TRANSMITTAL OF THE CONFIRMATION SOIL SAMPLING DATED 11-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7722876429/T0605900965.PDF

Document Type: Site Documents **Size :** 2,496 KB
Document Date: 10/30/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - 3Q 2003 QUARTERLY REPORT DATED 10-2003
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2627554774/T0605900965.PDF

Document Type: Site Documents **Size :** 229 KB
Document Date: 9/24/2003* **Submitted By:** PINNACLE EMS (CONTRACTOR)

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - NOTIFICATION OF PROPOSED WELL RELOCATION DATED 09-2003					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8577872931/T0605900965.PDF					
Document Type:	Site Documents				Size :	394 KB
Document Date:	7/30/2003*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 2Q 2003 QUARTERLY REPORT DATED 07-2003					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5100631952/T0605900965.PDF					
Document Type:	Site Documents				Size :	57 KB
Document Date:	5/28/2003*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - AGENCY CONDITIONAL APPROVAL OF WORKPLAN FOR ADDITIONAL ASSESSMENT DATED 05-2003					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7673163294/T0605900965.PDF					
Document Type:	Site Documents				Size :	108 KB
Document Date:	4/29/2003*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 1Q 2003 QUARTERLY STATUS REPORT DATED 04-2003					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3757376313/T0605900965.PDF					
Document Type:	Site Documents				Size :	4,821 KB
Document Date:	4/8/2003*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - TRANSMITTAL OF WORK PLAN FOR ADDITIONAL CONFIRMATION DATED 04-2003					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5757147669/T0605900965.PDF					
Document Type:	Site Documents				Size :	382 KB
Document Date:	1/30/2003*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 4Q 2002 QUARTERLY REPORT DATED 01-2003					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1519098103/T0605900965.PDF					
Document Type:	Site Documents				Size :	394 KB
Document Date:	7/26/2002*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 2Q 2002 QUARTERLY REPORT DATED 07-2002					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8609967172/T0605900965.PDF					
Document Type:	Site Documents				Size :	102 KB
Document Date:	3/29/2002*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 1Q 2002 QUARTERLY REPORT DATED 03-2002					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3645227253/T0605900965.PDF					
Document Type:	Site Documents				Size :	921 KB
Document Date:	2/25/2002*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - MODIFIED GROUNDWATER SAMPLING PROGRAM DATED 02-2002					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4261990487/T0605900965.PDF					
Document Type:	Site Documents				Size :	103 KB
Document Date:	1/30/2002*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 4Q 2001 QUARTERLY REPORT DATED 01-2002					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7717299044/T0605900965.PDF					
Document Type:	Site Documents				Size :	72 KB
Document Date:	1/17/2002*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - AGENCY REQUEST FOR ADDITIONAL INFORMATION DATED 01-2002					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8605709969/T0605900965.PDF					
Document Type:	Site Documents				Size :	3,766 KB
Document Date:	10/17/2001*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - TRANSMITTAL OF STATISTICAL EVALUATION OF MTBE DATED 10-2001					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title Link:		http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4941082894/T0605900965.PDF				
Document Type:	Site Documents			Size :	103 KB	
Document Date:	10/17/2001*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 3Q 2001 QUARTERLY REPORT DATED 10-2001					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5537887811/T0605900965.PDF					
Document Type:	Site Documents			Size :	120 KB	
Document Date:	7/15/2001*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 2Q 2001 QUARTERLY REPORT DATED 07-2001					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6700049281/T0605900965.PDF					
Document Type:	Site Documents			Size :	109 KB	
Document Date:	4/10/2001*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 1Q 2001 QUARTERLY REPORT DATED 04-2001					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3551613867/T0605900965.PDF					
Document Type:	Site Documents			Size :	92 KB	
Document Date:	12/29/2000*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 4Q 2000 QUARTERLY REPORT DATED 12-2000					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3290290534/T0605900965.PDF					
Document Type:	Site Documents			Size :	88 KB	
Document Date:	11/10/2000*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 3Q 2000 QUARTERLY REPORT DATED 11-2000					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8432510614/T0605900965.PDF					
Document Type:	Site Documents			Size :	118 KB	
Document Date:	6/30/2000*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 2Q 2000 QUARTERLY REPORT DATED 06-2000					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9690939784/T0605900965.PDF					
Document Type:	Site Documents			Size :	105 KB	
Document Date:	3/31/2000*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 1Q 2000 QUARTERLY REPORT DATED 03-2000					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6282238900/T0605900965.PDF					
Document Type:	Site Documents			Size :	1,776 KB	
Document Date:	3/16/2000*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - TRANSMITTAL OF LETTER WORK PLAN FOR INSTALLATION DATED 03-2000					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/755536091/T0605900965.PDF					
Document Type:	Site Documents			Size :	94 KB	
Document Date:	12/31/1999*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 4Q 1999 QUARTERLY REPORT DATED 12-1999					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4515280604/T0605900965.PDF					
Document Type:	Site Documents			Size :	20,962 KB	
Document Date:	10/12/1999*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL 3Q 1999 QUARTERLY REPORT DATED 10/1999					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2258745670/T0605900965.PDF					
Document Type:	Site Documents			Size :	2,104 KB	
Document Date:	10/12/1999*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - CASE CLOSURE SUMMARY DATED 10-1999					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2692181527/T0605900965.PDF					
Document Type:	Site Documents			Size :	20,326 KB	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Date:	10/4/1999*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL SITE STATUS UPDATE REPORT FOR MTBE IMPACTED GROUNDWATER DATED 10/1999					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3944266200/T0605900965.PDF					
Document Type:	Site Documents				Size :	22,313 KB
Document Date:	6/30/1999*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL 2Q 1999 QUARTERLY REPORT DATED 06/1999					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7379747867/T0605900965.PDF					
Document Type:	Site Documents				Size :	19,202 KB
Document Date:	3/31/1999*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL 1Q 1999 QUARTERLY REPORT DATED 03/1999					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5668927133/T0605900965.PDF					
Document Type:	Site Documents				Size :	20,440 KB
Document Date:	12/31/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL 4Q 1998 QUARTERLY REPORT DATED 12/1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9652276813/T0605900965.PDF					
Document Type:	Site Documents				Size :	56 KB
Document Date:	12/7/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - AGENCY DENIAL OF CLOSURE REQUEST DATED 12-1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4561820685/T0605900965.PDF					
Document Type:	Site Documents				Size :	50,420 KB
Document Date:	10/27/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL CONFIRMATION SOIL SAMPLING AND CLOSURE REQUEST LETTER REPORT DATED 10/1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6542862176/T0605900965.PDF					
Document Type:	Site Documents				Size :	43,801 KB
Document Date:	9/30/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL 3Q 1998 QUARTERLY REPORT DATED 09/1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4472772419/T0605900965.PDF					
Document Type:	Site Documents				Size :	67 KB
Document Date:	6/30/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 2Q 1998 QUARTERLY REPORT DATED 06-1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2069449305/T0605900965.PDF					
Document Type:	Site Documents				Size :	51 KB
Document Date:	6/23/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - AGENCY APPROVAL OF LETTER WORK PLAN FOR CONFIRMATION SOIL BORINGS DATED 06-1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4529370248/T0605900965.PDF					
Document Type:	Site Documents				Size :	4,764 KB
Document Date:	6/11/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - LETTER WORK PLAN FOR DRILLING & SAMPLING DATED 06-1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9501068353/T0605900965.PDF					
Document Type:	Site Documents				Size :	72 KB
Document Date:	3/20/1998*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 1Q 1998 QUARTERLY REPORT DATED 03-1998					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4968255817/T0605900965.PDF					
Document Type:	Site Documents				Size :	71 KB
Document Date:	12/31/1997*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:	HISTORICAL - 4Q 1997 QUARTERLY REPORT DATED 12-1997					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2604895472/T0605900965.PDF					
Document Type:	Site Documents			Size :	69 KB	
Document Date:	9/26/1997*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 3Q 1997 QUARTERLY REPORT DATED 09-1997					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2022152841/T0605900965.PDF					
Document Type:	Site Documents			Size :	64 KB	
Document Date:	7/1/1997*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 2Q 1997 QUARTERLY REPORT DATED 07-1997					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9808877050/T0605900965.PDF					
Document Type:	Site Documents			Size :	71 KB	
Document Date:	3/13/1997*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 1Q 1997 QUARTERLY REPORT DATED					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9192498981/T0605900965.PDF					
Document Type:	Site Documents			Size :	68 KB	
Document Date:	12/5/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 4Q 1996 QUARTERLY REPORT DATED 12-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8810096442/T0605900965.PDF					
Document Type:	Site Documents			Size :	66 KB	
Document Date:	10/1/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 3Q 1996 QUARTERLY REPORT DATED 10-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8013958871/T0605900965.PDF					
Document Type:	Site Documents			Size :	70 KB	
Document Date:	7/1/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 2Q 1996 QUARTERLY REPORT DATED 07-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2816299676/T0605900965.PDF					
Document Type:	Site Documents			Size :	172 KB	
Document Date:	5/7/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - MANIFEST FOR SOIL GENERATED DATED 05-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1688580453/T0605900965.PDF					
Document Type:	Site Documents			Size :	1,469 KB	
Document Date:	4/29/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - SUBSURFACE INVESTIGATION RESULTS DATED 04-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5181160986/T0605900965.PDF					
Document Type:	Site Documents			Size :	2,085 KB	
Document Date:	4/1/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - 1Q 1996 QUARTERLY REPORT DATED 04-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8838950037/T0605900965.PDF					
Document Type:	Site Documents			Size :	41 KB	
Document Date:	3/7/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - WRITTEN NOTIFICATION FOR INSTALLATION OF GWM WELL DATED 03-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9228386938/T0605900965.PDF					
Document Type:	Site Documents			Size :	47 KB	
Document Date:	1/19/1996*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:	HISTORICAL - AGENCY APPROVAL OF WORK PLAN FOR DOWNGRADE WELL INSTALLATION DATED					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2817892909/T0605900965.PDF					

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Document Type:	Site Documents				Size : 593 KB	
Document Date:	1/3/1996*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - LETTER WORK PLAN FOR INSTALLATION OF ONE ADDITIONAL OFF SITE DOWNGRAIENT GROUNDWATER MONITORING WELL DATED 01-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4772690057/T0605900965.PDF					
Document Type:	Site Documents				Size : 77 KB	
Document Date:	1/2/1996*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 4Q 1995 QUARTERLY REPORT DATED 01-1996					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1040634393/T0605900965.PDF					
Document Type:	Site Documents				Size : 69 KB	
Document Date:	10/15/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 3Q 1995 QUARTERLY REPORT DATED 10-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1730172932/T0605900965.PDF					
Document Type:	Site Documents				Size : 58 KB	
Document Date:	8/29/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - TENTATIVE SCHEDULE FOR REMEDIATION ACTIVITIES DATED 08-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4317664027/T0605900965.PDF					
Document Type:	Site Documents				Size : 67 KB	
Document Date:	7/15/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 2Q 1995 QUARTERLY REPORT DATED 07-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9278329670/T0605900965.PDF					
Document Type:	Site Documents				Size : 101 KB	
Document Date:	6/2/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - AGENCY CONDITIONAL APPROVAL OF CAP DATED 06-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6062347650/T0605900965.PDF					
Document Type:	Site Documents				Size : 7,931 KB	
Document Date:	5/18/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - CORRECTIVE ACTION PLAN DATED 05-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5921750009/T0605900965.PDF					
Document Type:	Site Documents				Size : 60 KB	
Document Date:	4/14/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 1Q 1995 QUARTERLY REPORT DATED 04-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4690567255/T0605900965.PDF					
Document Type:	Site Documents				Size : 134 KB	
Document Date:	3/15/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - NOTIFICATION OF AS-SVE WELL INSTALLATION DATED 03-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7365765511/T0605900965.PDF					
Document Type:	Site Documents				Size : 56 KB	
Document Date:	1/13/1995*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 4Q 1994 QUARTERLY REPORT DATED 01-1995					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8556683480/T0605900965.PDF					
Document Type:	Site Documents				Size : 61 KB	
Document Date:	10/12/1994*				Submitted By: PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:	HISTORICAL - 3Q 1994 QUARTERLY REPORT DATED 10-1994					
Title Link:	http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3164497077/T0605900965.PDF					
Document Type:	Site Documents				Size : 42 KB	
Document Date:	10/3/1994*				Submitted By: PINNACLE EMS (CONTRACTOR)	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - WORK SCHEDULE FOR REMEDIATION ACTIVITIES DATED 10-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4621911823/T0605900965.PDF	
Document Type:	Site Documents				Size :	52 KB
Document Date:	7/13/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - AGENCY REQUEST FOR SCHEDULE OF REMEDIATION ACTIVITIES DATED 07-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7515152215/T0605900965.PDF	
Document Type:	Site Documents				Size :	6,274 KB
Document Date:	6/29/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - ADDITIONAL SUBSURFACE INVESTIGATION AND GROUNDWATER MONITORING REPORT DATED 06-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7270087897/T0605900965.PDF	
Document Type:	Site Documents				Size :	81 KB
Document Date:	6/24/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - 2Q 1994 QUARTERLY REPORT DATED 06-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4605658173/T0605900965.PDF	
Document Type:	Site Documents				Size :	50 KB
Document Date:	5/13/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - AGENCY CONDITIONAL APPROVAL OF WORK PLAN DATED 05-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2242867529/T0605900965.PDF	
Document Type:	Site Documents				Size :	66 KB
Document Date:	5/9/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - AGENCY REQUIREMENT FOR SAMPLING DATED 05-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2585321247/T0605900965.PDF	
Document Type:	Site Documents				Size :	2,487 KB
Document Date:	5/2/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - WORK PLAN AND SITE SAFETY PLAN DATED 05-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4622186481/T0605900965.PDF	
Document Type:	Site Documents				Size :	75 KB
Document Date:	4/15/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - 1Q 1994 QUARTERLY REPORT DATED 04-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6881707251/T0605900965.PDF	
Document Type:	Site Documents				Size :	3,271 KB
Document Date:	4/11/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - SUBSURFACE ENVIRONMENTAL INVESTIGATION REPORT DATED 04-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2154166877/T0605900965.PDF	
Document Type:	Site Documents				Size :	69 KB
Document Date:	1/12/1994*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - 4Q 1993 QUARTERLY REPORT DATED 01-1994	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8653939306/T0605900965.PDF	
Document Type:	Site Documents				Size :	44 KB
Document Date:	12/14/1993*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	
Title:					HISTORICAL - AGENCY APPROVAL OF WORKPLAN FOR ADDITIONAL SUBSURFACE INVESTIGATION DATED 12-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2858665168/T0605900965.PDF	
Document Type:	Site Documents				Size :	2,393 KB
Document Date:	12/7/1993*				Submitted By:	PINNACLE EMS (CONTRACTOR)
Type:	OTHER REPORT / DOCUMENT				Submitted:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Title:					HISTORICAL - WORK PLAN FOR ADDITIONAL SUBSURFACE INVESTIGATION DATED 12-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1243292450/T0605900965.PDF	
Document Type:	Site Documents			Size :	47 KB	
Document Date:	10/6/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - AGENCY REQUEST FOR WORKPLAN FOR FURTHER SITE ASSESSMENT DATED 10-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6639001667/T0605900965.PDF	
Document Type:	Site Documents			Size :	127 KB	
Document Date:	10/6/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - 3Q 1993 QUARTERLY REPORT DATED 10-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7406524896/T0605900965.PDF	
Document Type:	Site Documents			Size :	2,772 KB	
Document Date:	9/29/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - ADDITIONAL SITE ASSESSMENT REPORT DATED 09-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1840603768/T0605900965.PDF	
Document Type:	Site Documents			Size :	452 KB	
Document Date:	6/22/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - 2Q 1993 QUARTERLY REPORT DATED 06-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/2063196003/T0605900965.PDF	
Document Type:	Site Documents			Size :	43 KB	
Document Date:	6/3/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - AGENCY APPROVAL OF WORKPLAN DATED 06-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4966818690/T0605900965.PDF	
Document Type:	Site Documents			Size :	214 KB	
Document Date:	5/24/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - WORKPLAN AMENDMENT DATED 05-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6596557855/T0605900965.PDF	
Document Type:	Site Documents			Size :	88 KB	
Document Date:	5/14/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - AGENCY DIRECTIVE TO SUBMIT WORKPLAN DATED 05-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/1002044916/T0605900965.PDF	
Document Type:	Site Documents			Size :	137 KB	
Document Date:	4/8/1993*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - 1Q 1993 QUARTERLY REPORT DATED 04-1993	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/5203500568/T0605900965.PDF	
Document Type:	Site Documents			Size :	60 KB	
Document Date:	12/2/1992*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - AGENCY REQUEST FOR WORKPLAN FOR FURTHER SITE INVESTIGATION DATED 12-1992	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6551430761/T0605900965.PDF	
Document Type:	Site Documents			Size :	135 KB	
Document Date:	10/5/1992*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - REQUEST FOR TEMPORARY TANK CLOSURE STATUS DATED 10-1992	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6481750726/T0605900965.PDF	
Document Type:	Site Documents			Size :	134 KB	
Document Date:	7/9/1992*			Submitted By:	PINNACLE EMS (CONTRACTOR)	
Type:	OTHER REPORT / DOCUMENT			Submitted:		
Title:					HISTORICAL - SUBSURFACE SITE INVESTIGATION REPORT AND REQUEST FOR NO FURTHER ACTION DATED 07-1992	
Title Link:					http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/4774475336/T0605900965.PDF	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Document Type: Site Documents **Size :** 1,185 KB
Document Date: 6/10/1992* **Submitted By:** PINNACLE EMS (CONTRACTOR)
Type: OTHER REPORT / DOCUMENT **Submitted:**
Title: HISTORICAL - SUBSURFACE INVESTIGATION REPORT DATED 06-1992
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/7109579682/T0605900965.PDF

39	4 of 4	SSW	0.49 / 2,583.88	373.59 / -27	USA PETROLEUM #825 23852 EL TORO LAKE FOREST CA 92630	LUST
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Global ID: T0605936712 **County:** ORANGE
Status: COMPLETED - CASE CLOSED **Latitude:** 33.615446
Status Date: 2005-12-14 00:00:00 **Longitude:** -117.706086
Case Type: LUST CLEANUP SITE
Date Source: LUST Cleanup Sites from GeoTracker Search; LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case Number: **Potential COC:** Diesel, Gasoline
Local Case Number: 03UT024 **How Discovered:** UST System Modification
Begin Date: 2003-06-11 00:00:00 **Stop Method:** Replace product piping
Lead Agency: ORANGE COUNTY LOP **Stop Description:**
Local Agency: ORANGE COUNTY LOP **Case Worker:** KL
CUF Case: NO **File Location:** Local Agency
Potential Media of Concern: Other Groundwater (uses other than drinking water)
How Discovered Description:
Calwater Watershed Name: San Juan - Laguna - Aliso (901.13)
DWR GW Subbasin Name:
Disadvantaged Community:
Site History:

Regulatory Activity

Action Type: ENFORCEMENT
Date : 2005-12-14 00:00:00
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 2004-05-14 00:00:00
Action: Staff Letter

Action Type: RESPONSE
Date : 2003-09-29 00:00:00
Action: Soil and Water Investigation Workplan

Action Type: RESPONSE
Date : 2003-07-14 00:00:00
Action: Other Report / Document

Action Type: REMEDIATION
Date : 2003-06-19 00:00:00
Action: Excavation

Action Type: ENFORCEMENT
Date : 2003-06-18 00:00:00
Action: Notice of Responsibility

Action Type: ENFORCEMENT
Date : 2003-06-18 00:00:00
Action: * Corrective Action Orders

Action Type: Other
Date : 2003-06-11 00:00:00

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Action: Leak Discovery
Action Type: Other
Date : 2003-06-11 00:00:00
Action: Leak Reported

Regulatory Contacts

Contact Type:	Local Agency Caseworker	Address:	1241 E. DYER ROAD SUITE 120
Contact Name:	JAMES STROZIER	Email:	jstrozier@ochca.com
City:	SANTA ANA	Phone Number:	7144336273
Organization Name:	ORANGE COUNTY LOP		

Contact Type:	Local Agency Caseworker	Address:	1241 E DYER ROAD SUITE 120
Contact Name:	KEVIN LAMBERT	Email:	klambert@ochca.com
City:	SANTA ANA	Phone Number:	7144336261
Organization Name:	ORANGE COUNTY LOP		

Status History

Status: Completed - Case Closed
Status Date: 2005-12-14 00:00:00

Status: Open - Site Assessment
Status Date: 2003-06-17 00:00:00

Status: Open - Case Begin Date
Status Date: 2003-06-11 00:00:00

LUST Cleanup Sites from GeoTracker Search - Regulatory Profile(as of Jan 18, 2019)

Site Facility Name:	USA PETROLEUM #825	Address:	23852 EL TORO
Site Facility Type:	LUST CLEANUP SITE	City:	LAKE FOREST
Cleanup Status:	COMPLETED - CASE CLOSED	Zip:	92630
Project Status:		County:	ORANGE
Potential COC:	DIESEL, GASOLINE	CUF Claim:	
WDR Place Type:		CUF Priority Assig:	
WDR File:		CUF Amount Paid:	
WDR Order:			
File Location:	LOCAL AGENCY		
Designated Beneficial Use:	MUN, AGR		
Project Oversight Agencies:			
Report Link:	http://geotracker.waterboards.ca.gov/profile_report?global_id=T0605936712		
Cleanup Status Detail:	COMPLETED - CASE CLOSED AS OF 12/14/2005		
Cleanup History Link:	http://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0605936712&tabname=regulatoryhistory		
Potential Media Of Concern:	OTHER GROUNDWATER (USES OTHER THAN DRINKING WATER)		
User Defined Beneficial Use:			
DWR GW Sub Basin:			
Calwater Watershed Name:	San Juan - Laguna - Aliso (901.13)		
Post Closure Site Management:			
Future Land Use:			
Cleanup Oversight Agencies:	ORANGE COUNTY LOP (LEAD) - CASE #: 03UT024 CASEWORKER: JAMES STROZIER CASEWORKER: KEVIN LAMBERT SAN DIEGO RWQCB (REGION 9)		

Site History:

No site history available

LUST Cleanup Sites from GeoTracker Search - Cleanup Action Report(as of Jan 18, 2019)

Status: Completed - Case Closed
Date : 12/14/2005

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Status: Open - Site Assessment
Date : 6/17/2003

Status: Open - Case Begin Date
Date : 6/11/2003

LUST Cleanup Sites from GeoTracker Search - Cleanup Action(as of Jan 18, 2019)

Action Type:	EXCAVATION	Begin Date:	6/19/2003
Phase:		End Date:	9/9/9999
Contaminant Mass Removed:			
Description:			

LUST Cleanup Sites from GeoTracker Search - Regulatory Activities(as of Jan 18, 2019)

Action Type: Other Regulatory Actions
Action Date: 12/14/2005
Received Issue Date: 12/14/2005
Action: Closure/No Further Action Letter
Doc Link:

Action Type: Other Regulatory Actions
Action Date: 5/14/2004
Received Issue Date: 5/14/2004
Action: Staff Letter
Doc Link:

Action Type: Response Requested - Workplans
Action Date: 9/29/2003
Received Issue Date: 1/1/1965
Action: Soil and Water Investigation Workplan
Doc Link:

Action Type: Response Requested - Other
Action Date: 7/14/2003
Received Issue Date: 1/1/1965
Action: Other Report / Document
Doc Link:

Action Type: Cleanup Action
Action Date: 6/19/2003
Received Issue Date:
Action: Excavation
Doc Link:

Action Type: Notices
Action Date: 6/18/2003
Received Issue Date: 6/18/2003
Action: Notice of Responsibility
Doc Link:

Action Type: Enforcement/Orders
Action Date: 6/18/2003
Received Issue Date: 6/18/2003
Action: * Corrective Action Orders
Doc Link:

Action Type: Leak Action
Action Date: 6/11/2003
Received Issue Date:
Action: Leak Reported
Doc Link:

Action Type: Leak Action
Action Date: 6/11/2003
Received Issue Date:
Action: Leak Discovery

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Doc Link:

LUST Cleanup Sites from GeoTracker Search - Site Maps(as of Jan 18, 2019)

Title: GEO_MAP
Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_map/2703397452/T0605936712.pdf
Size : 254 KB
Submitted By: ES ENGINEERING SERVICES, LLC (AUTH_RP)
Submitted: 10/14/2005

LUST Cleanup Sites from GeoTracker Search - Documents(as of Jan 18, 2019)

Document Type: Site Documents **Size :** 2,507 KB
Document Date: 1/13/2006 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: CASE CLOSURE SUMMARY
Title Link: http://geotracker.waterboards.ca.gov/site_documents/7755283951/03UT024%2Epdf

Document Type: Site Documents **Size :** 134 KB
Document Date: 1/13/2006 **Submitted By:** (REGULATOR)
Type: **Submitted:**
Title: REMEDIAL ACTION COMPLETION CERTIFICATION
Title Link: http://geotracker.waterboards.ca.gov/site_documents/9243107438/03UT024%2Epdf

Document Type: Site Documents **Size :** 6,386 KB
Document Date: 7/20/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: SHALLOW SUBSURFACE INVESTIGATION RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8649472892/T0605936712.PDF

Document Type: Site Documents **Size :** 6,611 KB
Document Date: 7/20/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - CLOSURE RPT. **Submitted:**
Title: PRODUCT DISTRIBUTION PIPING CLOSURE RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/8956226944/T0605936712.PDF

Document Type: Site Documents **Size :** 6,386 KB
Document Date: 7/14/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: SUBSURFACE INVESTIGATION RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/6358823478/T0605936712.PDF

Document Type: Site Documents **Size :** 5,678 KB
Document Date: 7/14/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - INVESTIGATION RPT. **Submitted:**
Title: SHALLOW SUBSURFACE INVESTIGATION
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9783261954/T0605936712.PDF

Document Type: Site Documents **Size :** 6,611 KB
Document Date: 7/14/2005 **Submitted By:** ES ENGINEERING SERVICES, LLC (AUTH_RP)
Type: REPORTS - OTHER **Submitted:**
Title: DISTRIBUTION PIPING RPT
Title Link: http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/3680494010/T0605936712.PDF

40	1 of 1	NNW	0.92 / 4,856.83	342.77 / -58	LAKE FOREST TOWN CENTER / DRY CLEANER 22641 LAKE FOREST DRIVE LAKE FOREST CA 92630	ENVIROSTOR
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Estor/EPA ID: 60002373 **Permit Renewal Lead:**
Site Code: 401751 **Project Manager:** CHRISTINE CHIU

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Nat Priority List:	NO				Supervisor:	YOLANDA GARZA
Acres:	0.05 ACRES				Public Partici Splst:	PHILIP MCPHAUL
Special Program:	VOLUNTARY CLEANUP PROGRAM				Census Tract:	6059052410
Funding:	SITE PROPONENT				County:	ORANGE
Assembly District:	, 68				Latitude:	33.634473
Senate District:	, 37				Longitude:	-117.71141
School District:						
APN:	617-493-01					
Cleanup Status:	ACTIVE AS OF 6/14/2016					
Cleanup Oversight Agencies:	DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY					
Site Type:	VOLUNTARY CLEANUP					
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH					
Past Use that Caused Contam:	DRY CLEANING					
Potential Media Affected:	OTHER GROUNDWATER AFFECTED (USES OTHER THAN DRINKING WATER), SOIL, SOIL VAPOR					
Potential Contamin of Concern:						

TETRACHLOROETHYLENE (PCE), TRICHLOROETHYLENE (TCE)

Site History:

The Site was a former (vacated Fall 2017) operating dry cleaner facility (approximately 2,000 square feet) within a multi-tenant commercial shopping center (approximately 8.7 acres) constructed in 1993. The shopping center is surrounded by commercial buildings to the northwest and southwest, Lake Forest Drive to the southeast, and Muirlands Boulevard to the northeast; residential areas are located across the streets. Prior to DTSC's involvement, environmental investigations were conducted, including the collection of soil, soil gas, and groundwater samples.

A Voluntary Cleanup Agreement (VCA) to investigate and remediate the Site under DTSC oversight was fully executed on August 17, 2016. On June 30, 2017, DTSC approved a workplan for investigation activities which, focusing on the dry cleaning facility, proposed soil and soil vapor sampling and a vapor intrusion assessment (sub-slab and indoor air sampling). Fieldwork activities were conducted from August through November 2017, and a Data Gap Assessment Report with the results was submitted. In January 2018, DTSC provided a response with comments on the report and indicated that additional investigation activities to address impacts to soil vapor and groundwater and a risk evaluation are necessary. In February 2018, a letter (workplan addendum) proposed additional subslab soil vapor sampling and the installation and sampling of three groundwater monitoring wells; and DTSC determined the Letter acceptable for implementation. Fieldwork activities were completed in early April 2018; and a revised Data Gap Assessment Report, which included the sampling results, was submitted to DTSC. In August 2018, DTSC determined that, based on the qualitative nature of the soil vapor data and the project status (i.e., anticipated implementation of a Soil Vapor Extraction (SVE) pilot test), site characterization was adequate to move the project forward.

In May 2018, a SVE Pilot Test Workplan was submitted proposing five SVE wells to operate for four weeks; the purpose of the SVE pilot test is to evaluate an environmental cleanup method. In June 2018, DTSC approved a SVE Pilot Test Workplan. A Work Notice for the SVE Pilot Test was distributed to occupants of nearby buildings on July 20, 2018. The SVE system was installed and the pilot test commenced in mid-December 2018.

Status:	ACTIVE
Program Type:	VOLUNTARY CLEANUP
CalEnviroScreen Score:	66-70%
Summary Link:	http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002373

Completed Activities

Title:	Addendum to the Data Gap Assessment Work Plan
Title Link:	http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441372
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Site Characterization Workplan
Date Completed:	2/22/2018
Comments:	In a letter, dated February 22, 2018, DTSC determined the Letter (Addendum to Data Gap Assessment Workplan), dated February 14, 2018, acceptable for implementation, noting specific comments for compliance. DTSC also provided comments on the project schedule and requested such be addressed in the future.

Title:	Modified Sampling Proposal (Unit B.12)
Title Link:	http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60434486
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Technical Workplan
Date Completed:	9/6/2017
Comments:	Via email on September 6, 2017, DTSC determined the proposal for modified sampling regarding HV Pharmacy

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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(Unit B.12) to be acceptable and requested an updated schedule of fieldwork activities and report submittal.

Title: Data Gap Assessment Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60416503
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Characterization Report
Date Completed: 8/30/2018
Comments: In a letter, dated August 30, 2018, DTSC provided a response to the revised Data Gap Assessment Report. DTSC requested a response to three specific DTSC recommendations by September 12, 2018 and that the other DTSC comments on the Report be incorporated in future activities and documents, accordingly.

Title: Fieldwork
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60416508
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Fieldwork
Date Completed: 11/6/2017
Comments: Via email on November 5, 2017, DTSC was provided notification indicating that fieldwork activities would be completed on November 6, 2017.

Title: Existing Documents & Scoping Meeting
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60414094
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Characterization Report
Date Completed: 10/20/2016
Comments: On October 20, 2016, DTSC and the Proponent held a Scoping Meeting regarding the next steps based on the existing environmental documents regarding the project.

Title: Annual Oversight Cost Estimate Fiscal Year 2017-2018
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60433633
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Annual Oversight Cost Estimate
Date Completed: 9/11/2017
Comments: In a letter, dated September 11, 2017, DTSC transmitted a project cost estimate for Fiscal Year 2017 - 2018. In a letter, dated May 24, 2018, DTSC transmitted an updated project cost estimate for Fiscal Year 2017 - 2018.

Title: Data Gap Assessment Workplan
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60416501
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Characterization Workplan
Date Completed: 6/30/2017
Comments: In a letter, dated June 30, 2017, DTSC approved the Data Gap Assessment Work Plan for implementation.

Title: Updated Project Schedule
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60455412
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 12/11/2018
Comments: Via email on December 11, 2018, DTSC received an updated Project Schedule, dated December 11, 2018.

Title: Fieldwork
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441914

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Area Name:						
Area Link:						
Sub Area:						
Sub Area Link:						
Document Type:		Fieldwork				
Date Completed:		4/2/2018				
Comments:		Via email on April 12, 2018, DTSC was provided notification that fieldwork activities were completed on April 2, 2018.				
Title:		Site Visit				
Title Link:		http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60420020				
Area Name:						
Area Link:						
Sub Area:						
Sub Area Link:						
Document Type:		Site Inspections/Visit (Non LUR)				
Date Completed:		12/27/2016				
Comments:		On December 27, 2016, the Site Visit Report was finalized; the SVR pertained to the first time Site visit by DTSC on December 5, 2016.				
Title:		Voluntary Cleanup Agreement				
Title Link:		http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60410280				
Area Name:						
Area Link:						
Sub Area:						
Sub Area Link:						
Document Type:		Voluntary Cleanup Agreement				
Date Completed:		8/17/2016				
Comments:		VCA fully executed.				
Title:		Request to Extend SVE Pilot Test				
Title Link:		http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60456140				
Area Name:						
Area Link:						
Sub Area:						
Sub Area Link:						
Document Type:		Pilot Study/Treatability Workplan				
Date Completed:		1/16/2019				
Comments:		Via email response on January 16, 2019, DTSC found it acceptable to extend the SVE pilot test to operate for a duration of nine months (scheduled to end on September 23, 2019). In addition, DTSC indicated the other proposed activities and updated project schedule, dated January 15, 2019, are acceptable.				
Title:		Work Notice for SVE Pilot Test				
Title Link:		http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441920				
Area Name:						
Area Link:						
Sub Area:						
Sub Area Link:						
Document Type:		Work Notice				
Date Completed:		7/20/2018				
Comments:		Via email on July 23, 2018, DTSC received confirmation that the Work Notice for the Soil Vapor Extraction Pilot Test was distributed to occupants of nearby buildings on July 20, 2018 (26 copies were distributed).				
Title:		Annual Oversight Cost Estimate Fiscal Year 2018-2019				
Title Link:		http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&enforcement_id=60446801				
Area Name:						
Area Link:						
Sub Area:						
Sub Area Link:						
Document Type:		Annual Oversight Cost Estimate				
Date Completed:		9/5/2018				
Comments:		FY 1819 Estimate: \$52,554				
Title:		SVE Pilot Test Workplan				
Title Link:		http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002373&doc_id=60441916				
Area Name:						
Area Link:						
Sub Area:						
Sub Area Link:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Document Type: Pilot Study/Treatability Workplan
Date Completed: 6/8/2018
Comments: In a letter, dated June 8, 2018, DTSC approved the SVE Pilot Test Workplan for implementation. DTSC requested submittal of a revised Project Schedule by June 22, 2018.

41	1 of 2	E	0.96 / 5,076.66	451.16 / 51	SILVERADO CONTINUATION HIGH SCHOOL 25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	ENVIROSTOR
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Estor/EPA ID:	70000058	Permit Renewal Lead:	
Site Code:	404653	Project Manager:	
Nat Priority List:	NO	Supervisor:	JAVIER HINOJOSA
Acres:	1.9 ACRES	Public Partici Splst:	
Special Program:		Census Tract:	6059032028
Funding:	SCHOOL DISTRICT	County:	ORANGE
Assembly District:	73	Latitude:	33.621197284796
Senate District:	36	Longitude:	-117.682694251946
School District:	SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT		
APN:	809-312-01, 809-312-02, 809-312-03		
Cleanup Status:	NO ACTION REQUIRED AS OF 11/1/2005		
Cleanup Oversight Agencies:	DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY		
Site Type:	SCHOOL		
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH		
Past Use that Caused Contam:	NONE		
Potential Media Affected:	NO MEDIA AFFECTED		
Potential Contamin of Concern:			

NO CONTAMINANTS FOUND

Site History:

The proposed school site is located in the foothills of the Santa Ana Mountains, in the northern part of the Peninsular Ranges. The site consists of portions of the existing Silverado Continuation High School.

Status:	NO ACTION REQUIRED
Program Type:	SCHOOL EVALUATION
CalEnviroScreen Score:	36-40%
Summary Link:	http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=70000058

Completed Activities

Title:	Phase 1 Silverado Continuation School Site
Title Link:	http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=70000058&doc_id=6008014
Area Name:	
Area Link:	
Sub Area:	
Sub Area Link:	
Document Type:	Phase 1
Date Completed:	10/26/2005
Comments:	No Action

41	2 of 2	E	0.96 / 5,076.66	451.16 / 51	SILVERADO CONTINUATION HIGH SCHOOL 25632 PETER A HARTMAN WAY MISSION VIEJO CA 92691	SCH
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Estor/EPA ID:	70000058	Permit Renewal Lead:	
Site Code:	404653	Project Manager:	
Nat Priority List:	NO	Supervisor:	JAVIER HINOJOSA
Acres:	1.9 ACRES	Public Partici Splst:	
Special Program:		Census Tract:	6059032028
Funding:	SCHOOL DISTRICT	County:	ORANGE
Assembly District:	73	Latitude:	33.621197284796
Senate District:	36	Longitude:	-117.682694251946
School District:	SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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APN: 809-312-01, 809-312-02, 809-312-03
Cleanup Status: NO ACTION REQUIRED AS OF 11/1/2005
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: SCHOOL
Office: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam: NONE
Potential Media Affected: NO MEDIA AFFECTED
Potential Contaminant of Concern:

NO CONTAMINANTS FOUND

SITE HISTORY:

The proposed school site is located in the foothills of the Santa Ana Mountains, in the northern part of the Peninsular Ranges. The site consists of portions of the existing Silverado Continuation High School.

Status: NO ACTION REQUIRED
Program Type: SCHOOL EVALUATION
CalEnviroScreen Score: 36-40%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=70000058

Completed Activities

Title: Phase 1 Silverado Continuation School Site
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=70000058&doc_id=6008014
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Phase 1
Date Completed: 10/26/2005
Comments: No Action

Unplottable Summary

Total: 6 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
CDL		EL TORO RD	RIVERSIDE CA		820123823
FINDS/FRS	GW CLEANUP- L.HILLSNAEL TORO RD	EL TORO ROAD	LAGUNA HILLS CA	92356	840086502
HIST TANK	GUIDO MARX	EL TORO ROAD	CA		865086922
RCRA CORRACTS	MARINE CORPS AIR STATION, EL TORO	MCAS EL TORO <i>EPA Handler ID: CA6170023208</i>	EL TORO CA	92709	810472189
RCRA SQG	MARINE CORPS AIR STATION, EL TORO	MCAS EL TORO <i>EPA Handler ID: CA6170023208</i>	EL TORO CA	92709	810723213
RCRA TSD	MARINE CORPS AIR STATION, EL TORO	MCAS EL TORO <i>EPA Handler ID: CA6170023208</i>	EL TORO CA	92709	810459659

Unplottable Report

Site: EL TORO RD RIVERSIDE CA CDL

Clue: 1996-12-090
Date: 12/20/1996
County: RIVERSIDE
Lab Type: A
Lab Type Description: Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

Site: GW CLEANUP-L.HILLSNAEL TORO RD FINDS/FRS
EL TORO ROAD LAGUNA HILLS CA 92356

Registry ID: 110065993394
FIPS Code:
HUC Code:
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 14-OCT-2015 09:23:11
Update Date:
Interest Types: STATE MASTER
SIC Codes: 4959
SIC Code Descriptions: SANITARY SERVICES, NOT ELSEWHERE CLASSIFIED
NAICS Codes:
NAICS Code Descriptions:
Conveyor:
Federal Facility Code:
Federal Agency Name:
Tribal Land Code:
Tribal Land Name:
Congressional Dist No.:
Census Block Code:
EPA Region Code: 09
County Name: ORANGE COUNTY
US/Mexico Border Ind:
Latitude:
Longitude:
Reference Point:
Coord Collection Method:
Accuracy Value:
Datum: NAD83
Source:
Facility Detail Rprt URL: http://ofmpub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110065993394
Program Acronyms:

CA-ENVIROVIEW:350961

Site: GUIDO MARX HIST TANK
EL TORO ROAD CA

Owner Name: GUID MARX	No of Containers: 3
Owner Street: 335 MONARCH BAY	County: RIVERSIDE
Owner City: SOUTH LAGUNA	Facility State: CA
Owner State: CA	Facility Zip: 92677
Owner Zip: 92677	

Site: MARINE CORPS AIR STATION, EL TORO
MCAS EL TORO EL TORO CA 92709

RCRA CORRACTS

EPA Handler ID: CA6170023208
Gen Status Universe: Small Quantity Generator
Contact Name: EDWARD L NUNN
Contact Address: US
Contact Phone No and Ext: 619-572-1404
Contact Email:
Contact Country: US
County Name: ORANGE
EPA Region: 09
Land Type: Federal
Receive Date: 20020129

Event/Area Details

Area Name: OU2A - VADOSE ZONE SOILS
Event Code: CA150
Corrective Action Event Descri: INVESTIGATION WORKPLAN APPROVED
Actual Date of Event: 19970123
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19970123
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: OU2A - VADOSE ZONE SOILS
Event Code: CA200
Corrective Action Event Descri: INVESTIGATION COMPLETE
Actual Date of Event: 19970123
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19970123
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA750NO
Corrective Action Event Descri: RELEASE TO GW CONTROLLED DETERMINATION-FACILITY DOES NOT MEET DEFINITION
Actual Date of Event: 19980617
Orig Sched Event Date: 19980617
New Sched Event Date:
Best Date: 19980617
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA400
Corrective Action Event Descri: REMEDY DECISION
Actual Date of Event: 19970930
Orig Sched Event Date: 19970930
New Sched Event Date:
Best Date: 19970930
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: OU2A - VADOSE ZONE SOILS
Event Code: CA300
Corrective Action Event Descri: CMS WORKPLAN APPROVED
Actual Date of Event: 19970123
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19970123
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: FOST 1
Event Code: CA999RM
Corrective Action Event Descri: CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE
Actual Date of Event: 20040723
Orig Sched Event Date: 20040723
New Sched Event Date:
Best Date: 20040723
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA050
Corrective Action Event Descri: RFA COMPLETED
Actual Date of Event: 19960501
Orig Sched Event Date: 19960501
New Sched Event Date:
Best Date: 19960501
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA070YE
Corrective Action Event Descri: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY
Actual Date of Event: 19960501
Orig Sched Event Date: 19960501
New Sched Event Date:
Best Date: 19960501
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA725NO
Corrective Action Event Descri: HUMAN EXPOSURES CONTROLLED DETERMINATION-FACILITY DOES NOT MEET DEFINITION
Actual Date of Event: 19980617
Orig Sched Event Date: 19980617
New Sched Event Date:
Best Date: 19980617
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: OU2A - VADOSE ZONE SOILS
Event Code: CA350
Corrective Action Event Descri: CMS COMPLETE
Actual Date of Event: 19970123
Orig Sched Event Date:

New Sched Event Date:
Best Date: 19970123
Groundwater Release Indicator:
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Mar, 2019.

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 261.5
Violation Short Description: Generators - General

Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960326
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.50-56.D
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926

Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500

Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19941228
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940117
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19941228
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.1
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021

Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19900613
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210

Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19890711

Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Evaluation Details

Evaluation Start Date: 19980114
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19960326
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19960927
Evaluation Agency: State

Evaluation Start Date: 19950330
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19950501
Evaluation Agency: State

Evaluation Start Date: 19931117
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940117
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19920917
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: EPA

Evaluation Start Date: 19920617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19921209
Evaluation Agency: EPA Contractor/Grantee

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19900613
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19880817

Evaluation Agency: EPA
Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner: No
Smelting, Melting and Refining: No
Underground Injection Control: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Waste Code Details

Hazardous Waste Code: D040
Waste Code Description: TRICHTHORETHYLENE

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20001012
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 19990415
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19960901
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 19960131
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19940330
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19931026
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19920229
Handler Name: MCAS EL TORO FMD 1JG B.368
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Federal
Name: U.S. MARINE CORPS
Date Became Current: 19430317
Date Ended Current:
Phone:
Source Type: Annual/Biennial Report

Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Owner/Operator Ind: Current Operator
Type: Federal
Name: MCAS EL TORO
Date Became Current:
Date Ended Current:
Phone: 714-726-2821
Source Type: Implementer

Street No:
Street 1: FACILITIES MGMT DEPT 1JG
Street 2:
City: SANTA ANA
State: CA
Country:
Zip Code: 92709

Owner/Operator Ind: Current Owner
Type: Federal
Name: U.S. MARINE CORPS
Date Became Current: 19430317
Date Ended Current:
Phone:
Source Type: Implementer

Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Owner/Operator Ind: Current Owner
Type: Federal
Name: USMC AIR STATION EL TORO

Street No:
Street 1: PO BOX 95001
Street 2:

Date Became Current:
Date Ended Current:
Phone: 714-726-3705
Source Type: Notification

City: SANTA ANA
State: CA
Country:
Zip Code: 92709-5001

Site: MARINE CORPS AIR STATION, EL TORO
MCAS EL TORO EL TORO CA 92709

RCRA SQG

EPA Handler ID: CA6170023208
Gen Status Universe: Small Quantity Generator
Contact Name: EDWARD L NUNN
Contact Address: US
Contact Phone No and Ext: 619-572-1404
Contact Email:
Contact Country: US
County Name: ORANGE
EPA Region: 09
Land Type: Federal
Receive Date: 20020129

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Mar, 2019.

Violation Details

Citation: FR - 264.170-177.1
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL

Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 261.5
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960326
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.50-56.D
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224

Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER

Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:

Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A

Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19941228
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19940117
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19941228
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General

Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19900613
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:

Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA

Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Evaluation Details

Evaluation Start Date: 19980114
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19960326
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19960927
Evaluation Agency: State

Evaluation Start Date: 19950330
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19950501
Evaluation Agency: State

Evaluation Start Date: 19931117
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940117

Evaluation Agency: State
Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19920917
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: EPA

Evaluation Start Date: 19920617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19921209
Evaluation Agency: EPA Contractor/Grantee

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19900613
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General

Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Waste Code Details

Hazardous Waste Code: D040
Waste Code Description: TRICHLOROETHYLENE

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20001012
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 19990415
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19960901
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 19960131
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19940330
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19931026
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19920229
Handler Name: MCAS EL TORO FMD 1JG B.368
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Owner/Operator Details

Owner/Operator Ind: Current Operator
Type: Federal
Name: MCAS EL TORO
Date Became Current:
Date Ended Current:
Phone: 714-726-2821
Source Type: Implementer

Street No:
Street 1: FACILITIES MGMT DEPT 1JG
Street 2:
City: SANTA ANA
State: CA
Country:
Zip Code: 92709

Owner/Operator Ind: Current Owner
Type: Federal
Name: U.S. MARINE CORPS
Date Became Current: 19430317
Date Ended Current:
Phone:

Street No:
Street 1:
Street 2:
City:
State:
Country: US

Source Type:	Implementer	Zip Code:	
Owner/Operator Ind:	Current Owner	Street No:	
Type:	Federal	Street 1:	
Name:	U.S. MARINE CORPS	Street 2:	
Date Became Current:	19430317	City:	
Date Ended Current:		State:	
Phone:		Country:	US
Source Type:	Annual/Biennial Report	Zip Code:	
Owner/Operator Ind:	Current Owner	Street No:	
Type:	Federal	Street 1:	PO BOX 95001
Name:	USMC AIR STATION EL TORO	Street 2:	
Date Became Current:		City:	SANTA ANA
Date Ended Current:		State:	CA
Phone:	714-726-3705	Country:	
Source Type:	Notification	Zip Code:	92709-5001

Site: MARINE CORPS AIR STATION, EL TORO
MCAS EL TORO EL TORO CA 92709

[RCRA TSD](#)

EPA Handler ID: CA6170023208
Gen Status Universe: Small Quantity Generator
Contact Name: EDWARD L NUNN
Contact Address: US
Contact Phone No and Ext: 619-572-1404
Contact Email:
Contact Country: US
Land Type: Federal
County Name: ORANGE
EPA Region: 09
Receive Date: 20020129

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Mar, 2019.

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520

Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19970520
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19980114
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19970520
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.40-43.D

Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 261.5
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960327
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: F - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19960326
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19960927
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19960327
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.50-56.D
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19950419
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19950501
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19950419
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209

Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:

Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State

Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19930426
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount: 42000
Paid Amount: 42000

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19930310
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount: 80500
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.70-77.E
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921209
Scheduled Compliance Date: 19921224
Return to Compliance: Observed
Actual Return to Compl: 19940926
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921209
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19941228
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19940117
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19941228
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19921005
Scheduled Compliance Date: 19931229
Return to Compliance: Observed
Actual Return to Compl: 19921209
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL

Enforcement Action Date: 19921009
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.50-60
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.30-34.C
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.170-177.I
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.30-37.C
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.20-23.B
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 262.40-43.D
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.10-18.B
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19910930
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19911021
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19900613
Scheduled Compliance Date:

Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19911125
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210

Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19890711
Scheduled Compliance Date:
Return to Compliance: Observed
Actual Return to Compl: 19900613
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19890817
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19880817

Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 264.110-120.G
Violation Short Description: TSD - Closure/Post-Closure
Violation Type: 264.G
Violation Determined Date: 19880817
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19890711
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 310
Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 19900928
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 210
Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
Enforcement Action Date: 19900806
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:

Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 19881117
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Citation: FR - 268 ALL
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 270
Violation Short Description: TSD - General
Violation Type: 264.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Violation Details

Citation: FR - 268.7
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 19870305
Scheduled Compliance Date:
Return to Compliance: Unverifiable
Actual Return to Compl: 19880817
Violation Responsible Agency: EPA

Evaluation Details

Evaluation Start Date: 19980114
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19970520
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19980114
Evaluation Agency: State

Evaluation Start Date: 19960326
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General

Return to Compliance Date: 19960927
Evaluation Agency: State

Evaluation Start Date: 19950330
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19950501
Evaluation Agency: State

Evaluation Start Date: 19931117
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940117
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19921026
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19940926
Evaluation Agency: State

Evaluation Start Date: 19920917
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: EPA

Evaluation Start Date: 19920617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19921209
Evaluation Agency: EPA Contractor/Grantee

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19910617
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19900613
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19911125
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE

Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19890711
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19900613
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - Closure/Post-Closure
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19880817
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19890711
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Evaluation Start Date: 19870305
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General
Return to Compliance Date: 19880817
Evaluation Agency: EPA

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Smelting, Melting and Refining: No
Underground Injection Control: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Waste Code Details

Hazardous Waste Code: D040
Waste Code Description: TRICHLORETHYLENE

Hazardous Waste Handler Details

Sequence No: 2

Receive Date: 20020129
Handler Name: MARINE CORPS AIR STATION, EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20001012
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 19990415
Handler Name: MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19960901
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Implementer

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 19960131
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 19940330
Handler Name: USMC MCAS EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19931026
Handler Name: USMC AIR STATION EL TORO
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19920229
Handler Name: MCAS EL TORO FMD 1JG B.368
Generator Status Universe: Small Quantity Generator
Source Type: Annual/Biennial Report

Owner/Operator Details

Owner/Operator Ind: Current Operator

Street No:

Type: Federal
Name: MCAS EL TORO
Date Became Current:
Date Ended Current:
Phone: 714-726-2821
Source Type: Implementer

Street 1: FACILITIES MGMT DEPT 1JG
Street 2:
City: SANTA ANA
State: CA
Country:
Zip Code: 92709

Owner/Operator Ind: Current Owner
Type: Federal
Name: U.S. MARINE CORPS
Date Became Current: 19430317
Date Ended Current:
Phone:
Source Type: Implementer

Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Owner/Operator Ind: Current Owner
Type: Federal
Name: USMC AIR STATION EL TORO
Date Became Current:
Date Ended Current:
Phone: 714-726-3705
Source Type: Notification

Street No:
Street 1: PO BOX 95001
Street 2:
City: SANTA ANA
State: CA
Country:
Zip Code: 92709-5001

Owner/Operator Ind: Current Owner
Type: Federal
Name: U.S. MARINE CORPS
Date Became Current: 19430317
Date Ended Current:
Phone:
Source Type: Annual/Biennial Report

Street No:
Street 1:
Street 2:
City:
State:
Country: US
Zip Code:

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List:

NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Apr 11, 2019

National Priority List - Proposed:

PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Apr 11, 2019

Deleted NPL:

DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Apr 11, 2019

SEMS List 8R Active Site Inventory:

SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Apr 11, 2019

Inventory of Open Dumps, June 1985:

ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites:

SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Apr 11, 2019

Comprehensive Environmental Response, Compensation and Liability Information System -

CERCLIS

CERCLIS:

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands:

IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned:

CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens:

CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action:

RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Mar 4, 2019

RCRA non-CORRACTS TSD Facilities:

RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Mar 4, 2019

RCRA Generator List:

RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Mar 4, 2019

RCRA Small Quantity Generators List:

RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Mar 4, 2019

RCRA Conditionally Exempt Small Quantity Generators List:

[RCRA CESQG](#)

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste or one kilogram or less per month of acutely hazardous waste.

Government Publication Date: Mar 4, 2019

RCRA Non-Generators:

[RCRA NON GEN](#)

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Mar 4, 2019

Federal Engineering Controls-ECs:

[FED ENG](#)

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 20, 2018

Federal Institutional Controls- ICs:

[FED INST](#)

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Sep 20, 2018

Emergency Response Notification System:

[ERNS 1982 TO 1986](#)

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System:

[ERNS 1987 TO 1989](#)

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System:

[ERNS](#)

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database:

[FED BROWNFIELDS](#)

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 11, 2019

FEMA Underground Storage Tank Listing:

[FEMA UST](#)

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries:

REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 17, 2018

Petroleum Product and Crude Oil Rail Terminals:

BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property:

SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Apr 11, 2019

Superfund Decision Documents:

SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Apr 11, 2019

State

State Response Sites:

RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Mar 11, 2019

EnviroStor Database:

ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Mar 11, 2019

Delisted State Response Sites:

DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Mar 11, 2019

Solid Waste Information System (SWIS):

SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: May 13, 2019

EnviroStor Hazardous Waste Facilities:

HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Mar 11, 2019

Land Disposal Sites:

LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Apr 10, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report:

SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Leaking Underground Fuel Tank Reports:

LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Apr 10, 2019

Delisted Leaking Storage Tanks:

DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Apr 10, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels:

SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Permitted Underground Storage Tank (UST) in GeoTracker:

UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: May 1, 2019

Proposed Closure of Underground Storage Tank Cases:

UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Mar 11, 2019

Historical Hazardous Substance Storage Information Database:

HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks:

AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks:

DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: May 1, 2019

California Environmental Reporting System (CERS) Tanks:

CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: May 6, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions:

LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Mar 11, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions:

HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Apr 17, 2019

Deed Restrictions and Land Use Restrictions:

DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Apr 17, 2019

Voluntary Cleanup Program:

VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Mar 11, 2019

GeoTracker Cleanup Program Sites:

CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Apr 17, 2019

Delisted California Environmental Reporting System (CERS) Tanks:

DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: May 6, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary:

HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in the 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands:

INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands:

INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks:

DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

Delisted Tribal Underground Storage Tanks:

DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

County

Delisted County Records:

DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Jun 1, 2019

Orange County - Anaheim City UST Cleanup Cases:

UST CLEANUP

A list of UST Cleanup Cases in the City of Anaheim in Orange County. As part of its Groundwater Protection Program, the City of Anaheim managed the UST Cleanup Oversight Program from April 1991 to June 2014. This list is published by the City of Anaheim Underground Storage Tank Cleanup Program.

Government Publication Date: May 26, 2015

Orange County - Anaheim City AST List:

ANAHEIM AST

List of Aboveground Storage Tanks (ASTs) in Anaheim City, Orange County made available by Anaheim Fire & Rescue.

Government Publication Date: Mar 7, 2019

Orange County - Anaheim City UST List:

ANAHEIM UST

A list of Underground Storage Tanks in Anaheim City, Orange County. This list is made available by Anaheim Fire & Rescue Department.

Government Publication Date: Mar 7, 2019

Orange County - Aboveground Petroleum Storage Tank Listing:

ORANGE AST

A list of Aboveground Petroleum Storage Tank (APST) facilities inspected by Orange County Certified Unified Program Agency (CUPA) Under the Aboveground Petroleum Storage Act (APSA). This list is made available by the Environmental Health Division of Orange County Health Care Agency.

Government Publication Date: May 1, 2019

Orange County - LOP Lead Cases List:

ORANGE LOP

The Local Oversight Program of the County of Orange provides regulatory cleanup oversight for cleanup of leaking underground storage tanks (USTs). This dataset is provided by the Orange County Health Care Agency.

Government Publication Date: May 1, 2019

Orange County - Underground Storage Tanks Listing:

UST ORANGE CNTY

A list of registered Underground Storage Tank (UST) sites in Orange County. This list is made available by Orange County Health Care Agency (OCHCA), Environmental Health Division which oversees the underground storage tank inspection program in most of the cities of Orange County, with the exception of Anaheim, Fullerton, and Orange.

Government Publication Date: May 7, 2019

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index:

FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Toxics Release Inventory (TRI) Program:

TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System:

HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs:

NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Jul 18, 2018

Toxic Substances Control Act:

TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA:

HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing:

FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing:

FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List:

PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Dec 20, 2018

State Coalition for Remediation of Drycleaners Listing:

SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS):

[ICIS](#)

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities:

[FED DRYCLEANERS](#)

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities:

[DELISTED FED DRY](#)

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites:

[FUDS](#)

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS):

[MLTS](#)

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites:

[HIST MLTS](#)

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File:

[MINES](#)

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 30, 2018

Alternative Fueling Stations:

[ALT FUELS](#)

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Apr 8, 2019

Registered Pesticide Establishments:

[SSTS](#)

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Sep 1, 2018

Polychlorinated Biphenyl (PCB) Notifiers:

PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities:

DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Apr 16, 2019

Delisted Drycleaners:

DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Apr 16, 2019

Non-Toxic Dry Cleaning Incentive Program:

DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Hazardous Waste and Substances Site List - Site Cleanup:

HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Apr 23, 2019

List of Hazardous Waste Facilities Subject to Corrective Action:

DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement:

INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Apr 19, 2019

School Property Evaluation Program Sites:

SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Mar 11, 2019

California Hazardous Material Incident Report System (CHMIRS):

CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Apr 2, 2019

Hazardous Waste Manifest Data:

HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS):

[HIST CHMIRS](#)

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data:

[HIST MANIFEST](#)

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List:

[HIST CORTESE](#)

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders:

[CDO/CAO](#)

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites:

[CERS HAZ](#)

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: May 6, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites:

[DELISTED HAZ](#)

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker:

[GEOTRACKER](#)

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Apr 17, 2019

Waste Discharge Requirements:

[WASTE DISCHG](#)

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Apr 10, 2019

Toxic Pollutant Emissions Facilities:

[EMISSIONS](#)

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites:

[CDL](#)

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/ clandestine drug laboratories.

Government Publication Date: Dec 31, 2017

Tribal

No Tribal additional environmental record sources available for this State.

County

Orange County - Industrial Cleanup Program Cases Listing:

[ORANGE ICP](#)

Orange County Health Care Agency's Environmental Health Division has an Industrial Cleanup (IC) program which oversees the voluntary cleanup of contaminated property. This is a list of cases (by city) which the IC program has overseen in the past, or is currently overseeing.

Government Publication Date: May 1, 2019

Orange County - Hazardous Waste Facilities:

[ORANGE HW](#)

A list of Hazardous Waste Facilities in Orange County. This list is made available by Orange County Environmental Health Department.

Government Publication Date: May 1, 2019

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix G - Dry Cleaner Reports

Appendix F



C. JAMES & ASSOCIATES, INC.

“Protecting America’s Resources”

Mailing Address

PO Box 4832
Oceanside, California 92052

760.722.0050

April 15, 2019

Mr. Rod Valverde
Milan Capital Management/Pelican Investments, LLC
681 South Parker Street, Suite 270
Orange, California 92868

**RE: 1st QTR 2019 Groundwater Monitoring Report
FORMER CROWN CLEANERS SITE
24601 Raymond Way
Lake Forest, California
SARWQCB Case No. 2080155
Global ID: T10000009409**

Dear Mr. Valverde:

As requested, C. James and Associates, Inc (CJA) is pleased to present this *Quarterly Monitoring Report* for the above referenced site. CJA was contracted to conduct the groundwater monitoring and sampling at the site as required by Santa Ana Regional Water Quality Control Board (SARWQCB).

Background

The subject site is a former dry cleaning establishment known as Crown Cleaners that was located in a tenant suite in the Carlen Plaza shopping center from the 1970s through 2010, when the suite was vacated and the dry cleaning equipment was removed. This suite is currently occupied by Impressions Beauty Salon and Supply. Environmental investigations initiated in 2009 identified subsurface impacts from PCE, a common dry cleaning solvent. Results of these investigations indicated soil was impacted with PCE below the approximate groundwater interface located at about 22-24 feet below grade (recently dropping to about 25-26 feet below grade).

The plume of impacted groundwater is centered near the removed dry cleaning equipment and extends radially from the release zone. Typically the near-source wells located inside the structure have greater than 100 µg/L dissolved PCE, with maximum concentrations frequently greater than 500 µg/L. In May 2017, a series of in-situ groundwater samples were obtained in plume-perimeter locations outside the building to attempt to define the lateral and vertical extents of groundwater contamination. Results indicated none of the samples collected north, south or west of the building had significant concentrations of VOC, essentially defining the extent of dissolved contamination in these directions. One sample (GW9), located east of the heart of the plume had 33 µg/L PCE from a

depth range of 24 to 27 feet below grade. Slightly deeper samples (29-32 feet) in this same location did not have detectable levels of PCE.

Interim remedial action operations were conducted at the property in an attempt to reduce PCE concentrations in soil, soil vapor, and groundwater near the release zone. A vapor extraction/dual phase extraction system operated at the site from July 2014 to May 2017, when the system was shut down pending a soil gas testing event. The system was not restarted until February 2018, after installation of well VE1 and preliminary pilot testing indicated the system could be operated with improved effectiveness. Operation, sampling, and reporting on the dual phase extraction system performance are conducted by CJA and submitted under separate cover.

The current work presents the results of quarterly groundwater monitoring and sampling at the site. Results indicate the groundwater conditions are similar to previous results and additional treatment will be required to reduce the dissolved concentrations to acceptable levels.

Groundwater Monitoring and Sampling

On March 20, 2019, eleven of the 12 groundwater monitoring wells were purged and sampled under the supervision of CJA personnel. Well MW10 was dry at the time of sampling. Groundwater levels in the wells ranged from 19.82 to 25.93 feet bgs. Groundwater monitoring and sampling of the wells was conducted by Blaine Tech Services, Inc. The groundwater sampling event was performed using low-flow purging techniques, as required by SARWQCB for this site.

The depth to groundwater measurements were obtained using an electronic water level probe recorded to the nearest 0.01-foot, and groundwater elevations were determined relative to the North American Vertical Datum of 1988 (NAVD 88). All submerged portions of the water level probe(s) were washed in a detergent solution and rinsed with water between measurements. The wells were prepared and sampled using low-flow (minimal drawdown) sampling procedures as described in USEPA's "Ground Water Issue, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures" (Puls & Barcelona, April 1996). The wells were purged with a variable flow rate pump at a rate of approximately 0.1 liters per minute. Groundwater temperature, pH, conductivity, turbidity, dissolved oxygen, and oxygen-reduction potential were monitored during purging. Upon reaching parameter stability as defined in Section G of USEPA's "Ground Water Issue, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures," groundwater samples were recovered and placed in laboratory supplied containers appropriate for the required analyses. The sample containers were immediately sealed, labeled, and stored on ice pending delivery to a State certified analytical laboratory. All pumping and sampling equipment was washed in a detergent solution and rinsed with water between purging/sampling events. The Field Data Sheets from the well sampling activities are presented in Appendix A.

**24601 Raymond Way
Lake Forest, California**

Results of groundwater monitoring indicated the groundwater levels are generally consistent with the historical record. The groundwater gradient was measured to be approximately 0.008 to the northeast (Figure 1).

The groundwater samples were delivered under proper chain-of custody procedures to Advanced Technology Laboratories, a State-certified laboratory. The samples were analyzed for volatile organics by EPA Method 8260B.

The results indicated that 4 of the 11 wells available for sampling (MW2, MW4, MW5, and MW8) had greater than 100 µg/L PCE with a maximum of 420 µg/L detected in wells MW4 and MW5. The remaining wells had a maximum of 93 µg/L PCE as found in well MW1. Upgradient wells MW11 and MW12 had less than detectable levels of PCE. The current groundwater sampling data is summarized in Table 1. The historical groundwater monitoring and sampling data are presented in Table 2. The distribution of dissolved PCE in groundwater is shown on Figure 2. The current laboratory report and chain-of-custody are presented in Appendix B.

Should you have any questions, please do not hesitate to contact C. James & Associates, Inc..

Sincerely,

C. James & Associates, Inc.



Michael Anselmo
Engineering Manager



John Nicolich P.E.



TABLES

TABLE 1
Summary of Current Groundwater Sampling Results (µg/L)

Sample ID	DTW	PCE	TCE	Other VOC
Sampled March 20,2019				
MW1	25.21	93	ND<0.5	ND
MW2	25.12	240	ND<0.5	ND
MW3	25.48	74	ND<0.5	ND
MW4	24.92	420	ND<0.5	ND
MW5	25.93	420	ND<0.5	ND
MW6	25.30	85	ND<0.5	ND
MW7	24.11	40	ND<0.5	ND
MW8	25.14	390	0.64	ND
MW9	25.82	20	ND<0.5	ND
MW10	Dry	--	--	--
MW11	19.98	ND<0.5	ND<0.5	ND
MW12	19.82	ND<0.5	ND<0.5	ND
MCL		5	5	--

Notes: Please refer to laboratory report for complete results.

TABLE 2
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW1 402.87	07/07/11	21.23	381.64	39.50	13	<0.5	ND
	12/30/11	21.27	381.60	39.50	17	<0.5	ND
	03/22/12	22.47	380.40	39.50	510	<0.5	ND
	06/27/12	22.56	380.31	39.50	770	<0.5	ND
	09/28/12	22.54	380.33	39.50	310	<0.5	ND
	12/20/12	22.77	380.10	39.50	590	<0.5	ND
	03/19/13	23.03	379.84	39.50	310	1.2	ND
	06/12/13	22.52	380.35	39.50	210	<0.5	ND
	09/25/13	Not	Sampled		Inaccessible		
	03/21/14	23.41	379.46	39.50	300	<0.5	ND
	06/16/14	24.12	378.75	39.50	530	<0.5	ND
	09/26/14	23.78	379.09	39.50	340	<0.5	ND
	12/29/14	24.08	378.79	39.48	150	<0.5	ND
	03/26/15	24.10	378.77	39.50	200	<0.5	ND
	06/30/15	24.35	378.52	39.46	170	<0.5	ND
	09/29/15	24.67	378.2	39.45	150	0.51	ND
	12/29/15	24.22	378.65	39.46	300	<0.5	ND
	03/22/16	25.12	377.75	39.48	160	<0.5	ND
	06/21/16	25.20	377.67	39.45	200	<0.5	ND
	09/27/16	25.06	377.81	39.45	1.4	<0.5	ND
	12/29/16	25.70	377.17	39.45	84	<0.5	ND
	3/20/17	24.12	378.75	37.47	100	<0.5	ND
	6/20/17	24.43	378.44	38.04	77	<0.5	ND
	9/29/17	24.22	378.65	37.45	70	<0.5	ND
	12/28/17	24.74	378.13	40.17	57	<0.5	ND
	3/09/18	25.12	377.75	37.45	200	<0.5	ND
6/27/18	25.86	377.01	39.80	33	<0.5	ND	
9/13/18	25.95	376.92	39.86	67	<0.5	ND	
12/26/18	26.17	376.70	39.75	110	<0.5	ND	
3/20/19	25.21	377.66	40.14	93	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW2 403.11	07/07/11	21.45	381.66	39.78	140	<0.5	ND
	12/30/11	21.52	381.59	39.75	160	<0.5	ND
	03/22/12	22.71	380.40	39.74	880	<0.5	ND
	06/27/12	22.78	380.33	39.74	680	<0.5	ND
	09/28/12	Not	Sampled		Inaccessible		
	12/20/12	23.02	380.09	39.75	1800	<0.5	ND
	03/19/13	23.39	379.72	39.75	1400	2.5	ND
	06/12/13	23.65	379.46	39.75	1200	1.2	ND
	09/25/13	23.36	379.75	39.75	1100	1.6	ND
	03/21/14	23.64	379.47	39.74	1400	<0.5	ND
	06/16/14	23.87	379.24	39.75	990	<0.5	ND
	09/26/14	23.42	379.69	39.73	720	<0.5	ND
	12/29/14	Not	Sampled		Inaccessible	---	
	03/26/15	24.31	378.80	39.75	440	<0.5	ND
	06/30/15	24.50	378.61	39.72	470	<0.5	ND
	09/29/15	24.25	378.86	39.72	410	<1	ND
	12/29/15	24.08	379.03	39.71	370	<0.5	ND
	03/22/16	25.19	377.92	39.74	550	0.50	ND
	06/21/16	25.20	377.91	39.72	470	<1.0	ND
	09/27/16	25.01	378.10	39.70	270	<1.0	ND
	12/29/16	26.01	377.10	39.70	230	<1.0	ND
	3/20/17	24.34	378.77	39.20	84	<1.0	ND
	6/20/17	24.09	379.02	39.05	520	<0.5	ND
	9/29/17	24.37	378.74	37.20	600	<0.5	ND
	12/28/17	25.38	377.73	37.17	500	<0.5	ND
	3/09/18	25.19	377.92	37.18	530	<0.5	ND
	6/27/18	25.98	377.13	36.98	14	<0.5	ND
9/13/18	26.15	376.96	36.76	140	<0.5	ND	
12/26/18	26.47	376.64	37.15	130	<0.5	ND	
3/20/19	25.12	377.99	35.61	240	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW3 403.47	07/07/11	21.83	381.64	30.99	1200	1.2	ND
	12/30/11	21.94	381.53	30.05	1400	2.4	ND
	03/22/12	23.08	380.39	30.05	2100	8.8	ND
	06/27/12	23.14	380.33	30.06	1900	8.8	ND
	09/28/12	Not	Sampled		inaccessible		--
	12/20/12	23.38	380.09	30.05	2000	8.8	ND
	03/19/13	23.79	379.68	30.05	790	2.4	ND
	06/12/13	23.81	379.66	30.05	1300	3.8	ND
	09/25/13	23.45	380.02	30.06	2000	7.6	ND
	03/21/14	24.12	379.35	30.02	1100	5.2	ND
	06/16/14	24.37	379.10	30.00	2200	5.2	ND
	09/26/14	24.53	378.94	30.02	960	3.1	ND
	12/29/14	Not	Sampled	---	inaccessible	---	--
	03/26/15	24.60	378.87	30.00	590	<0.5	ND
	06/30/15	25.00	378.47	30.00	1600	1.5	ND
	09/29/15	24.40	379.07	30.00	1700	<2.5	ND
	12/29/15	24.47	379.00	30.00	1000	<2.5	ND
	03/22/16	25.61	377.86	30.00	950	<0.5	ND
	06/21/16	25.68	377.79	30.00	1200	<2.5	ND
	09/27/16	25.11	378.36	30.01	310	<1.0	ND
	12/29/16	26.25	377.22	30.00	540	<1.0	ND
	3/20/17	24.80	378.67	28.48	630	1.0	ND
	6/20/17	24.27	379.20	28.47	430	<1.0	ND
	9/29/17	24.84	378.63	28.43	100	0.57	ND
	12/28/17	25.48	377.99	28.59	290	0.52	ND
	3/09/18	25.66	377.81	28.45	350	<0.5	ND
6/27/18	26.17	377.30	28.34	37	<0.5	ND	
9/13/18	26.52	376.95	28.58	340	<0.5	ND	
12/26/18	26.79	376.68	28.42	560	<0.5	ND	
3/20/19	25.48	377.99	28.31	74	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW4 402.99	07/07/11	21.35	381.64	33.11	1300	<0.5	ND
	12/30/11	21.47	381.52	33.10	1600	6.4	ND
	03/22/12	22.58	380.41	33.12	3800	8.3	ND
	06/27/12	22.84	380.15	33.10	2400	2.6	ND
	09/28/12	22.58	380.41	33.11	970	1.2	ND
	12/20/12	22.90	380.09	33.10	3200	2.6	ND
	03/19/13	23.10	379.89	33.10	3800	3.2	ND
	06/12/13	23.15	379.84	33.10	3400	1.0	ND
	09/25/13	23.23	379.76	33.12	3300	1.6	ND
	03/21/14	23.40	379.59	33.10	4000	<0.5	ND
	06/16/14	23.78	379.21	33.09	4100	<0.5	ND
	09/26/14	24.01	378.98	33.08	3000	<0.5	ND
	12/29/14	Not	Sampled	---	Inaccessible	---	--
	03/26/15	24.10	378.89	33.10	3400	<0.5	ND
	06/30/15	24.35	378.64	33.08	1500	<0.5	ND
	09/29/15	24.24	378.75	33.05	1400	<2	ND
	12/29/15	24.17	378.82	33.09	1600	<2.5	ND
	03/22/16	24.15	378.84	33.09	1100	<0.5	ND
	06/21/16	24.28	378.71	33.05	1500	<2.5	ND
	09/27/16	24.18	378.81	33.06	490	<1.0	ND
	12/29/16	25.65	377.34	33.01	470	<1.0	ND
	3/20/17	24.11	378.88	30.37	280	<1.0	ND
	6/20/17	23.91	379.08	30.50	680	<1.0	ND
	9/29/17	24.18	378.81	29.83	270	<0.5	ND
	12/28/17	24.76	378.23	29.77	260	<0.5	ND
	3/09/18	25.06	377.93	30.35	470	<0.5	ND
	6/27/18	25.80	377.19	29.91	32	<0.5	ND
9/13/18	25.98	377.01	29.63	180	<0.5	ND	
12/26/18	26.29	376.70	29.97	320	<0.5	ND	
3/20/19	24.92	378.07	29.55	420	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW5 403.36	01/26/12	22.85	380.51	29.85	841	<0.5	ND
	03/22/12	22.96	380.40	29.85	1100	<0.5	ND
	06/27/12	23.01	380.35	29.85	1400	<0.5	ND
	09/28/12	23.00	380.36	29.84	510	2.2	ND
	12/20/12	23.29	380.07	29.85	820	<0.5	ND
	03/19/13	23.68	379.68	29.85	740	<0.5	ND
	06/12/13	23.78	379.58	29.83	780	4.7	ND
	09/25/13	23.89	379.47	29.81	620	5.1	ND
	03/21/14	23.96	379.40	29.80	790	4.4	ND
	06/16/14	23.90	379.46	29.80	830	4.4	ND
	09/26/14	23.98	379.38	27.54	610	2.7	ND
	12/29/14	24.62	378.74	28.56	520	1.7	ND
	03/26/15	24.54	378.82	28.60	300	<0.5	ND
	06/30/15	24.98	378.38	28.58	1400	<0.5	ND
	09/29/15	24.75	378.61	28.60	330	<0.5	ND
	12/29/15	24.68	378.68	28.75	390	<0.5	ND
	03/22/16	24.88	378.48	28.70	360	<0.5	ND
	06/21/16	25.01	378.35	28.75	390	<0.5	ND
	09/27/16	24.86	378.50	28.74	450	<0.5	ND
	12/29/16	24.98	378.38	28.73	170	<0.5	ND
	3/20/17	24.77	378.59	28.60	620	<0.5	ND
	6/20/17	24.48	378.88	27.76	470	<1.0	Chl-ethane=21
	9/29/17	24.79	378.57	27.70	100	<0.5	ND
	12/28/17	25.32	378.04	27.78	640	<0.5	ND
	3/09/18	25.50	377.86	27.60	180	<0.5	ND
	6/27/18	26.15	377.21	27.73	14	<0.5	ND
9/13/18	26.58	376.78	27.95	150	<0.5	Chlorfm=2.5	
12/26/18	26.80	376.56	27.42	120	<0.5	ND	
3/20/19	25.93	377.43	27.49	420	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW6 403.40	03/26/12	22.97	380.43	29.90	1400	1.8	ND
	03/22/12	22.99	380.41	29.91	2400	<0.5	ND
	06/27/12	23.02	380.38	29.90	2000	<0.5	ND
	09/28/12	23.10	380.30	29.89	260	4.0	ND
	12/20/12	23.41	379.99	29.90	1100	<0.5	ND
	03/19/13	23.69	379.71	29.90	710	20	ND
	06/13/13	23.70	379.70	29.89	810	36	ND
	09/25/13	23.81	379.59	29.90	770	61	ND
	03/21/14	23.93	379.47	29.75	1200	63	ND
	06/16/14	23.85	379.55	29.78	1400	63	ND
	09/26/14	23.75	379.65	29.70	1100	52	ND
	12/29/14	24.48	378.92	29.70	960	14	ND
	03/26/15	24.56	378.84	29.74	1200	2.5	ND
	06/30/15	24.70	378.70	29.75	1100	<0.5	ND
	09/29/15	24.67	378.73	29.75	530	<1	ND
	12/29/15	24.51	378.89	29.76	35	<0.5	ND
	03/22/16	---	---	25.80	Dry	---	--
	06/21/16	24.75	378.65	28.74	3.7	<0.5	ND
	09/27/16	24.66	378.74	28.77	<0.5	<0.5	ND
	12/29/16	24.80	378.60	28.75	0.61	<0.5	ND
	3/20/17	25.31	378.09	25.53	--	--	--
	6/20/17	24.34	379.06	25.47	140	<0.5	ND
	9/29/17	--	--	25.51	Dry	--	--
	12/28/17	25.22	378.18	28.60	140	<0.5	ND
	3/09/18	25.53	377.87	28.60	210	<0.5	ND
	6/27/18	26.15	377.25	28.79	11	<0.5	ND
9/13/18	26.41	376.99	28.69	42	<0.5	ND	
12/26/18	26.65	376.75	28.25	190	<0.5	ND	
3/20/19	25.30	378.10	28.32	85	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW7 402.49	03/22/12	22.05	380.44	34.75	63	<0.5	ND
	06/27/12	22.06	380.43	34.75	120	<0.5	ND
	09/28/12	22.01	380.48	34.75	190	<0.5	ND
	12/20/12	22.27	380.22	34.75	340	<0.5	ND
	03/19/13	22.58	379.91	34.75	140	<0.5	ND
	06/12/13	23.52	378.97	34.75	270	<0.5	ND
	09/25/13	22.61	379.88	34.75	270	<0.5	ND
	03/21/14	22.89	379.60	34.75	310	<0.5	ND
	06/16/14	23.16	379.33	34.73	460	<0.5	ND
	09/26/14	23.39	379.10	34.75	270	<0.5	ND
	12/29/14	23.44	379.05	34.75	170	<0.5	ND
	03/26/15	23.42	379.07	34.75	85	<0.5	ND
	06/30/15	23.65	378.84	34.75	76	<0.5	ND
	09/29/15	23.92	378.57	34.75	72	<0.5	ND
	12/29/15	23.52	378.97	34.72	86	<0.5	ND
	03/22/16	24.38	378.11	37.75	71	<0.5	ND
	06/21/16	24.70	377.79	37.72	730	0.52	ND
	09/27/16	24.59	377.90	37.70	41	<0.5	ND
	12/29/16	25.06	377.43	37.70	43	<0.5	ND
	3/20/17	23.46	379.03	35.14	36	<0.5	ND
6/20/17	23.26	379.23	35.15	57	<0.5	ND	
9/29/17	23.64	378.85	35.18	36	<0.5	ND	
12/28/17	24.11	378.38	35.11	34	<0.5	ND	
3/09/18	24.53	377.96	35.13	56	<0.5	ND	
6/27/18	25.21	377.28	35.16	17	<0.5	ND	
9/13/18	25.38	377.11	35.00	17	<0.5	ND	
12/26/18	25.67	376.82	35.14	38	<0.5	ND	
3/20/19	24.11	378.38	35.11	40	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW8 403.35	03/22/12	22.98	380.37	34.84	20	<0.5	ND
	06/27/12	23.06	380.29	34.85	21	<0.5	ND
	09/28/12	23.02	380.33	34.85	55	<0.5	ND
	12/20/12	23.30	380.05	34.85	110	<0.5	ND
	03/19/13	23.52	379.83	34.85	71	<0.5	ND
	06/12/13	23.62	379.73	34.85	110	<0.5	ND
	09/25/13	23.70	379.65	34.82	180	1.3	ND
	03/21/14	23.91	379.44	34.80	150	<0.5	ND
	06/16/14	24.19	379.16	34.80	270	<0.5	ND
	09/26/14	24.44	378.91	34.79	160	6.3	ND
	12/29/14	24.60	378.75	34.75	75	<0.5	ND
	03/26/15	24.64	378.71	34.77	35	<0.5	ND
	06/30/15	24.55	378.80	34.74	32	<0.5	ND
	09/29/15	25.25	378.10	34.77	30	<0.5	ND
	12/29/15	24.77	378.58	34.75	470	<1	ND
	03/22/16	25.68	377.67	34.72	230	0.52	ND
	06/21/16	25.85	377.50	34.75	87	<0.5	ND
	09/27/16	25.44	377.91	34.70	97	<0.5	ND
	12/29/16	26.12	377.23	34.72	97	<0.5	ND
	3/20/17	24.79	378.56	34.92	120	<0.5	ND
6/20/17	24.52	378.83	34.87	190	<0.5	ND	
9/29/17	24.88	378.47	34.90	69	<0.5	ND	
12/28/17	25.37	377.98	34.95	83	<0.5	ND	
3/09/18	25.57	377.78	34.90	170	<0.5	ND	
6/27/18	26.30	377.05	34.38	320	0.51	ND	
9/13/18	26.55	376.80	34.90	190	<0.5	ND	
12/26/18	26.92	376.43	34.51	600	0.66	ND	
3/20/19	25.14	378.21	34.49	390	0.64	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW9 403.52	03/22/12	23.19	380.33	29.71	650	<0.5	ND
	06/27/12	23.22	380.30	29.70	430	<0.5	ND
	09/28/12	23.35	380.17	29.71	49	<0.5	ND
	12/20/12	23.62	379.90	29.70	270	<0.5	ND
	03/19/13	23.84	379.68	29.70	160	1.8	ND
	06/12/13	23.46	380.06	29.69	250	2.9	ND
	09/25/13	23.88	379.64	29.68	290	4.7	ND
	03/21/14	23.59	379.93	29.68	320	3.2	ND
	06/16/14	24.52	379.00	29.70	590	<0.5	ND
	09/26/14	24.69	378.83	29.68	330	14	ND
	12/29/14	24.85	378.67	29.65	190	2.9	ND
	03/26/15	24.82	378.70	29.66	110	<0.5	ND
	06/30/15	25.08	378.44	29.64	110	1.5	ND
	09/29/15	24.98	378.54	29.70	94	2.7	ND
	12/29/15	24.92	378.60	29.69	61	0.77	ND
	03/22/16	25.78	377.74	29.70	53	1.5	ND
	06/21/16	24.98	378.54	29.70	65	<0.5	ND
	09/27/16	24.74	378.78	29.71	20	<0.5	ND
	12/29/16	26.54	376.98	29.70	9.6	<0.5	ND
	3/20/17	25.00	378.52	27.33	<0.5	<0.5	ND
6/20/17	24.79	378.73	27.28	63	<0.5	ND	
9/29/17	24.97	378.55	27.39	12	<0.5	ND	
12/28/17	25.61	377.91	27.40	14	<0.5	ND	
3/09/18	25.51	378.01	27.33	21	<0.5	ND	
6/27/18	26.91	376.61	27.40	18	<0.5	ND	
9/13/18	26.60	376.92	27.64	43	1.5	ND	
12/26/18	26.98	376.54	27.15	Dry	---	---	
3/20/19	25.82	377.70	27.30	20	<0.5	ND	

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW10	03/22/12	23.13	380.46	29.16	240	<0.5	ND
403.59	06/27/12	23.24	380.35	29.15	1500	<0.5	ND
	09/28/12	23.26	380.33	29.15	840	<0.5	ND
	12/20/12	---	---	21.44	Dry	---	---
	03/19/13	---	---	21.48	Dry	---	---
	06/12/13	---	---	19.45	Dry	---	---
	09/25/13	---	---	19.48	Dry	---	---
	03/21/14	---	---	19.40	Dry	---	---
	06/16/14	---	---	21.51	Dry	---	---
	09/26/14	---	---	21.55	Dry	---	---
	12/29/14	---	---	21.53	Dry	---	---
	03/26/15	---	---	21.50	Dry	---	---
	06/30/15	---	---	21.48	Dry	---	---
	09/29/15	---	---	21.17	Dry	---	---
	12/29/15	---	---	21.20	Dry	---	---
	03/22/16	---	---	21.20	Dry	---	---
	06/21/16	---	---	21.18	Dry	---	---
	09/27/16	---	---	21.20	Dry	---	---
	12/29/16	---	---	21.20	Dry	---	---
	3/20/17	---	---	24.80	Dry	---	---
	6/20/17	---	---	24.62	Dry	---	---
	9/29/17	---	---	24.82	Dry	---	---
	12/28/17	25.51	378.08	27.74	560	1.1	ND
	3/09/18	25.70	377.89	27.60	990	1.5	ND
	6/27/18	26.50	377.09	27.73	59	<0.5	ND
	9/13/18	26.69	376.90	27.70	160	<0.5	Chlofm=33
	12/26/18	Dry	---	27.23	Dry	---	---
	3/20/19	Dry	---	---	Dry	---	---

TABLE 2-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW11 400.13	12/28/17	21.50	378.63	29.81	0.68	<0.5	ND
	3/09/18	21.84	378.29	29.79	<0.5	<0.5	ND
	6/27/18	22.25	377.88	29.58	<0.5	<0.5	ND
	9/13/18	22.38	377.75	29.70	<0.5	<0.5	ND
	12/26/18	22.33	377.80	29.23	<0.5	<0.5	ND
	3/20/19	19.98	380.15	29.83	<0.5	<0.5	ND
MW12 399.56	12/28/17	21.17	378.39	29.90	ND<0.5	<0.5	MTBE=1.2
	3/09/18	21.52	378.04	29.81	<0.5	<0.5	MTBE=0.72
	6/27/18	22.01	377.55	29.73	<0.5	<0.5	ND
	9/13/18	22.13	377.43	29.84	<0.5	<0.5	Chlorfm=0.5
	12/26/18	22.20	377.36	29.80	<0.5	<0.5	MTBE=1.2
	3/20/19	19.82	379.74	29.97	<0.5	<0.5	ND

FIGURES

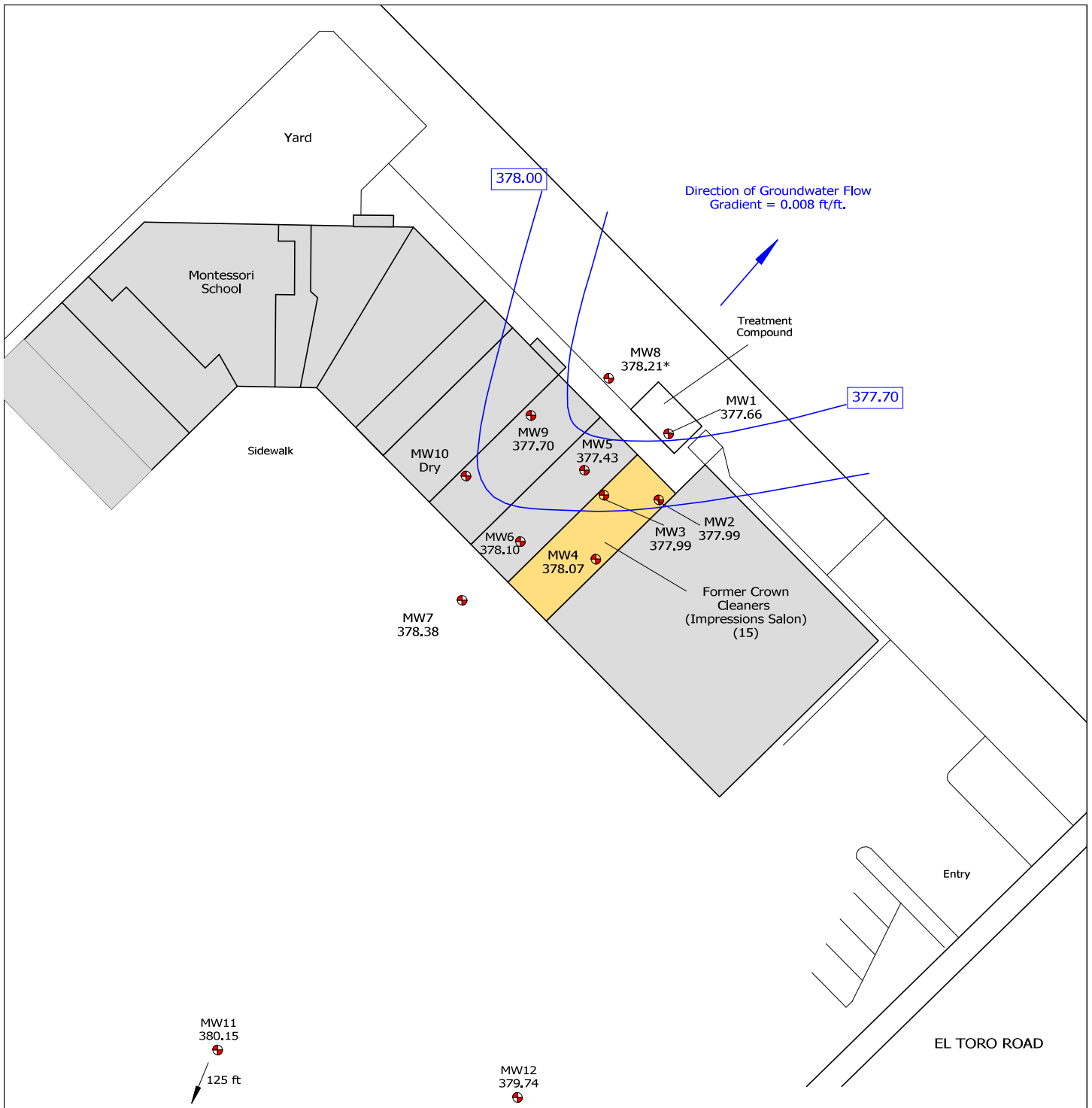


FIGURE 1
GROUNDWATER GRADIENT MAP
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

Groundwater Elevations Measured in Feet Above MSL (3/20/19).
 *=Anomalous Data Not Contoured.

LEGEND

⊕ Groundwater Monitoring Wells

Note: Wells MW11 and MW12 Not to Scale for Clarity on Local Gradient. Actual Distance to Wells Indicated.



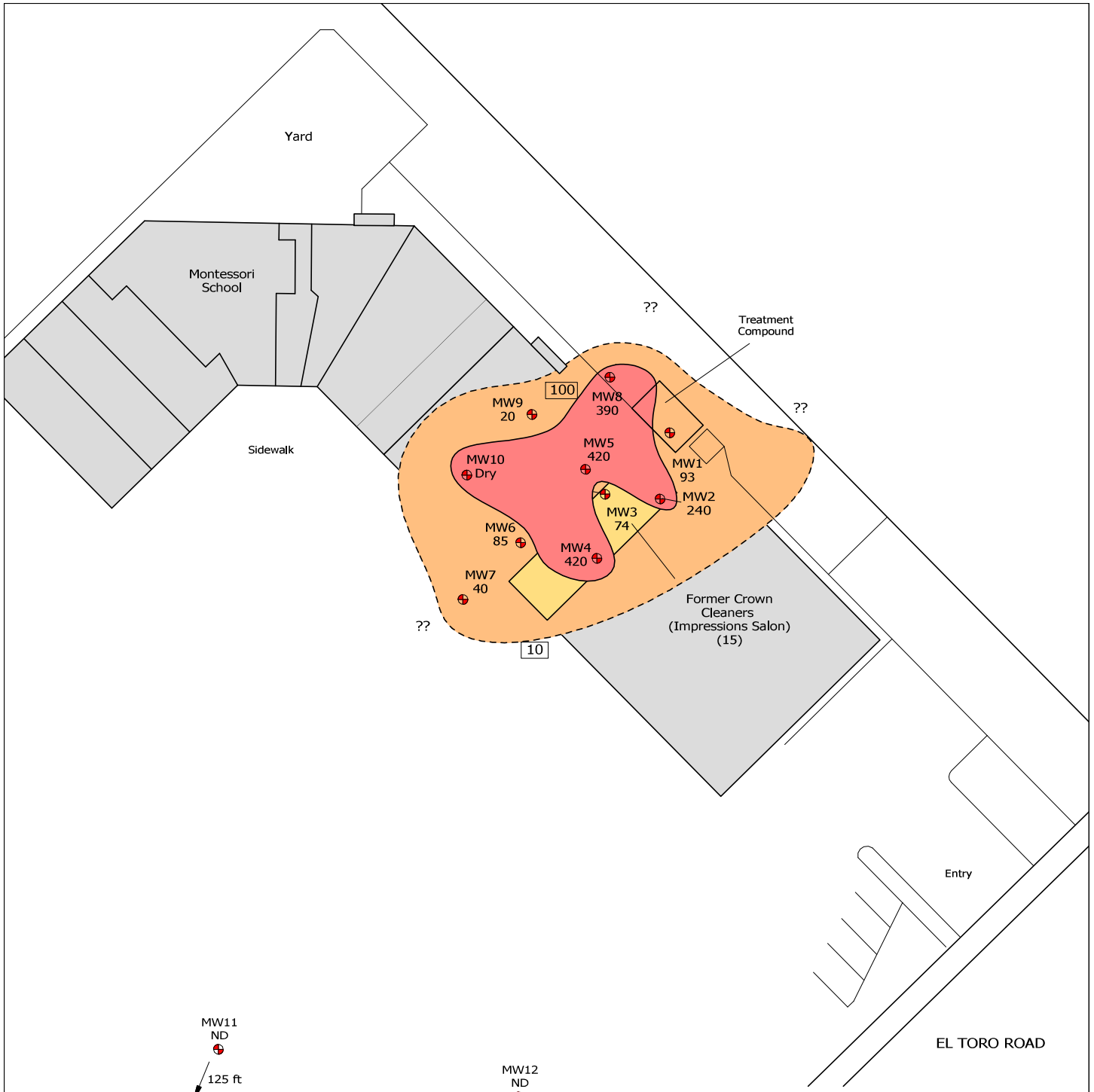


FIGURE 2
DISTRIBUTION OF PCE IN GROUNDWATER
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

Dissolved PCE Levels Shown in ug/L (3/20/19).

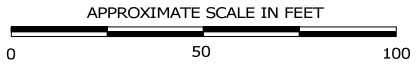
LEGEND

⊕ Groundwater Monitoring Wells

Note: Wells MW11 and MW12 Not to Scale for Clarity on Local Conditions. Actual Distance to Wells Indicated.

MW11
 ND
 ⊕
 ↙ 125 ft

MW12
 ND
 ⊕
 ↓ 106 ft



APPENDIX A

GROUNDWATER ELEVATION DATA FORM

PROJECT: Former Crown Cleaners

LOCATION: 24601 Raymond Way, Lake Forest, CA

DATE: March 20, 2019

MONITORING WELLS

ID	DTW	SWE	ELEV-W	TD	COMMENTS
MW1	-25.21	402.87	377.66	40.14	
MW2	-25.12	403.11	377.99	35.61	
MW3	-25.48	403.47	377.99	28.31	
MW4	-24.92	402.99	378.07	29.55	
MW5	-25.93	403.36	377.43	27.49	
MW6	-25.30	403.40	378.10	28.32	
MW7	-24.11	402.49	378.38	35.11	
MW8	-25.14	403.35	378.21	34.49	
MW9	-25.82	403.52	377.70	27.30	
MW10	Dry	403.59	403.59	27.23	
MW11	-19.98	400.13	380.15	29.83	
MW12	-19.82	399.56	379.74	29.97	

EXPLANATION

DTW - Depth to Water from Surface
ELEV-W - Relative Elevation of Water
SWE - Surveyed Wellhead Elevation

REMARKS: Elevations Measured in Feet Above MSL.

DATA RECORDED BY: Blaine Tech

WELL GAUGING DATA

Project # 190320-R51 Date 3-20-19 Client JSA

Site 24601 Raymond Way, Lake Forest

Well ID	Well Size (in.)	Time Gauged	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC
MW1	2	0819					25.21	40.14	↓
MW2	2	1210				25.12	35.61		
MW3	2	1233				25.48	28.31		
MW4	2	1224				24.92	29.55		
MW5	2	1146				25.43	27.49		
MW6	2	1109				25.30	28.32		
MW7	2	0922				24.11	35.11		
MW8	2	0851				25.14	34.49		
MW9	2	1001				25.82	27.30		
MW10	2	0957				25.58	27.23		
MW11	2	0718				19.99	29.83		
MW12	2	0751				19.82	29.97		

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: mw-1	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 40.14	Depth to Water (ft.): 25.21
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVC</u> Grade	Flow Cell Type: 451 PWD PLUS

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____

Start Purge Time: 0830 Flow Rate: 1200 mL/min Pump Depth: 27.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>mL</u>)	Depth to Water (ft.)
0833	20.2	6.75	3888	9	4.41	17.9	600	25.19
0836	20.1	6.74	3932	5	4.16	19.9	1200	25.19
0839	20.2	6.73	3957	5	4.09	21.1	1800	25.19
0842	20.3	6.72	3966	5	4.04	23.2	2400	25.19

Did well dewater? Yes <u>No</u>	Amount actually evacuated: 2400 mL
Sampling Time: 0843	Sampling Date: 3/20/19
Sample I.D.: mw-1	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See eoc
Equipment Blank I.D.: @ <small>Time</small>	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-001	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-2	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 35.01	Depth to Water (ft.): 25.12
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1215 Flow Rate: 300 mL/min Pump Depth: _____

Time	Temp. (<u>°C</u> or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
1218	22.5	6.90	3175	143	3.16	16.8	900	25.18
1221	22.6	6.89	3180	65	2.97	18.0	1800	25.18
1224	22.8	6.88	3193	61	2.95	18.7	2700	25.18
1227	22.9	6.87	3189	61	2.93	19.3	3600	25.18

Did well dewater? Yes No Amount actually evacuated: 3600 mL

Sampling Time: 1228 Sampling Date: 3/20/19

Sample I.D.: MW-2 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see coc

Equipment Blank I.D.: @ _____ Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>140320-291</u>	Client: <u>LSA</u>
Sampler: <u>R1</u>	Gauging Date: <u>3/20/19</u>
Well I.D.: <u>MW-3</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8 <u> </u>
Total Well Depth (ft.): <u>28.31</u>	Depth to Water (ft.): <u>25.46</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO OUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1332 Flow Rate: 100 mL/min Pump Depth:

Time	Temp. (<u>C</u> or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
1335	22.3	6.79	2887	>1000	2.32	19.3	300	25.50
1338	22.4	6.82	2876	>1000	1.15	20.2	600	↓
1341	22.6	6.83	2865	>1000	1.18	21.3	900	
1344	22.7	6.84	2853	>1000	1.19	21.8	1200	

Did well dewater? Yes No Amount actually evacuated: 1000 mL
 Sampling Time: 1345 Sampling Date: 3/20/19
 Sample I.D.: MW-3 Laboratory: ATL
 Analyzed for: TPH-G BTEX MTBE TPH-D Other: see coc
 Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>190320-RA</u>	Client: <u>USA</u>
Sampler: <u>RS</u>	Gauging Date: <u>3/20/19</u>
Well I.D.: <u>MW-4</u>	Well Diameter (in.): <u>(2)</u> 3 4 6 8 <u> </u>
Total Well Depth (ft.): <u>29.55</u>	Depth to Water (ft.): <u>24.92</u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: <u>45L PRO PWS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other
 Start Purge Time: 1306 Flow Rate: 300 mL/min Pump Depth:

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>mL</u>)	Depth to Water (ft.)
1309	22.6	6.71	3360	>1000	5.87	32.3	900	24.94
1312	22.8	6.70	3354	>1000	4.23	31.0	1800	24.94
1315	22.8	6.68	3345	>1000	4.22	30.9	2700	24.94
1318	22.9	6.66	3338	>1000	4.19	30.9	3600	24.94

Did well dewater? Yes No Amount actually evacuated: 3600 mL

Sampling Time: 1319 Sampling Date: 3/20/19

Sample I.D.: MW-4 Laboratory: ACL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: SEE COC

Equipment Blank I.D.: @ Time Duplicate I.D.: @ Time

LOW FLOW WELL MONITORING DATA SHEET

Project #: 140320-RT1	Client: LSA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: mw-6 mw-5	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 27.49	Depth to Water (ft.): 25.43
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1152 Flow Rate: 200 mL/min Pump Depth: _____

Time	Temp. <u>C</u> or °F	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>mL</u>)	Depth to Water (ft.)
1155	22.7	7.15	5979	624	1.01	22.1	600	25.46
1158	22.8	7.13	5989	434	1.05	22.3	1200	25.46
1201	22.9	7.11	5976	430	1.07	22.8	1800	25.46
1204	22.9	7.10	5988	428	1.11	23.2	2400	25.46

Did well dewater? Yes No Amount actually evacuated: 2400 mL

Sampling Time: 1205 Sampling Date: 3/20/19

Sample I.D.: mw-5 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: SEE COL

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-6	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 28.32	Depth to Water (ft.): 25.30
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1113 Flow Rate: 100 mL/min Pump Depth: _____

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1116	23.4	7.16	4637	51	6.89	19.2	300	25.33
1119	23.5	7.13	4645	32	6.80	19.3	600	25.33
1122	23.8	7.12	4688	33	6.77	19.8	900	25.33
1125	23.9	7.10	4693	30	6.73	20.3	1200	25.33

Did well dewater? Yes No Amount actually evacuated: 1200 mL

Sampling Time: 1126 Sampling Date: 3/20/19

Sample I.D.: MW-6 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: 500 rcc

Equipment Blank I.D.: @ _____ Time Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-7	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 35.11	Depth to Water (ft.): 24.11
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0928 Flow Rate: 200 mL/min Pump Depth: 25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0931	23.6	6.87	5170	49	4.26	13.2	600	24.13
0934	23.9	6.76	5241	41	4.24	14.0	1200	24.13
0937	24.1	6.79	5263	43	4.14	15.7	1800	24.13
0940	24.2	6.80	5269	49	4.09	17.3	2400	24.13

Did well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>	Amount actually evacuated: 2400 mL
Sampling Time: 0941	Sampling Date: 3/20/19
Sample I.D.: MW-7	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see COC
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190328-RT1	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-8	Well Diameter (in.): <u>(2)</u> 3 4 6 8
Total Well Depth (ft.): 34.49	Depth to Water (ft.): 25.14
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>(PVC)</u> Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0900 Flow Rate: 200 mL/min Pump Depth: 25'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to Water (ft.)
0903	22.0	6.65	4055	40	1.31	14.5	600	25.18
0906	21.8	6.69	4066	42	1.16	14.9	1200	25.18
0909	21.6	6.67	4070	40	1.10	14.5	1800	25.18
0912	21.6	6.65	4069	39	1.09	14.6	2400	25.18

Did well dewater? Yes <u>(No)</u>	Amount actually evacuated: 2400 mL
Sampling Time: 0913	Sampling Date: 3/20/19
Sample I.D.: MW-8	Laboratory: ATL
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see LOC
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-251	Client: LSA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-9	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.):	Depth to Water (ft.): 25.82
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 1017 Flow Rate: 100 mL/min Pump Depth: 22.5

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1020	22.6	7.37	1228	>1000	1.02	-77.1	700	25.83
1023	22.7	7.36	1217	>1000	0.92	-71.5	600	25.84
1026	22.8	7.34	1231	>1000	0.90	-70.8	900	25.84
1029	22.7	7.37	1247	>1000	0.91	-69.8	1200	25.84

Did well dewater? Yes No Amount actually evacuated: 1200 mL

Sampling Time: 1030 Sampling Date: 3/20/19

Sample I.D.: MW-9 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see coc

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-RT1	Client: LSA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-10	Well Diameter (in.): (2) 3 4 6 8
Total Well Depth (ft.):	Depth to Water (ft.): 25.58
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: <u>PVE</u> Grade	Flow Cell Type: <u>YSI PRO PLUS</u>

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: _____ Flow Rate: _____ Pump Depth: _____

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or <u>µS/cm</u>)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or <u>ml</u>)	Depth to Water (ft.)
— attempted to purge with perist pump unsuccessful —								
— no sample taken —								

Did well dewater? Yes	No	Amount actually evacuated:
Sampling Time:		Sampling Date:
Sample I.D.: MW-10		Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D		Other:
Equipment Blank I.D.:	@	Duplicate I.D.:
	Time	

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-R51	Client: LJA
Sampler: R5	Gauging Date: 3.20.19
Well I.D.: mw-11	Well Diameter (in.): <u>2</u> 3 4 6 8
Total Well Depth (ft.): 29.83	Depth to Water (ft.): 19.98
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: PVC Grade	Flow Cell Type: YSI P60 PLUS

Purge Method: 2" Grundfos Pump ~~Peristaltic~~ Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____

Start Purge Time: 0725 Flow Rate: 300 mL/min Pump Depth: 22.5'

Time	Temp. (C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0728	23.2	6.76	5406	12	1.24	32.8	900	19.99
0731	23.4	6.75	5403	13	0.94	38.4	1800	20.03
0734	23.9	6.68	5450	13	0.86	42.7	2700	20.03
0737	23.8	6.66	5486	13	0.80	52.0	3600	20.03

Did well dewater? Yes No Amount actually evacuated: 3600 mL

Sampling Time: 0738 Sampling Date: 3.20.19

Sample I.D.: mw-11 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see coc

Equipment Blank I.D.: @ _____ Time Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 190320-251	Client: LJA
Sampler: RT	Gauging Date: 3/20/19
Well I.D.: MW-12	Well Diameter (in.): ② 3 4 6 8
Total Well Depth (ft.): 29.97	Depth to Water (ft.): 19.82
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: RVO Grade	Flow Cell Type: 451 PRO PLUS

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump
 Sampling Method: Dedicated Tubing New Tubing Other _____
 Start Purge Time: 0755 Flow Rate: 300 mL/min Pump Depth: 22.5'

Time	Temp. (C or °F)	pH	Cond. (mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
0758	23.2	7.24	1976	72	1.30	24.7	900	20.01
0801	23.3	7.02	1864	④ 48 18	1.81	27.7	1800	20.05
0804	23.0	7.01	1826	④ 44 17	1.83	28.7	2700	20.05
0807	23.1	7.00	1765	17	1.86	29.1	3600	20.05

Did well dewater? Yes No Amount actually evacuated: 3600 mL

Sampling Time: 0808 Sampling Date: 3/20/19

Sample I.D.: MW-12 Laboratory: ATL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: see coc

Equipment Blank I.D.: @ _____ Duplicate I.D.: _____



CHAIN OF CUSTODY RECORD

Page 1 of 2

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

For Laboratory Use Only

ATLCO Ver: 20180321

Method of Transport	Condition	Y	N
<input checked="" type="checkbox"/> Client	1. CHILLED	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> FedEx	2. HEADSPACE (NDA)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> GSO	3. CONTAINER INTACT	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other:	4. SEALED	<input type="checkbox"/>	<input type="checkbox"/>

Sample Conditions Upon Receipt

Condition	Y	N
5. # OF SAMPLES MATCH COC	<input type="checkbox"/>	<input type="checkbox"/>
6. PRESERVED	<input type="checkbox"/>	<input type="checkbox"/>
7. COOLER TEMP. deg C	<input type="checkbox"/>	<input type="checkbox"/>

Instruction: Complete all shaded areas.

Company: C. JAMES ASSOCIATES, INC.	Address:	City:	State:	Zip:
Attn: M. ANSELMO	Email: cmjames@cajames.com	City:	State:	Zip:
Company:	Address:	City:	State:	Zip:
Address: P.O. Box 4832	City: ORLANDO	State: CA	Zip: 92052	

SEND REPORT TO: _____

SEND INVOICE TO: _____

Tel: _____ Fax: _____

State: same as SEND REPORT TO Email: _____

ITEM	Laboratory ID (For Lab Use Only)	Sample Description	Sample ID / Location	Date	Time	Special Instructions/Comments	Requested Analysis		Sample Matrix		Turnaround Time (TAT)	Quantity	Container	Remarks
							8015 (GRO)	8015 (DRO)	8081 (Organochlorine Pesticides)	8082 (PCBs)				
1	MAW-1			5/2/11	08:45									
2	MAW-2				12:38									
3	MAW-3				12:45									
4	MAW-4				15:17									
5	MAW-5				12:08									
6	MAW-6				11:26									
7	MAW-7				07:41									
8	MAW-8				11:15									
9	MAW-9				10:30									
10	MAW-10													

to the subcontract lab --- ask for quote.

6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.

7. Electronic records maintained for five (5) years from report date.

8. Hard copy reports will be disposed of after 45 calendar days from report date.

9. Storage and Report Fees:

- Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; \$7/sample/month if extended storage or hold is requested.
- Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$20 sample/week if extended storage is requested.
- Hard copy and regenerated reports/EDOs: \$17.50 per hard copy report requested; \$50.00 per regenerated/reformatted report; \$35 per reprocessed EDD.

10. Rush TCLP/SLC samples: add 2 days to analysis TAT for extraction procedure.

11. Unanalyzed samples will incur a disposal fee of \$7 per sample.

12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

Relinquished by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:

Received by: (Signature and Printed Name) Date: 5/23/11 Time: 10:00

Received by: (Signature and Printed Name) Date: _____ Time: _____

Received by: (Signature and Printed Name) Date: _____ Time: _____

As the authorized agent of the company above, I hereby guarantee payment as quoted.

Signature: _____

Printed Name: _____



CHAIN OF CUSTODY RECORD

Page 2 of 2

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

For Laboratory Use Only

ATLCOOC Ver:20180321

Method of Transport		Sample Conditions Upon Receipt	
<input type="checkbox"/> Client	<input type="checkbox"/> ATL	Condition	Y N
<input type="checkbox"/> FedEx	<input type="checkbox"/> OnTrac	1. CHILLED	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/> GS0	<input type="checkbox"/> Other:	2. HEADSPACE (VOA)	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>		3. CONTAINER INTACT	<input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>		4. SEALED	<input type="checkbox"/> <input type="checkbox"/>
		5. # OF SAMPLES MATCH COC	<input type="checkbox"/> <input type="checkbox"/>
		6. PRESERVED	<input type="checkbox"/> <input type="checkbox"/>
		7. COOLER TEMP. deg C:	<input type="checkbox"/> <input type="checkbox"/>

Instruction: Complete all shaded areas.

Company: C. JAMES ASSOCIATES, INC.		Address:	
Attn: M. ANSELMO	Email: CJames@regan.com	City:	State:
Company:		City:	State:
Address:		City:	State:
City:	State:	City:	State:
Zip:	State:	City:	State:
Zip:	State:	City:	State:

ITEM	Laboratory ID (For Lab Use Only)	Sample ID / Location	Sample Description	Special Instructions/Comments:		Requested Analysis	Sample Matrix	Turnaround Time (TAT)	Quantity	Container	Remarks
				Quote #:	PO #:						
1		MW-11				8260 / 624 (Volatiles)	SOIL				
2		MW-12				8015(GRO)	GROUNDWATER				
3						8081 (Organochlorine Pesticides)	WASTEWATER				
4						8082 (PCBs)	SOIL				
5						8270 (Semi-volatiles)	SOIL				
6						6010 / 7000 (Title 22 Metals)	SOIL				
7						TO-15	OIL				
8											
9											
10											

SEND REPORT TO:		SEND INVOICE TO:	
City:	State:	City:	State:
City:	State:	City:	State:
City:	State:	City:	State:
City:	State:	City:	State:
City:	State:	City:	State:

Relinquished by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:

6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days from receipt of samples.
 7. Electronic records maintained for five (5) years from report date.
 8. Hard copy reports will be disposed of after 45 calendar days from report date.
 9. Storage and Report Fees:
 - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; \$2/sample/month if extended storage or hold is requested.
 - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$30/sample/week if extended storage is requested.
 - Hard copy and regenerated reports/EDDs: \$17.50 per hard copy report requested; \$50.00 per regenerated/reformatted report; \$35 per reprocessed EDD.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Printed Name: **SAM GREEN**
Signature: _____

WELLHEAD INSPECTION CHECKLIST

Client LSA Date 3-20-19
 Site Address 24601 Raymond way, Lake Forest
 Job Number 140320-R51 Technician RD

Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12" or less)	WELL IS CLEARLY MARKED WITH THE WORDS "MONITORING WELL" (12" or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1	X	stinger	ext. pump in well							
MW2	X									
MW3	X	ext. pump								
MW4	X									
MW5		1/2	bolts missing							
MW6		1/2	bolts missing							
MW7	X (circled)	1/2	bolts missing							
MW8	X	ext. pump								
MW9	X									
MW10	X									
MW11		1/2	tabs broken							
MW12	X									

NOTES: _____

APPENDIX B



March 28, 2019

Michael Anselmo
C. James & Associates Inc.
PO Box 4832
Oceanside, CA 92052
Tel: (760) 722-0050
Fax:(760) 722-0150

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1901088
Client Reference : CARLEN PLAZA, 01915

Enclosed are the results for sample(s) received on March 20, 2019 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Rodriguez", written in a cursive style.

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	1901088-01	Groundwater	3/20/19 8:43	3/20/19 16:00
MW-2	1901088-02	Groundwater	3/20/19 12:28	3/20/19 16:00
MW-3	1901088-03	Groundwater	3/20/19 13:45	3/20/19 16:00
MW-4	1901088-04	Groundwater	3/20/19 13:19	3/20/19 16:00
MW-5	1901088-05	Groundwater	3/20/19 12:05	3/20/19 16:00
MW-6	1901088-06	Groundwater	3/20/19 11:26	3/20/19 16:00
MW-7	1901088-07	Groundwater	3/20/19 9:41	3/20/19 16:00
MW-8	1901088-08	Groundwater	3/20/19 9:13	3/20/19 16:00
MW-9	1901088-09	Groundwater	3/20/19 10:30	3/20/19 16:00
MW-11	1901088-10	Groundwater	3/20/19 7:38	3/20/19 16:00
MW-12	1901088-11	Groundwater	3/20/19 8:08	3/20/19 16:00



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside, CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-1

Lab ID: 1901088-01

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:15	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-1

Lab ID: 1901088-01

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:15	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:15	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Tetrachloroethene	93	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:15	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:15	

Surrogate: 1,2-Dichloroethane-d4

113 %

57 - 152

B9C0637

03/22/2019

03/22/19 18:15

Surrogate: 4-Bromofluorobenzene

102 %

62 - 134

B9C0637

03/22/2019

03/22/19 18:15

Surrogate: Dibromofluoromethane

118 %

56 - 167

B9C0637

03/22/2019

03/22/19 18:15

Surrogate: Toluene-d8

107 %

33 - 170

B9C0637

03/22/2019

03/22/19 18:15



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-2

Lab ID: 1901088-02

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:38	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-2

Lab ID: 1901088-02

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:38	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 18:38	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Tetrachloroethene	240	5.0	10	B9C0674	03/25/2019	03/25/19 13:50	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 18:38	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 18:38	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>109 %</i>	<i>57 - 152</i>		B9C0674	03/25/2019	03/25/19 13:50	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>117 %</i>	<i>57 - 152</i>		B9C0637	03/22/2019	03/22/19 18:38	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>99.8 %</i>	<i>62 - 134</i>		B9C0674	03/25/2019	03/25/19 13:50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>104 %</i>	<i>62 - 134</i>		B9C0637	03/22/2019	03/22/19 18:38	
<i>Surrogate: Dibromofluoromethane</i>	<i>118 %</i>	<i>56 - 167</i>		B9C0637	03/22/2019	03/22/19 18:38	



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-2

Lab ID: 1901088-02

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<i>Surrogate: Dibromofluoromethane</i>	<i>114 %</i>	<i>56 - 167</i>		B9C0674	03/25/2019	<i>03/25/19 13:50</i>	
<i>Surrogate: Toluene-d8</i>	<i>120 %</i>	<i>33 - 170</i>		B9C0674	03/25/2019	<i>03/25/19 13:50</i>	
<i>Surrogate: Toluene-d8</i>	<i>110 %</i>	<i>33 - 170</i>		B9C0637	03/22/2019	<i>03/22/19 18:38</i>	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-3

Lab ID: 1901088-03

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1,1-Trichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1,2-Trichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1-Dichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1-Dichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,1-Dichloropropene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,3-Trichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dibromoethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dichloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,2-Dichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,3-Dichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,3-Dichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
1,4-Dichlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
2,2-Dichloropropane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
2-Chlorotoluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
4-Chlorotoluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
4-Isopropyltoluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Benzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromochloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromodichloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromoform	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Bromomethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Carbon disulfide	ND	1.0	1	B9C0674	03/25/2019	03/25/19 13:27	
Carbon tetrachloride	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chlorobenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chloroethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chloroform	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Chloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-3

Lab ID: 1901088-03

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Di-isopropyl ether	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Dibromochloromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Dibromomethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Dichlorodifluoromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethyl Acetate	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethyl Ether	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethyl tert-butyl ether	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Ethylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Freon-113	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Hexachlorobutadiene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Isopropylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
m,p-Xylene	ND	1.0	1	B9C0674	03/25/2019	03/25/19 13:27	
Methylene chloride	ND	1.0	1	B9C0674	03/25/2019	03/25/19 13:27	
MTBE	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
n-Butylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
n-Propylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Naphthalene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
o-Xylene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
sec-Butylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Styrene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
tert-Amyl methyl ether	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
tert-Butanol	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
tert-Butylbenzene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Tetrachloroethene	74	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Toluene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Trichloroethene	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Trichlorofluoromethane	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
Vinyl acetate	ND	10	1	B9C0674	03/25/2019	03/25/19 13:27	
Vinyl chloride	ND	0.50	1	B9C0674	03/25/2019	03/25/19 13:27	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>111 %</i>	<i>57 - 152</i>		B9C0674	03/25/2019	03/25/19 13:27	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>105 %</i>	<i>62 - 134</i>		B9C0674	03/25/2019	03/25/19 13:27	
<i>Surrogate: Dibromofluoromethane</i>	<i>112 %</i>	<i>56 - 167</i>		B9C0674	03/25/2019	03/25/19 13:27	
<i>Surrogate: Toluene-d8</i>	<i>111 %</i>	<i>33 - 170</i>		B9C0674	03/25/2019	03/25/19 13:27	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-4

Lab ID: 1901088-04

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:01	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
 Report To : Michael Anselmo
 Reported : 03/28/2019

Client Sample ID MW-4 Lab ID: 1901088-04

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:01	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:01	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Tetrachloroethene	420	5.0	10	B9C0674	03/25/2019	03/25/19 14:14	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:01	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:01	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>115 %</i>	<i>57 - 152</i>	<i>B9C0674</i>	<i>03/25/2019</i>	<i>03/25/19 14:14</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>116 %</i>	<i>57 - 152</i>	<i>B9C0637</i>	<i>03/22/2019</i>	<i>03/22/19 19:01</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>101 %</i>	<i>62 - 134</i>	<i>B9C0674</i>	<i>03/25/2019</i>	<i>03/25/19 14:14</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>103 %</i>	<i>62 - 134</i>	<i>B9C0637</i>	<i>03/22/2019</i>	<i>03/22/19 19:01</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>106 %</i>	<i>56 - 167</i>	<i>B9C0637</i>	<i>03/22/2019</i>	<i>03/22/19 19:01</i>



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-4
Lab ID: 1901088-04

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<i>Surrogate: Dibromofluoromethane</i>	<i>111 %</i>	<i>56 - 167</i>		B9C0674	03/25/2019	<i>03/25/19 14:14</i>	
<i>Surrogate: Toluene-d8</i>	<i>119 %</i>	<i>33 - 170</i>		B9C0637	03/22/2019	<i>03/22/19 19:01</i>	
<i>Surrogate: Toluene-d8</i>	<i>113 %</i>	<i>33 - 170</i>		B9C0674	03/25/2019	<i>03/25/19 14:14</i>	



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-5

Lab ID: 1901088-05

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:25	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Client Sample ID MW-5

Lab ID: 1901088-05

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:25	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:25	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Tetrachloroethene	420	10	20	B9C0674	03/25/2019	03/25/19 15:00	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:25	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:25	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>118 %</i>	<i>57 - 152</i>	B9C0674	03/25/2019	<i>03/25/19 15:00</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>115 %</i>	<i>57 - 152</i>	B9C0637	03/22/2019	<i>03/22/19 19:25</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>104 %</i>	<i>62 - 134</i>	B9C0674	03/25/2019	<i>03/25/19 15:00</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>102 %</i>	<i>62 - 134</i>	B9C0637	03/22/2019	<i>03/22/19 19:25</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>113 %</i>	<i>56 - 167</i>	B9C0637	03/22/2019	<i>03/22/19 19:25</i>



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-5

Lab ID: 1901088-05

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<i>Surrogate: Dibromofluoromethane</i>	<i>118 %</i>	<i>56 - 167</i>		B9C0674	03/25/2019	<i>03/25/19 15:00</i>	
<i>Surrogate: Toluene-d8</i>	<i>122 %</i>	<i>33 - 170</i>		B9C0674	03/25/2019	<i>03/25/19 15:00</i>	
<i>Surrogate: Toluene-d8</i>	<i>109 %</i>	<i>33 - 170</i>		B9C0637	03/22/2019	<i>03/22/19 19:25</i>	



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-6

Lab ID: 1901088-06

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:48	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-6

Lab ID: 1901088-06

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:48	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 19:48	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Tetrachloroethene	85	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 19:48	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 19:48	

Surrogate: 1,2-Dichloroethane-d4	120 %	57 - 152	B9C0637	03/22/2019	03/22/19 19:48
Surrogate: 4-Bromofluorobenzene	105 %	62 - 134	B9C0637	03/22/2019	03/22/19 19:48
Surrogate: Dibromofluoromethane	117 %	56 - 167	B9C0637	03/22/2019	03/22/19 19:48
Surrogate: Toluene-d8	118 %	33 - 170	B9C0637	03/22/2019	03/22/19 19:48



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-7

Lab ID: 1901088-07

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:19	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-7

Lab ID: 1901088-07

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:19	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:19	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Tetrachloroethene	40	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:19	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:19	

Surrogate: 1,2-Dichloroethane-d4	115 %	57 - 152	B9C0637	03/22/2019	03/22/19 16:19
Surrogate: 4-Bromofluorobenzene	96.1 %	62 - 134	B9C0637	03/22/2019	03/22/19 16:19
Surrogate: Dibromofluoromethane	110 %	56 - 167	B9C0637	03/22/2019	03/22/19 16:19
Surrogate: Toluene-d8	118 %	33 - 170	B9C0637	03/22/2019	03/22/19 16:19



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-8

Lab ID: 1901088-08

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1,1-Trichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1,2-Trichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1-Dichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1-Dichloroethene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,1-Dichloropropene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,3-Trichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dibromoethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dichloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,2-Dichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,3-Dichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,3-Dichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
1,4-Dichlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
2,2-Dichloropropane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
2-Chlorotoluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
4-Chlorotoluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
4-Isopropyltoluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Benzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromochloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromodichloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromoform	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Bromomethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Carbon disulfide	ND	1.0	1	B9C0769	03/27/2019	03/27/19 14:50	
Carbon tetrachloride	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chlorobenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chloroethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chloroform	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Chloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Client Sample ID MW-8

Lab ID: 1901088-08

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Di-isopropyl ether	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Dibromochloromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Dibromomethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Dichlorodifluoromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethyl Acetate	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethyl Ether	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethyl tert-butyl ether	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Ethylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Freon-113	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Hexachlorobutadiene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Isopropylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
m,p-Xylene	ND	1.0	1	B9C0769	03/27/2019	03/27/19 14:50	
Methylene chloride	ND	1.0	1	B9C0769	03/27/2019	03/27/19 14:50	
MTBE	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
n-Butylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
n-Propylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Naphthalene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
o-Xylene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
sec-Butylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Styrene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
tert-Amyl methyl ether	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
tert-Butanol	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
tert-Butylbenzene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Tetrachloroethene	390	5.0	10	B9C0674	03/25/2019	03/25/19 14:37	
Toluene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Trichloroethene	0.64	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Trichlorofluoromethane	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	
Vinyl acetate	ND	10	1	B9C0769	03/27/2019	03/27/19 14:50	
Vinyl chloride	ND	0.50	1	B9C0769	03/27/2019	03/27/19 14:50	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>113 %</i>	<i>57 - 152</i>	<i>B9C0674</i>	<i>03/25/2019</i>	<i>03/25/19 14:37</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>115 %</i>	<i>57 - 152</i>	<i>B9C0769</i>	<i>03/27/2019</i>	<i>03/27/19 14:50</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>101 %</i>	<i>62 - 134</i>	<i>B9C0674</i>	<i>03/25/2019</i>	<i>03/25/19 14:37</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>105 %</i>	<i>62 - 134</i>	<i>B9C0769</i>	<i>03/27/2019</i>	<i>03/27/19 14:50</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>120 %</i>	<i>56 - 167</i>	<i>B9C0769</i>	<i>03/27/2019</i>	<i>03/27/19 14:50</i>



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-8

Lab ID: 1901088-08

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<i>Surrogate: Dibromofluoromethane</i>	<i>116 %</i>	<i>56 - 167</i>		B9C0674	03/25/2019	<i>03/25/19 14:37</i>	
<i>Surrogate: Toluene-d8</i>	<i>116 %</i>	<i>33 - 170</i>		B9C0674	03/25/2019	<i>03/25/19 14:37</i>	
<i>Surrogate: Toluene-d8</i>	<i>116 %</i>	<i>33 - 170</i>		B9C0769	03/27/2019	<i>03/27/19 14:50</i>	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Client Sample ID MW-9

Lab ID: 1901088-09

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1,1-Trichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1,2-Trichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1-Dichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1-Dichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,1-Dichloropropene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,3-Trichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dibromoethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dichloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,2-Dichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,3-Dichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,3-Dichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
1,4-Dichlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
2,2-Dichloropropane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
2-Chlorotoluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
4-Chlorotoluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
4-Isopropyltoluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Benzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromochloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromodichloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromoform	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Bromomethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Carbon disulfide	ND	1.0	1	B9C0716	03/26/2019	03/26/19 12:56	
Carbon tetrachloride	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chlorobenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chloroethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chloroform	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Chloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-9

Lab ID: 1901088-09

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Di-isopropyl ether	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Dibromochloromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Dibromomethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Dichlorodifluoromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethyl Acetate	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethyl Ether	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethyl tert-butyl ether	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Ethylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Freon-113	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Hexachlorobutadiene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Isopropylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
m,p-Xylene	ND	1.0	1	B9C0716	03/26/2019	03/26/19 12:56	
Methylene chloride	ND	1.0	1	B9C0716	03/26/2019	03/26/19 12:56	
MTBE	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
n-Butylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
n-Propylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Naphthalene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
o-Xylene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
sec-Butylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Styrene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
tert-Amyl methyl ether	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
tert-Butanol	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
tert-Butylbenzene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Tetrachloroethene	20	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Toluene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Trichloroethene	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Trichlorofluoromethane	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
Vinyl acetate	ND	10	1	B9C0716	03/26/2019	03/26/19 12:56	
Vinyl chloride	ND	0.50	1	B9C0716	03/26/2019	03/26/19 12:56	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>	<i>57 - 152</i>		B9C0716	03/26/2019	<i>03/26/19 12:56</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>99.2 %</i>	<i>62 - 134</i>		B9C0716	03/26/2019	<i>03/26/19 12:56</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>125 %</i>	<i>56 - 167</i>		B9C0716	03/26/2019	<i>03/26/19 12:56</i>	
<i>Surrogate: Toluene-d8</i>	<i>122 %</i>	<i>33 - 170</i>		B9C0716	03/26/2019	<i>03/26/19 12:56</i>	



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-11

Lab ID: 1901088-10

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:42	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Client Sample ID MW-11

Lab ID: 1901088-10

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:42	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 16:42	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Tetrachloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 16:42	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 16:42	

Surrogate: 1,2-Dichloroethane-d4	119 %	57 - 152	B9C0637	03/22/2019	03/22/19 16:42
Surrogate: 4-Bromofluorobenzene	103 %	62 - 134	B9C0637	03/22/2019	03/22/19 16:42
Surrogate: Dibromofluoromethane	116 %	56 - 167	B9C0637	03/22/2019	03/22/19 16:42
Surrogate: Toluene-d8	122 %	33 - 170	B9C0637	03/22/2019	03/22/19 16:42



Certificate of Analysis

C. James & Associates Inc.
PO Box 4832
Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
Report To : Michael Anselmo
Reported : 03/28/2019

Client Sample ID MW-12

Lab ID: 1901088-11

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1,1-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1,2-Trichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,1-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,3-Trichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,3-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,4-Trichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2,4-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dibromoethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dichloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,3,5-Trimethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,3-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,3-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
1,4-Dichlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
2,2-Dichloropropane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
2-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
4-Chlorotoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
4-Isopropyltoluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Benzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromodichloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromoform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Bromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Carbon disulfide	ND	1.0	1	B9C0637	03/22/2019	03/22/19 17:05	
Carbon tetrachloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chlorobenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chloroethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chloroform	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Chloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
cis-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
 Report To : Michael Anselmo
 Reported : 03/28/2019

Client Sample ID MW-12
Lab ID: 1901088-11

Volatile Organic Compounds by EPA 8260B

Analyst: QP

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Di-isopropyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Dibromochloromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Dibromomethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Dichlorodifluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethyl Acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethyl Ether	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethyl tert-butyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Ethylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Freon-113	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Hexachlorobutadiene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Isopropylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
m,p-Xylene	ND	1.0	1	B9C0637	03/22/2019	03/22/19 17:05	
Methylene chloride	ND	1.0	1	B9C0637	03/22/2019	03/22/19 17:05	
MTBE	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
n-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
n-Propylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Naphthalene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
o-Xylene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
sec-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Styrene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
tert-Amyl methyl ether	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
tert-Butanol	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
tert-Butylbenzene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Tetrachloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Toluene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
trans-1,2-Dichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
trans-1,3-Dichloropropene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Trichloroethene	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Trichlorofluoromethane	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	
Vinyl acetate	ND	10	1	B9C0637	03/22/2019	03/22/19 17:05	
Vinyl chloride	ND	0.50	1	B9C0637	03/22/2019	03/22/19 17:05	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>112 %</i>	<i>57 - 152</i>	B9C0637	03/22/2019	03/22/19 17:05
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>94.0 %</i>	<i>62 - 134</i>	B9C0637	03/22/2019	03/22/19 17:05
<i>Surrogate: Dibromofluoromethane</i>	<i>112 %</i>	<i>56 - 167</i>	B9C0637	03/22/2019	03/22/19 17:05
<i>Surrogate: Toluene-d8</i>	<i>109 %</i>	<i>33 - 170</i>	B9C0637	03/22/2019	03/22/19 17:05



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0637 - MSVOA_LL_W

Blank (B9C0637-BLK1)

Prepared: 3/22/2019 Analyzed: 3/22/2019

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.18
1,1,2,2-Tetrachloroethane	ND	0.50	0.17
1,1,2-Trichloroethane	ND	0.50	0.12
1,1-Dichloroethane	ND	0.50	0.16
1,1-Dichloroethene	ND	0.50	0.09
1,1-Dichloropropene	ND	0.50	0.21
1,2,3-Trichloropropane	ND	0.50	0.16
1,2,3-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trimethylbenzene	ND	0.50	0.08
1,2-Dibromo-3-chloropropane	ND	0.50	0.24
1,2-Dibromoethane	ND	0.50	0.11
1,2-Dichlorobenzene	ND	0.50	0.09
1,2-Dichloroethane	ND	0.50	0.19
1,2-Dichloropropane	ND	0.50	0.36
1,3,5-Trimethylbenzene	ND	0.50	0.05
1,3-Dichlorobenzene	ND	0.50	0.10
1,3-Dichloropropane	ND	0.50	0.07
1,4-Dichlorobenzene	ND	0.50	0.07
2,2-Dichloropropane	ND	0.50	0.16
2-Chlorotoluene	ND	0.50	0.08
4-Chlorotoluene	ND	0.50	0.08
4-Isopropyltoluene	ND	0.50	0.06
Benzene	ND	0.50	0.03
Bromobenzene	ND	0.50	0.09
Bromochloromethane	ND	0.50	0.24
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.13
Bromomethane	ND	0.50	0.42
Carbon disulfide	ND	1.0	0.12
Carbon tetrachloride	ND	0.50	0.19
Chlorobenzene	ND	0.50	0.07
Chloroethane	ND	0.50	0.40
Chloroform	ND	0.50	0.17
Chloromethane	ND	0.50	0.08
cis-1,2-Dichloroethene	ND	0.50	0.13
cis-1,3-Dichloropropene	ND	0.50	0.05
Di-isopropyl ether	ND	0.50	0.12



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
 Report To : Michael Anselmo
 Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B9C0637 - MSVOA_LL_W (continued)

Blank (B9C0637-BLK1) - Continued

Prepared: 3/22/2019 Analyzed: 3/22/2019

Dibromochloromethane	ND	0.50	0.14
Dibromomethane	ND	0.50	0.10
Dichlorodifluoromethane	ND	0.50	0.10
Ethyl Acetate	ND	10	1.8
Ethyl Ether	ND	10	1.3
Ethyl tert-butyl ether	ND	0.50	0.11
Ethylbenzene	ND	0.50	0.07
Freon-113	ND	0.50	0.17
Hexachlorobutadiene	ND	0.50	0.14
Isopropylbenzene	ND	0.50	0.05
m,p-Xylene	ND	1.0	0.08
Methylene chloride	ND	1.0	0.46
MTBE	ND	0.50	0.12
n-Butylbenzene	ND	0.50	0.05
n-Propylbenzene	ND	0.50	0.07
Naphthalene	ND	0.50	0.15
o-Xylene	ND	0.50	0.05
sec-Butylbenzene	ND	0.50	0.04
Styrene	ND	0.50	0.06
tert-Amyl methyl ether	ND	0.50	0.11
tert-Butanol	ND	10	2.9
tert-Butylbenzene	ND	0.50	0.06
Tetrachloroethene	ND	0.50	0.07
Toluene	ND	0.50	0.07
trans-1,2-Dichloroethene	ND	0.50	0.11
trans-1,3-Dichloropropene	ND	0.50	0.04
Trichloroethene	ND	0.50	0.05
Trichlorofluoromethane	ND	0.50	0.14
Vinyl acetate	ND	10	1.3
Vinyl chloride	ND	0.50	0.05

<i>Surrogate: 1,2-Dichloroethane-d4</i>	25.38		25.0000	102	57 - 152
<i>Surrogate: 4-Bromofluorobenzene</i>	23.26		25.0000	93.0	62 - 134
<i>Surrogate: Dibromofluoromethane</i>	24.72		25.0000	98.9	56 - 167
<i>Surrogate: Toluene-d8</i>	28.33		25.0000	113	33 - 170

LCS (B9C0637-BS1)

Prepared: 3/22/2019 Analyzed: 3/22/2019

1,1,1,2-Tetrachloroethane	19.1800	0.50	0.11	20.0000	95.9	80 - 137
1,1,1-Trichloroethane	18.8700	0.50	0.18	20.0000	94.4	75 - 148
1,1,2,2-Tetrachloroethane	15.6700	0.50	0.17	20.0000	78.4	64 - 118
1,1,2-Trichloroethane	19.1900	0.50	0.12	20.0000	96.0	77 - 113
1,1-Dichloroethane	18.2900	0.50	0.16	20.0000	91.4	72 - 131



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0637 - MSVOA_LL_W (continued)

LCS (B9C0637-BS1) - Continued

Prepared: 3/22/2019 Analyzed: 3/22/2019

1,1-Dichloroethene	18.3600	0.50	0.09	20.0000		91.8	75 - 132			
1,1-Dichloropropene	21.1400	0.50	0.21	20.0000		106	84 - 141			
1,2,3-Trichloropropane	17.6400	0.50	0.16	20.0000		88.2	65 - 111			
1,2,3-Trichlorobenzene	18.5200	0.50	0.12	20.0000		92.6	79 - 117			
1,2,4-Trichlorobenzene	19.1000	0.50	0.12	20.0000		95.5	78 - 121			
1,2,4-Trimethylbenzene	19.2400	0.50	0.08	20.0000		96.2	83 - 125			
1,2-Dibromo-3-chloropropane	16.6500	0.50	0.24	20.0000		83.2	54 - 116			
1,2-Dibromoethane	19.2700	0.50	0.11	20.0000		96.4	79 - 118			
1,2-Dichlorobenzene	18.6300	0.50	0.09	20.0000		93.2	82 - 115			
1,2-Dichloroethane	19.7000	0.50	0.19	20.0000		98.5	76 - 115			
1,2-Dichloropropane	17.4000	0.50	0.36	20.0000		87.0	74 - 113			
1,3,5-Trimethylbenzene	19.5400	0.50	0.05	20.0000		97.7	83 - 126			
1,3-Dichlorobenzene	18.7700	0.50	0.10	20.0000		93.8	84 - 118			
1,3-Dichloropropane	18.6600	0.50	0.07	20.0000		93.3	72 - 116			
1,4-Dichlorobenzene	18.2200	0.50	0.07	20.0000		91.1	83 - 112			
2,2-Dichloropropane	20.3500	0.50	0.16	20.0000		102	72 - 150			
2-Chlorotoluene	17.5700	0.50	0.08	20.0000		87.8	82 - 120			
4-Chlorotoluene	18.7500	0.50	0.08	20.0000		93.8	81 - 121			
4-Isopropyltoluene	18.5100	0.50	0.06	20.0000		92.6	86 - 124			
Benzene	37.2500	0.50	0.03	40.0000		93.1	81 - 118			
Bromobenzene	18.4700	0.50	0.09	20.0000		92.4	82 - 117			
Bromochloromethane	21.0200	0.50	0.24	20.0000		105	70 - 136			
Bromodichloromethane	19.3000	0.50	0.14	20.0000		96.5	80 - 122			
Bromoform	17.4500	0.50	0.13	20.0000		87.2	53 - 145			
Bromomethane	14.3000	0.50	0.42	20.0000		71.5	30 - 204			
Carbon disulfide	17.7600	1.0	0.12	20.0000		88.8	85 - 131			
Carbon tetrachloride	19.8500	0.50	0.19	20.0000		99.2	77 - 157			
Chlorobenzene	18.2500	0.50	0.07	20.0000		91.2	86 - 113			
Chloroethane	20.1000	0.50	0.40	20.0000		100	70 - 160			
Chloroform	18.0500	0.50	0.17	20.0000		90.2	66 - 136			
Chloromethane	15.7000	0.50	0.08	20.0000		78.5	52 - 138			
cis-1,2-Dichloroethene	20.3600	0.50	0.13	20.0000		102	71 - 128			
cis-1,3-Dichloropropene	22.3300	0.50	0.05	20.0000		112	71 - 123			
Di-isopropyl ether	18.1200	0.50	0.12	20.0000		90.6	64 - 123			
Dibromochloromethane	18.9600	0.50	0.14	20.0000		94.8	78 - 140			
Dibromomethane	18.1600	0.50	0.10	20.0000		90.8	78 - 109			
Dichlorodifluoromethane	16.6800	0.50	0.10	20.0000		83.4	64 - 144			
Ethyl Acetate	180.080	10	1.8	200.000		90.0	55 - 123			
Ethyl Ether	177.600	10	1.3	200.000		88.8	74 - 122			
Ethyl tert-butyl ether	20.6700	0.50	0.11	20.0000		103	72 - 120			
Ethylbenzene	36.8700	0.50	0.07	40.0000		92.2	90 - 116			
Freon-113	20.1500	0.50	0.17	20.0000		101	76 - 143			



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C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0637 - MSVOA_LL_W (continued)

LCS (B9C0637-BS1) - Continued

Prepared: 3/22/2019 Analyzed: 3/22/2019

Hexachlorobutadiene	17.1600	0.50	0.14	20.0000		85.8	81 - 129		
Isopropylbenzene	19.2800	0.50	0.05	20.0000		96.4	83 - 129		
m,p-Xylene	40.2800	1.0	0.08	40.0000		101	88 - 124		
Methylene chloride	21.3100	1.0	0.46	20.0000		107	76 - 137		
MTBE	20.0400	0.50	0.12	20.0000		100	67 - 121		
n-Butylbenzene	17.8700	0.50	0.05	20.0000		89.4	83 - 129		
n-Propylbenzene	17.1700	0.50	0.07	20.0000		85.8	85 - 124		
Naphthalene	16.2400	0.50	0.15	20.0000		81.2	67 - 113		
o-Xylene	40.6400	0.50	0.05	40.0000		102	82 - 129		
sec-Butylbenzene	18.9300	0.50	0.04	20.0000		94.6	86 - 127		
Styrene	20.6300	0.50	0.06	20.0000		103	83 - 122		
tert-Amyl methyl ether	19.3200	0.50	0.11	20.0000		96.6	61 - 114		
tert-Butanol	93.1600	10	2.9	100.000		93.2	45 - 121		
tert-Butylbenzene	19.4700	0.50	0.06	20.0000		97.4	84 - 130		
Tetrachloroethene	18.0800	0.50	0.07	20.0000		90.4	87 - 123		
Toluene	38.5500	0.50	0.07	40.0000		96.4	84 - 115		
trans-1,2-Dichloroethene	21.1200	0.50	0.11	20.0000		106	60 - 148		
trans-1,3-Dichloropropene	19.7200	0.50	0.04	20.0000		98.6	77 - 118		
Trichloroethene	19.8700	0.50	0.05	20.0000		99.4	79 - 129		
Trichlorofluoromethane	21.3000	0.50	0.14	20.0000		106	68 - 162		
Vinyl acetate	207.270	10	1.3	200.000		104	65 - 134		
Vinyl chloride	17.6400	0.50	0.05	20.0000		88.2	73 - 128		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>24.58</i>			<i>25.0000</i>		<i>98.3</i>	<i>57 - 152</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>26.50</i>			<i>25.0000</i>		<i>106</i>	<i>62 - 134</i>		
<i>Surrogate: Dibromofluoromethan</i>	<i>28.42</i>			<i>25.0000</i>		<i>114</i>	<i>56 - 167</i>		
<i>Surrogate: Toluene-d8</i>	<i>30.04</i>			<i>25.0000</i>		<i>120</i>	<i>33 - 170</i>		

LCS Dup (B9C0637-BSD1)

Prepared: 3/22/2019 Analyzed: 3/22/2019

1,1,1,2-Tetrachloroethane	20.0600	0.50	0.11	20.0000		100	80 - 137	4.49	20
1,1,1-Trichloroethane	18.9300	0.50	0.18	20.0000		94.6	75 - 148	0.317	20
1,1,2,2-Tetrachloroethane	17.2500	0.50	0.17	20.0000		86.2	64 - 118	9.60	20
1,1,2-Trichloroethane	21.2700	0.50	0.12	20.0000		106	77 - 113	10.3	20
1,1-Dichloroethane	19.5700	0.50	0.16	20.0000		97.8	72 - 131	6.76	20
1,1-Dichloroethene	18.8100	0.50	0.09	20.0000		94.0	75 - 132	2.42	20
1,1-Dichloropropene	20.7300	0.50	0.21	20.0000		104	84 - 141	1.96	20
1,2,3-Trichloropropane	17.7000	0.50	0.16	20.0000		88.5	65 - 111	0.340	20
1,2,3-Trichlorobenzene	19.8900	0.50	0.12	20.0000		99.4	79 - 117	7.13	20
1,2,4-Trichlorobenzene	20.5300	0.50	0.12	20.0000		103	78 - 121	7.22	20
1,2,4-Trimethylbenzene	19.7300	0.50	0.08	20.0000		98.6	83 - 125	2.51	20
1,2-Dibromo-3-chloropropane	17.2600	0.50	0.24	20.0000		86.3	54 - 116	3.60	20
1,2-Dibromoethane	20.2500	0.50	0.11	20.0000		101	79 - 118	4.96	20



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0637 - MSVOA_LL_W (continued)

LCS Dup (B9C0637-BSD1) - Continued

Prepared: 3/22/2019 Analyzed: 3/22/2019

1,2-Dichlorobenzene	18.5200	0.50	0.09	20.0000		92.6	82 - 115	0.592	20	
1,2-Dichloroethane	20.4100	0.50	0.19	20.0000		102	76 - 115	3.54	20	
1,2-Dichloropropane	18.1700	0.50	0.36	20.0000		90.8	74 - 113	4.33	20	
1,3,5-Trimethylbenzene	19.7600	0.50	0.05	20.0000		98.8	83 - 126	1.12	20	
1,3-Dichlorobenzene	18.8200	0.50	0.10	20.0000		94.1	84 - 118	0.266	20	
1,3-Dichloropropane	20.1700	0.50	0.07	20.0000		101	72 - 116	7.78	20	
1,4-Dichlorobenzene	18.5600	0.50	0.07	20.0000		92.8	83 - 112	1.85	20	
2,2-Dichloropropane	19.8300	0.50	0.16	20.0000		99.2	72 - 150	2.59	20	
2-Chlorotoluene	19.4000	0.50	0.08	20.0000		97.0	82 - 120	9.90	20	
4-Chlorotoluene	19.2000	0.50	0.08	20.0000		96.0	81 - 121	2.37	20	
4-Isopropyltoluene	19.3100	0.50	0.06	20.0000		96.6	86 - 124	4.23	20	
Benzene	37.1800	0.50	0.03	40.0000		93.0	81 - 118	0.188	20	
Bromobenzene	19.1600	0.50	0.09	20.0000		95.8	82 - 117	3.67	20	
Bromochloromethane	20.5000	0.50	0.24	20.0000		102	70 - 136	2.50	20	
Bromodichloromethane	20.0100	0.50	0.14	20.0000		100	80 - 122	3.61	20	
Bromoform	18.0700	0.50	0.13	20.0000		90.4	53 - 145	3.49	20	
Bromomethane	18.3300	0.50	0.42	20.0000		91.6	30 - 204	24.7	20	R
Carbon disulfide	17.3100	1.0	0.12	20.0000		86.6	85 - 131	2.57	20	
Carbon tetrachloride	19.5800	0.50	0.19	20.0000		97.9	77 - 157	1.37	20	
Chlorobenzene	19.0300	0.50	0.07	20.0000		95.2	86 - 113	4.18	20	
Chloroethane	20.5100	0.50	0.40	20.0000		103	70 - 160	2.02	20	
Chloroform	19.2000	0.50	0.17	20.0000		96.0	66 - 136	6.17	20	
Chloromethane	16.1400	0.50	0.08	20.0000		80.7	52 - 138	2.76	20	
cis-1,2-Dichloroethene	20.1700	0.50	0.13	20.0000		101	71 - 128	0.938	20	
cis-1,3-Dichloropropene	23.3800	0.50	0.05	20.0000		117	71 - 123	4.59	20	
Di-isopropyl ether	20.3600	0.50	0.12	20.0000		102	64 - 123	11.6	20	
Dibromochloromethane	18.9500	0.50	0.14	20.0000		94.8	78 - 140	0.0527	20	
Dibromomethane	17.8800	0.50	0.10	20.0000		89.4	78 - 109	1.55	20	
Dichlorodifluoromethane	16.7500	0.50	0.10	20.0000		83.8	64 - 144	0.419	20	
Ethyl Acetate	174.420	10	1.8	200.000		87.2	55 - 123	3.19	20	
Ethyl Ether	179.550	10	1.3	200.000		89.8	74 - 122	1.09	20	
Ethyl tert-butyl ether	21.2500	0.50	0.11	20.0000		106	72 - 120	2.77	20	
Ethylbenzene	38.0400	0.50	0.07	40.0000		95.1	90 - 116	3.12	20	
Freon-113	21.1800	0.50	0.17	20.0000		106	76 - 143	4.98	20	
Hexachlorobutadiene	18.1300	0.50	0.14	20.0000		90.6	81 - 129	5.50	20	
Isopropylbenzene	21.5600	0.50	0.05	20.0000		108	83 - 129	11.2	20	
m,p-Xylene	42.4100	1.0	0.08	40.0000		106	88 - 124	5.15	20	
Methylene chloride	20.2400	1.0	0.46	20.0000		101	76 - 137	5.15	20	
MTBE	20.2300	0.50	0.12	20.0000		101	67 - 121	0.944	20	
n-Butylbenzene	18.3500	0.50	0.05	20.0000		91.8	83 - 129	2.65	20	
n-Propylbenzene	19.5300	0.50	0.07	20.0000		97.6	85 - 124	12.9	20	
Naphthalene	16.5900	0.50	0.15	20.0000		83.0	67 - 113	2.13	20	



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0637 - MSVOA_LL_W (continued)

LCS Dup (B9C0637-BSD1) - Continued

Prepared: 3/22/2019 Analyzed: 3/22/2019

o-Xylene	44.6200	0.50	0.05	40.0000		112	82 - 129	9.34	20
sec-Butylbenzene	19.1500	0.50	0.04	20.0000		95.8	86 - 127	1.16	20
Styrene	22.6600	0.50	0.06	20.0000		113	83 - 122	9.38	20
tert-Amyl methyl ether	19.1300	0.50	0.11	20.0000		95.6	61 - 114	0.988	20
tert-Butanol	95.8300	10	2.9	100.000		95.8	45 - 121	2.83	20
tert-Butylbenzene	19.4300	0.50	0.06	20.0000		97.2	84 - 130	0.206	20
Tetrachloroethene	19.2600	0.50	0.07	20.0000		96.3	87 - 123	6.32	20
Toluene	40.3000	0.50	0.07	40.0000		101	84 - 115	4.44	20
trans-1,2-Dichloroethene	21.0800	0.50	0.11	20.0000		105	60 - 148	0.190	20
trans-1,3-Dichloropropene	20.1900	0.50	0.04	20.0000		101	77 - 118	2.36	20
Trichloroethene	19.4200	0.50	0.05	20.0000		97.1	79 - 129	2.29	20
Trichlorofluoromethane	22.7400	0.50	0.14	20.0000		114	68 - 162	6.54	20
Vinyl acetate	215.000	10	1.3	200.000		108	65 - 134	3.66	20
Vinyl chloride	18.0800	0.50	0.05	20.0000		90.4	73 - 128	2.46	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>25.98</i>			<i>25.0000</i>		<i>104</i>	<i>57 - 152</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>25.98</i>			<i>25.0000</i>		<i>104</i>	<i>62 - 134</i>		
<i>Surrogate: Dibromofluoromethane</i>	<i>26.57</i>			<i>25.0000</i>		<i>106</i>	<i>56 - 167</i>		
<i>Surrogate: Toluene-d8</i>	<i>28.97</i>			<i>25.0000</i>		<i>116</i>	<i>33 - 170</i>		



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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0674 - MSVOA_W

Blank (B9C0674-BLK1)

Prepared: 3/25/2019 Analyzed: 3/25/2019

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.18
1,1,2,2-Tetrachloroethane	ND	0.50	0.17
1,1,2-Trichloroethane	ND	0.50	0.12
1,1-Dichloroethane	ND	0.50	0.16
1,1-Dichloroethene	ND	0.50	0.09
1,1-Dichloropropene	ND	0.50	0.21
1,2,3-Trichloropropane	ND	0.50	0.16
1,2,3-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trimethylbenzene	ND	0.50	0.08
1,2-Dibromo-3-chloropropane	ND	0.50	0.24
1,2-Dibromoethane	ND	0.50	0.11
1,2-Dichlorobenzene	ND	0.50	0.09
1,2-Dichloroethane	ND	0.50	0.19
1,2-Dichloropropane	ND	0.50	0.36
1,3,5-Trimethylbenzene	ND	0.50	0.05
1,3-Dichlorobenzene	ND	0.50	0.10
1,3-Dichloropropane	ND	0.50	0.07
1,4-Dichlorobenzene	ND	0.50	0.07
2,2-Dichloropropane	ND	0.50	0.16
2-Chlorotoluene	ND	0.50	0.08
4-Chlorotoluene	ND	0.50	0.08
4-Isopropyltoluene	ND	0.50	0.06
Benzene	ND	0.50	0.03
Bromobenzene	ND	0.50	0.09
Bromochloromethane	ND	0.50	0.24
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.13
Bromomethane	ND	0.50	0.42
Carbon disulfide	ND	1.0	0.12
Carbon tetrachloride	ND	0.50	0.19
Chlorobenzene	ND	0.50	0.07
Chloroethane	ND	0.50	0.40
Chloroform	ND	0.50	0.17
Chloromethane	ND	0.50	0.08
cis-1,2-Dichloroethene	ND	0.50	0.13
cis-1,3-Dichloropropene	ND	0.50	0.05
Di-isopropyl ether	ND	0.50	0.12
Dibromochloromethane	ND	0.50	0.14
Dibromomethane	ND	0.50	0.10



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B9C0674 - MSVOA_W (continued)

Blank (B9C0674-BLK1) - Continued

Prepared: 3/25/2019 Analyzed: 3/25/2019

Dichlorodifluoromethane	ND	0.50	0.10
Ethyl Acetate	ND	10	1.8
Ethyl Ether	ND	10	1.3
Ethyl tert-butyl ether	ND	0.50	0.11
Ethylbenzene	ND	0.50	0.07
Freon-113	ND	0.50	0.17
Hexachlorobutadiene	ND	0.50	0.14
Isopropylbenzene	ND	0.50	0.05
m,p-Xylene	ND	1.0	0.08
Methylene chloride	ND	1.0	0.46
MTBE	ND	0.50	0.12
n-Butylbenzene	ND	0.50	0.05
n-Propylbenzene	ND	0.50	0.07
Naphthalene	ND	0.50	0.15
o-Xylene	ND	0.50	0.05
sec-Butylbenzene	ND	0.50	0.04
Styrene	ND	0.50	0.06
tert-Amyl methyl ether	ND	0.50	0.11
tert-Butanol	ND	10	2.9
tert-Butylbenzene	ND	0.50	0.06
Tetrachloroethene	ND	0.50	0.07
Toluene	ND	0.50	0.07
trans-1,2-Dichloroethene	ND	0.50	0.11
trans-1,3-Dichloropropene	ND	0.50	0.04
Trichloroethene	ND	0.50	0.05
Trichlorofluoromethane	ND	0.50	0.14
Vinyl acetate	ND	10	1.3
Vinyl chloride	ND	0.50	0.05

<i>Surrogate: 1,2-Dichloroethane-d4</i>	28.15		25.0000	113	57 - 152
<i>Surrogate: 4-Bromofluorobenzene</i>	25.15		25.0000	101	62 - 134
<i>Surrogate: Dibromofluoromethane</i>	26.55		25.0000	106	56 - 167
<i>Surrogate: Toluene-d8</i>	27.48		25.0000	110	33 - 170

LCS (B9C0674-BS1)

Prepared: 3/25/2019 Analyzed: 3/25/2019

1,1,1,2-Tetrachloroethane	19.8800	0.50	0.11	20.0000	99.4	80 - 137
1,1,1-Trichloroethane	18.8200	0.50	0.18	20.0000	94.1	75 - 148
1,1,2,2-Tetrachloroethane	14.8500	0.50	0.17	20.0000	74.2	64 - 118
1,1,2-Trichloroethane	20.0900	0.50	0.12	20.0000	100	77 - 113
1,1-Dichloroethane	17.6300	0.50	0.16	20.0000	88.2	72 - 131
1,1-Dichloroethene	17.9900	0.50	0.09	20.0000	90.0	75 - 132
1,1-Dichloropropene	19.8700	0.50	0.21	20.0000	99.4	84 - 141



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0674 - MSVOA_W (continued)

LCS (B9C0674-BS1) - Continued

Prepared: 3/25/2019 Analyzed: 3/25/2019

1,2,3-Trichloropropane	17.0200	0.50	0.16	20.0000	85.1	65 - 111
1,2,3-Trichlorobenzene	19.6800	0.50	0.12	20.0000	98.4	79 - 117
1,2,4-Trichlorobenzene	20.1400	0.50	0.12	20.0000	101	78 - 121
1,2,4-Trimethylbenzene	19.4900	0.50	0.08	20.0000	97.4	83 - 125
1,2-Dibromo-3-chloropropane	16.9800	0.50	0.24	20.0000	84.9	54 - 116
1,2-Dibromoethane	18.9900	0.50	0.11	20.0000	95.0	79 - 118
1,2-Dichlorobenzene	18.7500	0.50	0.09	20.0000	93.8	82 - 115
1,2-Dichloroethane	18.6400	0.50	0.19	20.0000	93.2	76 - 115
1,2-Dichloropropane	17.3100	0.50	0.36	20.0000	86.6	74 - 113
1,3,5-Trimethylbenzene	19.8600	0.50	0.05	20.0000	99.3	83 - 126
1,3-Dichlorobenzene	19.0500	0.50	0.10	20.0000	95.2	84 - 118
1,3-Dichloropropane	19.0800	0.50	0.07	20.0000	95.4	72 - 116
1,4-Dichlorobenzene	19.1600	0.50	0.07	20.0000	95.8	83 - 112
2,2-Dichloropropane	19.0500	0.50	0.16	20.0000	95.2	72 - 150
2-Chlorotoluene	18.6100	0.50	0.08	20.0000	93.0	82 - 120
4-Chlorotoluene	18.6800	0.50	0.08	20.0000	93.4	81 - 121
4-Isopropyltoluene	19.7300	0.50	0.06	20.0000	98.6	86 - 124
Benzene	36.4600	0.50	0.03	40.0000	91.2	81 - 118
Bromobenzene	19.1500	0.50	0.09	20.0000	95.8	82 - 117
Bromochloromethane	19.2600	0.50	0.24	20.0000	96.3	70 - 136
Bromodichloromethane	17.8100	0.50	0.14	20.0000	89.0	80 - 122
Bromoform	17.3200	0.50	0.13	20.0000	86.6	53 - 145
Bromomethane	19.2200	0.50	0.42	20.0000	96.1	30 - 204
Carbon disulfide	17.4000	1.0	0.12	20.0000	87.0	85 - 131
Carbon tetrachloride	20.4200	0.50	0.19	20.0000	102	77 - 157
Chlorobenzene	18.5600	0.50	0.07	20.0000	92.8	86 - 113
Chloroethane	21.9900	0.50	0.40	20.0000	110	70 - 160
Chloroform	17.5900	0.50	0.17	20.0000	88.0	66 - 136
Chloromethane	15.0500	0.50	0.08	20.0000	75.2	52 - 138
cis-1,2-Dichloroethene	18.9700	0.50	0.13	20.0000	94.8	71 - 128
cis-1,3-Dichloropropene	22.4000	0.50	0.05	20.0000	112	71 - 123
Di-isopropyl ether	17.3200	0.50	0.12	20.0000	86.6	64 - 123
Dibromochloromethane	18.2100	0.50	0.14	20.0000	91.0	78 - 140
Dibromomethane	18.0900	0.50	0.10	20.0000	90.4	78 - 109
Dichlorodifluoromethane	14.2500	0.50	0.10	20.0000	71.2	64 - 144
Ethyl Acetate	153.160	10	1.8	200.000	76.6	55 - 123
Ethyl Ether	175.640	10	1.3	200.000	87.8	74 - 122
Ethyl tert-butyl ether	18.9200	0.50	0.11	20.0000	94.6	72 - 120
Ethylbenzene	37.6300	0.50	0.07	40.0000	94.1	90 - 116
Freon-113	21.2900	0.50	0.17	20.0000	106	76 - 143
Hexachlorobutadiene	18.0200	0.50	0.14	20.0000	90.1	81 - 129
Isopropylbenzene	20.5700	0.50	0.05	20.0000	103	83 - 129



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 PO Box 4832
 Oceanside, CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0674 - MSVOA_W (continued)

LCS (B9C0674-BS1) - Continued

Prepared: 3/25/2019 Analyzed: 3/25/2019

m,p-Xylene	41.1000	1.0	0.08	40.0000		103	88 - 124			
Methylene chloride	20.6400	1.0	0.46	20.0000		103	76 - 137			
MTBE	19.6800	0.50	0.12	20.0000		98.4	67 - 121			
n-Butylbenzene	18.4800	0.50	0.05	20.0000		92.4	83 - 129			
n-Propylbenzene	18.8600	0.50	0.07	20.0000		94.3	85 - 124			
Naphthalene	16.6700	0.50	0.15	20.0000		83.4	67 - 113			
o-Xylene	40.9900	0.50	0.05	40.0000		102	82 - 129			
sec-Butylbenzene	19.0900	0.50	0.04	20.0000		95.4	86 - 127			
Styrene	20.8900	0.50	0.06	20.0000		104	83 - 122			
tert-Amyl methyl ether	18.2500	0.50	0.11	20.0000		91.2	61 - 114			
tert-Butanol	75.4500	10	2.9	100.000		75.4	45 - 121			
tert-Butylbenzene	19.6100	0.50	0.06	20.0000		98.0	84 - 130			
Tetrachloroethene	19.3900	0.50	0.07	20.0000		97.0	87 - 123			
Toluene	38.4000	0.50	0.07	40.0000		96.0	84 - 115			
trans-1,2-Dichloroethene	20.9000	0.50	0.11	20.0000		104	60 - 148			
trans-1,3-Dichloropropene	20.4800	0.50	0.04	20.0000		102	77 - 118			
Trichloroethene	19.4300	0.50	0.05	20.0000		97.2	79 - 129			
Trichlorofluoromethane	22.8100	0.50	0.14	20.0000		114	68 - 162			
Vinyl acetate	172.510	10	1.3	200.000		86.3	65 - 134			
Vinyl chloride	17.3800	0.50	0.05	20.0000		86.9	73 - 128			

Surrogate: 1,2-Dichloroethane-d4

24.75

25.0000

99.0

57 - 152

Surrogate: 4-Bromofluorobenzene

26.01

25.0000

104

62 - 134

Surrogate: Dibromofluoromethane

25.15

25.0000

101

56 - 167

Surrogate: Toluene-d8

29.08

25.0000

116

33 - 170

LCS Dup (B9C0674-BSD1)

Prepared: 3/25/2019 Analyzed: 3/25/2019

1,1,1,2-Tetrachloroethane	20.2600	0.50	0.11	20.0000		101	80 - 137	1.89	20	
1,1,1-Trichloroethane	18.7200	0.50	0.18	20.0000		93.6	75 - 148	0.533	20	
1,1,2,2-Tetrachloroethane	14.4500	0.50	0.17	20.0000		72.2	64 - 118	2.73	20	
1,1,2-Trichloroethane	19.0900	0.50	0.12	20.0000		95.4	77 - 113	5.10	20	
1,1-Dichloroethane	17.2300	0.50	0.16	20.0000		86.2	72 - 131	2.29	20	
1,1-Dichloroethene	18.2600	0.50	0.09	20.0000		91.3	75 - 132	1.49	20	
1,1-Dichloropropene	21.3200	0.50	0.21	20.0000		107	84 - 141	7.04	20	
1,2,3-Trichloropropane	16.7000	0.50	0.16	20.0000		83.5	65 - 111	1.90	20	
1,2,3-Trichlorobenzene	20.4200	0.50	0.12	20.0000		102	79 - 117	3.69	20	
1,2,4-Trichlorobenzene	21.2100	0.50	0.12	20.0000		106	78 - 121	5.18	20	
1,2,4-Trimethylbenzene	19.9000	0.50	0.08	20.0000		99.5	83 - 125	2.08	20	
1,2-Dibromo-3-chloropropane	17.0100	0.50	0.24	20.0000		85.0	54 - 116	0.177	20	
1,2-Dibromoethane	18.5500	0.50	0.11	20.0000		92.8	79 - 118	2.34	20	
1,2-Dichlorobenzene	18.8300	0.50	0.09	20.0000		94.2	82 - 115	0.426	20	
1,2-Dichloroethane	19.9100	0.50	0.19	20.0000		99.6	76 - 115	6.59	20	



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PO Box 4832

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Oceanside , CA 92052

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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0674 - MSVOA_W (continued)

LCS Dup (B9C0674-BSD1) - Continued

Prepared: 3/25/2019 Analyzed: 3/25/2019

1,2-Dichloropropane	17.4300	0.50	0.36	20.0000		87.2	74 - 113	0.691	20	
1,3,5-Trimethylbenzene	19.5300	0.50	0.05	20.0000		97.6	83 - 126	1.68	20	
1,3-Dichlorobenzene	18.7200	0.50	0.10	20.0000		93.6	84 - 118	1.75	20	
1,3-Dichloropropane	19.0900	0.50	0.07	20.0000		95.4	72 - 116	0.0524	20	
1,4-Dichlorobenzene	18.5900	0.50	0.07	20.0000		93.0	83 - 112	3.02	20	
2,2-Dichloropropane	18.8500	0.50	0.16	20.0000		94.2	72 - 150	1.06	20	
2-Chlorotoluene	18.1900	0.50	0.08	20.0000		91.0	82 - 120	2.28	20	
4-Chlorotoluene	18.8200	0.50	0.08	20.0000		94.1	81 - 121	0.747	20	
4-Isopropyltoluene	19.4400	0.50	0.06	20.0000		97.2	86 - 124	1.48	20	
Benzene	36.4100	0.50	0.03	40.0000		91.0	81 - 118	0.137	20	
Bromobenzene	18.4300	0.50	0.09	20.0000		92.2	82 - 117	3.83	20	
Bromochloromethane	19.3600	0.50	0.24	20.0000		96.8	70 - 136	0.518	20	
Bromodichloromethane	18.6900	0.50	0.14	20.0000		93.4	80 - 122	4.82	20	
Bromoform	18.7200	0.50	0.13	20.0000		93.6	53 - 145	7.77	20	
Bromomethane	18.5200	0.50	0.42	20.0000		92.6	30 - 204	3.71	20	
Carbon disulfide	16.9000	1.0	0.12	20.0000		84.5	85 - 131	2.92	20	L4
Carbon tetrachloride	20.3900	0.50	0.19	20.0000		102	77 - 157	0.147	20	
Chlorobenzene	19.5200	0.50	0.07	20.0000		97.6	86 - 113	5.04	20	
Chloroethane	21.7200	0.50	0.40	20.0000		109	70 - 160	1.24	20	
Chloroform	17.3800	0.50	0.17	20.0000		86.9	66 - 136	1.20	20	
Chloromethane	14.9900	0.50	0.08	20.0000		75.0	52 - 138	0.399	20	
cis-1,2-Dichloroethene	18.2100	0.50	0.13	20.0000		91.0	71 - 128	4.09	20	
cis-1,3-Dichloropropene	21.4700	0.50	0.05	20.0000		107	71 - 123	4.24	20	
Di-isopropyl ether	17.9800	0.50	0.12	20.0000		89.9	64 - 123	3.74	20	
Dibromochloromethane	18.9800	0.50	0.14	20.0000		94.9	78 - 140	4.14	20	
Dibromomethane	18.7500	0.50	0.10	20.0000		93.8	78 - 109	3.58	20	
Dichlorodifluoromethane	13.4800	0.50	0.10	20.0000		67.4	64 - 144	5.55	20	
Ethyl Acetate	157.400	10	1.8	200.000		78.7	55 - 123	2.73	20	
Ethyl Ether	169.710	10	1.3	200.000		84.9	74 - 122	3.43	20	
Ethyl tert-butyl ether	18.7200	0.50	0.11	20.0000		93.6	72 - 120	1.06	20	
Ethylbenzene	38.7000	0.50	0.07	40.0000		96.8	90 - 116	2.80	20	
Freon-113	20.7800	0.50	0.17	20.0000		104	76 - 143	2.42	20	
Hexachlorobutadiene	18.2600	0.50	0.14	20.0000		91.3	81 - 129	1.32	20	
Isopropylbenzene	20.2900	0.50	0.05	20.0000		101	83 - 129	1.37	20	
m,p-Xylene	41.9600	1.0	0.08	40.0000		105	88 - 124	2.07	20	
Methylene chloride	19.4100	1.0	0.46	20.0000		97.0	76 - 137	6.14	20	
MTBE	19.3100	0.50	0.12	20.0000		96.6	67 - 121	1.90	20	
n-Butylbenzene	18.1200	0.50	0.05	20.0000		90.6	83 - 129	1.97	20	
n-Propylbenzene	18.7700	0.50	0.07	20.0000		93.8	85 - 124	0.478	20	
Naphthalene	16.8700	0.50	0.15	20.0000		84.4	67 - 113	1.19	20	
o-Xylene	42.5700	0.50	0.05	40.0000		106	82 - 129	3.78	20	
sec-Butylbenzene	19.3400	0.50	0.04	20.0000		96.7	86 - 127	1.30	20	



Certificate of Analysis

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 Oceanside , CA 92052

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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0674 - MSVOA_W (continued)

LCS Dup (B9C0674-BSD1) - Continued

Prepared: 3/25/2019 Analyzed: 3/25/2019

Styrene	21.4800	0.50	0.06	20.0000		107	83 - 122	2.78	20
tert-Amyl methyl ether	18.8500	0.50	0.11	20.0000		94.2	61 - 114	3.23	20
tert-Butanol	86.1700	10	2.9	100.000		86.2	45 - 121	13.3	20
tert-Butylbenzene	19.4800	0.50	0.06	20.0000		97.4	84 - 130	0.665	20
Tetrachloroethene	19.4800	0.50	0.07	20.0000		97.4	87 - 123	0.463	20
Toluene	37.4700	0.50	0.07	40.0000		93.7	84 - 115	2.45	20
trans-1,2-Dichloroethene	20.9300	0.50	0.11	20.0000		105	60 - 148	0.143	20
trans-1,3-Dichloropropene	19.6400	0.50	0.04	20.0000		98.2	77 - 118	4.19	20
Trichloroethene	20.5300	0.50	0.05	20.0000		103	79 - 129	5.51	20
Trichlorofluoromethane	20.9100	0.50	0.14	20.0000		105	68 - 162	8.69	20
Vinyl acetate	162.010	10	1.3	200.000		81.0	65 - 134	6.28	20
Vinyl chloride	17.0700	0.50	0.05	20.0000		85.4	73 - 128	1.80	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>25.31</i>			<i>25.0000</i>		<i>101</i>	<i>57 - 152</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>26.36</i>			<i>25.0000</i>		<i>105</i>	<i>62 - 134</i>		
<i>Surrogate: Dibromofluoromethan</i>	<i>25.00</i>			<i>25.0000</i>		<i>100</i>	<i>56 - 167</i>		
<i>Surrogate: Toluene-d8</i>	<i>27.27</i>			<i>25.0000</i>		<i>109</i>	<i>33 - 170</i>		



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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B9C0716 - MSVOA_W

Blank (B9C0716-BLK1)

Prepared: 3/26/2019 Analyzed: 3/26/2019

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.18
1,1,2,2-Tetrachloroethane	ND	0.50	0.17
1,1,2-Trichloroethane	ND	0.50	0.12
1,1-Dichloroethane	ND	0.50	0.16
1,1-Dichloroethene	ND	0.50	0.09
1,1-Dichloropropene	ND	0.50	0.21
1,2,3-Trichloropropane	ND	0.50	0.16
1,2,3-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trimethylbenzene	ND	0.50	0.08
1,2-Dibromo-3-chloropropane	ND	0.50	0.24
1,2-Dibromoethane	ND	0.50	0.11
1,2-Dichlorobenzene	ND	0.50	0.09
1,2-Dichloroethane	ND	0.50	0.19
1,2-Dichloropropane	ND	0.50	0.36
1,3,5-Trimethylbenzene	ND	0.50	0.05
1,3-Dichlorobenzene	ND	0.50	0.10
1,3-Dichloropropane	ND	0.50	0.07
1,4-Dichlorobenzene	ND	0.50	0.07
2,2-Dichloropropane	ND	0.50	0.16
2-Chlorotoluene	ND	0.50	0.08
4-Chlorotoluene	ND	0.50	0.08
4-Isopropyltoluene	ND	0.50	0.06
Benzene	ND	0.50	0.03
Bromobenzene	ND	0.50	0.09
Bromochloromethane	ND	0.50	0.24
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.13
Bromomethane	ND	0.50	0.42
Carbon disulfide	ND	1.0	0.12
Carbon tetrachloride	ND	0.50	0.19
Chlorobenzene	ND	0.50	0.07
Chloroethane	ND	0.50	0.40
Chloroform	ND	0.50	0.17
Chloromethane	ND	0.50	0.08
cis-1,2-Dichloroethene	ND	0.50	0.13
cis-1,3-Dichloropropene	ND	0.50	0.05
Di-isopropyl ether	ND	0.50	0.12
Dibromochloromethane	ND	0.50	0.14
Dibromomethane	ND	0.50	0.10



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B9C0716 - MSVOA_W (continued)

Blank (B9C0716-BLK1) - Continued

Prepared: 3/26/2019 Analyzed: 3/26/2019

Dichlorodifluoromethane	ND	0.50	0.10
Ethyl Acetate	ND	10	1.8
Ethyl Ether	ND	10	1.3
Ethyl tert-butyl ether	ND	0.50	0.11
Ethylbenzene	ND	0.50	0.07
Freon-113	ND	0.50	0.17
Hexachlorobutadiene	ND	0.50	0.14
Isopropylbenzene	ND	0.50	0.05
m,p-Xylene	ND	1.0	0.08
Methylene chloride	ND	1.0	0.46
MTBE	ND	0.50	0.12
n-Butylbenzene	ND	0.50	0.05
n-Propylbenzene	ND	0.50	0.07
Naphthalene	ND	0.50	0.15
o-Xylene	ND	0.50	0.05
sec-Butylbenzene	ND	0.50	0.04
Styrene	ND	0.50	0.06
tert-Amyl methyl ether	ND	0.50	0.11
tert-Butanol	ND	10	2.9
tert-Butylbenzene	ND	0.50	0.06
Tetrachloroethene	ND	0.50	0.07
Toluene	ND	0.50	0.07
trans-1,2-Dichloroethene	ND	0.50	0.11
trans-1,3-Dichloropropene	ND	0.50	0.04
Trichloroethene	ND	0.50	0.05
Trichlorofluoromethane	ND	0.50	0.14
Vinyl acetate	ND	10	1.3
Vinyl chloride	ND	0.50	0.05

<i>Surrogate: 1,2-Dichloroethane-d4</i>	28.38		25.0000	114	57 - 152
<i>Surrogate: 4-Bromofluorobenzene</i>	26.56		25.0000	106	62 - 134
<i>Surrogate: Dibromofluoromethan</i>	28.48		25.0000	114	56 - 167
<i>Surrogate: Toluene-d8</i>	29.41		25.0000	118	33 - 170

LCS (B9C0716-BS1)

Prepared: 3/26/2019 Analyzed: 3/26/2019

1,1,1,2-Tetrachloroethane	19.8400	0.50	0.11	20.0000	99.2	80 - 137
1,1,1-Trichloroethane	18.9400	0.50	0.18	20.0000	94.7	75 - 148
1,1,2,2-Tetrachloroethane	15.0600	0.50	0.17	20.0000	75.3	64 - 118
1,1,2-Trichloroethane	19.2900	0.50	0.12	20.0000	96.4	77 - 113
1,1-Dichloroethane	18.4000	0.50	0.16	20.0000	92.0	72 - 131
1,1-Dichloroethene	19.1900	0.50	0.09	20.0000	96.0	75 - 132
1,1-Dichloropropene	20.8500	0.50	0.21	20.0000	104	84 - 141



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0716 - MSVOA_W (continued)

LCS (B9C0716-BS1) - Continued

Prepared: 3/26/2019 Analyzed: 3/26/2019

1,2,3-Trichloropropane	17.5100	0.50	0.16	20.0000		87.6	65 - 111			
1,2,3-Trichlorobenzene	21.0000	0.50	0.12	20.0000		105	79 - 117			
1,2,4-Trichlorobenzene	20.3700	0.50	0.12	20.0000		102	78 - 121			
1,2,4-Trimethylbenzene	18.9800	0.50	0.08	20.0000		94.9	83 - 125			
1,2-Dibromo-3-chloropropane	16.8500	0.50	0.24	20.0000		84.2	54 - 116			
1,2-Dibromoethane	18.5800	0.50	0.11	20.0000		92.9	79 - 118			
1,2-Dichlorobenzene	18.8600	0.50	0.09	20.0000		94.3	82 - 115			
1,2-Dichloroethane	19.5100	0.50	0.19	20.0000		97.6	76 - 115			
1,2-Dichloropropane	17.3500	0.50	0.36	20.0000		86.8	74 - 113			
1,3,5-Trimethylbenzene	19.4100	0.50	0.05	20.0000		97.0	83 - 126			
1,3-Dichlorobenzene	19.6400	0.50	0.10	20.0000		98.2	84 - 118			
1,3-Dichloropropane	20.1800	0.50	0.07	20.0000		101	72 - 116			
1,4-Dichlorobenzene	18.6700	0.50	0.07	20.0000		93.4	83 - 112			
2,2-Dichloropropane	20.0700	0.50	0.16	20.0000		100	72 - 150			
2-Chlorotoluene	17.9300	0.50	0.08	20.0000		89.6	82 - 120			
4-Chlorotoluene	18.3400	0.50	0.08	20.0000		91.7	81 - 121			
4-Isopropyltoluene	19.1300	0.50	0.06	20.0000		95.6	86 - 124			
Benzene	37.5700	0.50	0.03	40.0000		93.9	81 - 118			
Bromobenzene	18.5200	0.50	0.09	20.0000		92.6	82 - 117			
Bromochloromethane	21.5900	0.50	0.24	20.0000		108	70 - 136			
Bromodichloromethane	19.3100	0.50	0.14	20.0000		96.6	80 - 122			
Bromoform	19.3000	0.50	0.13	20.0000		96.5	53 - 145			
Bromomethane	19.4200	0.50	0.42	20.0000		97.1	30 - 204			
Carbon disulfide	17.6000	1.0	0.12	20.0000		88.0	85 - 131			
Carbon tetrachloride	20.0900	0.50	0.19	20.0000		100	77 - 157			
Chlorobenzene	18.9300	0.50	0.07	20.0000		94.6	86 - 113			
Chloroethane	20.9500	0.50	0.40	20.0000		105	70 - 160			
Chloroform	18.6900	0.50	0.17	20.0000		93.4	66 - 136			
Chloromethane	14.0000	0.50	0.08	20.0000		70.0	52 - 138			
cis-1,2-Dichloroethene	19.3400	0.50	0.13	20.0000		96.7	71 - 128			
cis-1,3-Dichloropropene	22.7800	0.50	0.05	20.0000		114	71 - 123			
Di-isopropyl ether	15.0800	0.50	0.12	20.0000		75.4	64 - 123			
Dibromochloromethane	20.1800	0.50	0.14	20.0000		101	78 - 140			
Dibromomethane	18.1600	0.50	0.10	20.0000		90.8	78 - 109			
Dichlorodifluoromethane	12.6300	0.50	0.10	20.0000		63.2	64 - 144			
Ethyl Acetate	167.530	10	1.8	200.000		83.8	55 - 123			L4
Ethyl Ether	183.390	10	1.3	200.000		91.7	74 - 122			
Ethyl tert-butyl ether	19.3200	0.50	0.11	20.0000		96.6	72 - 120			
Ethylbenzene	38.3100	0.50	0.07	40.0000		95.8	90 - 116			
Freon-113	21.4900	0.50	0.17	20.0000		107	76 - 143			
Hexachlorobutadiene	17.9600	0.50	0.14	20.0000		89.8	81 - 129			
Isopropylbenzene	19.9800	0.50	0.05	20.0000		99.9	83 - 129			



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Project Number : CARLEN PLAZA, 01915
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 Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0716 - MSVOA_W (continued)

LCS (B9C0716-BS1) - Continued

Prepared: 3/26/2019 Analyzed: 3/26/2019

m,p-Xylene	41.2600	1.0	0.08	40.0000		103	88 - 124		
Methylene chloride	20.9700	1.0	0.46	20.0000		105	76 - 137		
MTBE	20.2700	0.50	0.12	20.0000		101	67 - 121		
n-Butylbenzene	17.8800	0.50	0.05	20.0000		89.4	83 - 129		
n-Propylbenzene	18.1300	0.50	0.07	20.0000		90.6	85 - 124		
Naphthalene	16.7200	0.50	0.15	20.0000		83.6	67 - 113		
o-Xylene	42.2500	0.50	0.05	40.0000		106	82 - 129		
sec-Butylbenzene	18.8900	0.50	0.04	20.0000		94.4	86 - 127		
Styrene	21.5400	0.50	0.06	20.0000		108	83 - 122		
tert-Amyl methyl ether	18.4600	0.50	0.11	20.0000		92.3	61 - 114		
tert-Butanol	89.1900	10	2.9	100.000		89.2	45 - 121		
tert-Butylbenzene	19.4900	0.50	0.06	20.0000		97.4	84 - 130		
Tetrachloroethene	20.6000	0.50	0.07	20.0000		103	87 - 123		
Toluene	38.2700	0.50	0.07	40.0000		95.7	84 - 115		
trans-1,2-Dichloroethene	21.8400	0.50	0.11	20.0000		109	60 - 148		
trans-1,3-Dichloropropene	19.9400	0.50	0.04	20.0000		99.7	77 - 118		
Trichloroethene	20.4600	0.50	0.05	20.0000		102	79 - 129		
Trichlorofluoromethane	22.1200	0.50	0.14	20.0000		111	68 - 162		
Vinyl acetate	186.810	10	1.3	200.000		93.4	65 - 134		
Vinyl chloride	17.1200	0.50	0.05	20.0000		85.6	73 - 128		

<i>Surrogate: 1,2-Dichloroethane-d4</i>	26.43			25.0000		106	57 - 152		
<i>Surrogate: 4-Bromofluorobenzene</i>	26.97			25.0000		108	62 - 134		
<i>Surrogate: Dibromofluoromethan</i>	27.04			25.0000		108	56 - 167		
<i>Surrogate: Toluene-d8</i>	28.55			25.0000		114	33 - 170		

LCS Dup (B9C0716-BSD1)

Prepared: 3/26/2019 Analyzed: 3/26/2019

1,1,1,2-Tetrachloroethane	20.9400	0.50	0.11	20.0000		105	80 - 137	5.39	20
1,1,1-Trichloroethane	19.1700	0.50	0.18	20.0000		95.8	75 - 148	1.21	20
1,1,2,2-Tetrachloroethane	16.5800	0.50	0.17	20.0000		82.9	64 - 118	9.61	20
1,1,2-Trichloroethane	19.5800	0.50	0.12	20.0000		97.9	77 - 113	1.49	20
1,1-Dichloroethane	18.4700	0.50	0.16	20.0000		92.4	72 - 131	0.380	20
1,1-Dichloroethene	19.3700	0.50	0.09	20.0000		96.8	75 - 132	0.934	20
1,1-Dichloropropene	22.4000	0.50	0.21	20.0000		112	84 - 141	7.17	20
1,2,3-Trichloropropane	17.6300	0.50	0.16	20.0000		88.2	65 - 111	0.683	20
1,2,3-Trichlorobenzene	21.0600	0.50	0.12	20.0000		105	79 - 117	0.285	20
1,2,4-Trichlorobenzene	22.2400	0.50	0.12	20.0000		111	78 - 121	8.78	20
1,2,4-Trimethylbenzene	20.3600	0.50	0.08	20.0000		102	83 - 125	7.02	20
1,2-Dibromo-3-chloropropane	18.8900	0.50	0.24	20.0000		94.4	54 - 116	11.4	20
1,2-Dibromoethane	19.7900	0.50	0.11	20.0000		99.0	79 - 118	6.31	20
1,2-Dichlorobenzene	19.5100	0.50	0.09	20.0000		97.6	82 - 115	3.39	20
1,2-Dichloroethane	20.5000	0.50	0.19	20.0000		102	76 - 115	4.95	20



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C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

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Oceanside , CA 92052

Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0716 - MSVOA_W (continued)

LCS Dup (B9C0716-BSD1) - Continued

Prepared: 3/26/2019 Analyzed: 3/26/2019

1,2-Dichloropropane	17.1300	0.50	0.36	20.0000		85.6	74 - 113	1.28	20	
1,3,5-Trimethylbenzene	20.3400	0.50	0.05	20.0000		102	83 - 126	4.68	20	
1,3-Dichlorobenzene	19.5500	0.50	0.10	20.0000		97.8	84 - 118	0.459	20	
1,3-Dichloropropane	19.9000	0.50	0.07	20.0000		99.5	72 - 116	1.40	20	
1,4-Dichlorobenzene	19.3500	0.50	0.07	20.0000		96.8	83 - 112	3.58	20	
2,2-Dichloropropane	19.8000	0.50	0.16	20.0000		99.0	72 - 150	1.35	20	
2-Chlorotoluene	19.1400	0.50	0.08	20.0000		95.7	82 - 120	6.53	20	
4-Chlorotoluene	19.8200	0.50	0.08	20.0000		99.1	81 - 121	7.76	20	
4-Isopropyltoluene	20.2000	0.50	0.06	20.0000		101	86 - 124	5.44	20	
Benzene	40.6700	0.50	0.03	40.0000		102	81 - 118	7.92	20	
Bromobenzene	19.4600	0.50	0.09	20.0000		97.3	82 - 117	4.95	20	
Bromochloromethane	19.8700	0.50	0.24	20.0000		99.4	70 - 136	8.30	20	
Bromodichloromethane	18.8200	0.50	0.14	20.0000		94.1	80 - 122	2.57	20	
Bromoform	19.0100	0.50	0.13	20.0000		95.0	53 - 145	1.51	20	
Bromomethane	18.6600	0.50	0.42	20.0000		93.3	30 - 204	3.99	20	
Carbon disulfide	17.3100	1.0	0.12	20.0000		86.6	85 - 131	1.66	20	
Carbon tetrachloride	21.4200	0.50	0.19	20.0000		107	77 - 157	6.41	20	
Chlorobenzene	19.6100	0.50	0.07	20.0000		98.0	86 - 113	3.53	20	
Chloroethane	19.4400	0.50	0.40	20.0000		97.2	70 - 160	7.48	20	
Chloroform	18.9900	0.50	0.17	20.0000		95.0	66 - 136	1.59	20	
Chloromethane	12.5200	0.50	0.08	20.0000		62.6	52 - 138	11.2	20	
cis-1,2-Dichloroethene	20.2000	0.50	0.13	20.0000		101	71 - 128	4.35	20	
cis-1,3-Dichloropropene	23.0400	0.50	0.05	20.0000		115	71 - 123	1.13	20	
Di-isopropyl ether	19.0800	0.50	0.12	20.0000		95.4	64 - 123	23.4	20	R
Dibromochloromethane	19.0300	0.50	0.14	20.0000		95.2	78 - 140	5.87	20	
Dibromomethane	19.2600	0.50	0.10	20.0000		96.3	78 - 109	5.88	20	
Dichlorodifluoromethane	12.9000	0.50	0.10	20.0000		64.5	64 - 144	2.12	20	
Ethyl Acetate	173.670	10	1.8	200.000		86.8	55 - 123	3.60	20	
Ethyl Ether	180.240	10	1.3	200.000		90.1	74 - 122	1.73	20	
Ethyl tert-butyl ether	20.0700	0.50	0.11	20.0000		100	72 - 120	3.81	20	
Ethylbenzene	39.3900	0.50	0.07	40.0000		98.5	90 - 116	2.78	20	
Freon-113	21.4500	0.50	0.17	20.0000		107	76 - 143	0.186	20	
Hexachlorobutadiene	18.3500	0.50	0.14	20.0000		91.8	81 - 129	2.15	20	
Isopropylbenzene	20.5700	0.50	0.05	20.0000		103	83 - 129	2.91	20	
m,p-Xylene	41.2300	1.0	0.08	40.0000		103	88 - 124	0.0727	20	
Methylene chloride	20.2900	1.0	0.46	20.0000		101	76 - 137	3.30	20	
MTBE	20.5500	0.50	0.12	20.0000		103	67 - 121	1.37	20	
n-Butylbenzene	18.9800	0.50	0.05	20.0000		94.9	83 - 129	5.97	20	
n-Propylbenzene	19.2000	0.50	0.07	20.0000		96.0	85 - 124	5.73	20	
Naphthalene	17.7300	0.50	0.15	20.0000		88.6	67 - 113	5.86	20	
o-Xylene	43.1600	0.50	0.05	40.0000		108	82 - 129	2.13	20	
sec-Butylbenzene	19.8200	0.50	0.04	20.0000		99.1	86 - 127	4.80	20	



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Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0716 - MSVOA_W (continued)

LCS Dup (B9C0716-BSD1) - Continued

Prepared: 3/26/2019 Analyzed: 3/26/2019

Styrene	21.4500	0.50	0.06	20.0000		107	83 - 122	0.419	20
tert-Amyl methyl ether	18.9500	0.50	0.11	20.0000		94.8	61 - 114	2.62	20
tert-Butanol	94.1600	10	2.9	100.000		94.2	45 - 121	5.42	20
tert-Butylbenzene	20.4100	0.50	0.06	20.0000		102	84 - 130	4.61	20
Tetrachloroethene	19.8700	0.50	0.07	20.0000		99.4	87 - 123	3.61	20
Toluene	38.9200	0.50	0.07	40.0000		97.3	84 - 115	1.68	20
trans-1,2-Dichloroethene	20.7900	0.50	0.11	20.0000		104	60 - 148	4.93	20
trans-1,3-Dichloropropene	20.4200	0.50	0.04	20.0000		102	77 - 118	2.38	20
Trichloroethene	20.5300	0.50	0.05	20.0000		103	79 - 129	0.342	20
Trichlorofluoromethane	21.6700	0.50	0.14	20.0000		108	68 - 162	2.06	20
Vinyl acetate	200.990	10	1.3	200.000		100	65 - 134	7.31	20
Vinyl chloride	16.8400	0.50	0.05	20.0000		84.2	73 - 128	1.65	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>26.09</i>			<i>25.0000</i>		<i>104</i>	<i>57 - 152</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>27.12</i>			<i>25.0000</i>		<i>108</i>	<i>62 - 134</i>		
<i>Surrogate: Dibromofluoromethan</i>	<i>26.71</i>			<i>25.0000</i>		<i>107</i>	<i>56 - 167</i>		
<i>Surrogate: Toluene-d8</i>	<i>28.67</i>			<i>25.0000</i>		<i>115</i>	<i>33 - 170</i>		



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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B9C0769 - MSVOA_W

Blank (B9C0769-BLK1)

Prepared: 3/27/2019 Analyzed: 3/27/2019

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.18
1,1,2,2-Tetrachloroethane	ND	0.50	0.17
1,1,2-Trichloroethane	ND	0.50	0.12
1,1-Dichloroethane	ND	0.50	0.16
1,1-Dichloroethene	ND	0.50	0.09
1,1-Dichloropropene	ND	0.50	0.21
1,2,3-Trichloropropane	ND	0.50	0.16
1,2,3-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trichlorobenzene	ND	0.50	0.12
1,2,4-Trimethylbenzene	ND	0.50	0.08
1,2-Dibromo-3-chloropropane	ND	0.50	0.24
1,2-Dibromoethane	ND	0.50	0.11
1,2-Dichlorobenzene	ND	0.50	0.09
1,2-Dichloroethane	ND	0.50	0.19
1,2-Dichloropropane	ND	0.50	0.36
1,3,5-Trimethylbenzene	ND	0.50	0.05
1,3-Dichlorobenzene	ND	0.50	0.10
1,3-Dichloropropane	ND	0.50	0.07
1,4-Dichlorobenzene	ND	0.50	0.07
2,2-Dichloropropane	ND	0.50	0.16
2-Chlorotoluene	ND	0.50	0.08
4-Chlorotoluene	ND	0.50	0.08
4-Isopropyltoluene	ND	0.50	0.06
Benzene	ND	0.50	0.03
Bromobenzene	ND	0.50	0.09
Bromochloromethane	ND	0.50	0.24
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.13
Bromomethane	ND	0.50	0.42
Carbon disulfide	ND	1.0	0.12
Carbon tetrachloride	ND	0.50	0.19
Chlorobenzene	ND	0.50	0.07
Chloroethane	ND	0.50	0.40
Chloroform	ND	0.50	0.17
Chloromethane	ND	0.50	0.08
cis-1,2-Dichloroethene	ND	0.50	0.13
cis-1,3-Dichloropropene	ND	0.50	0.05
Di-isopropyl ether	ND	0.50	0.12
Dibromochloromethane	ND	0.50	0.14
Dibromomethane	ND	0.50	0.10



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B9C0769 - MSVOA_W (continued)

Blank (B9C0769-BLK1) - Continued

Prepared: 3/27/2019 Analyzed: 3/27/2019

Dichlorodifluoromethane	ND	0.50	0.10
Ethyl Acetate	ND	10	1.8
Ethyl Ether	ND	10	1.3
Ethyl tert-butyl ether	ND	0.50	0.11
Ethylbenzene	ND	0.50	0.07
Freon-113	ND	0.50	0.17
Hexachlorobutadiene	ND	0.50	0.14
Isopropylbenzene	ND	0.50	0.05
m,p-Xylene	ND	1.0	0.08
Methylene chloride	ND	1.0	0.46
MTBE	ND	0.50	0.12
n-Butylbenzene	ND	0.50	0.05
n-Propylbenzene	ND	0.50	0.07
Naphthalene	ND	0.50	0.15
o-Xylene	ND	0.50	0.05
sec-Butylbenzene	ND	0.50	0.04
Styrene	ND	0.50	0.06
tert-Amyl methyl ether	ND	0.50	0.11
tert-Butanol	ND	10	2.9
tert-Butylbenzene	ND	0.50	0.06
Tetrachloroethene	ND	0.50	0.07
Toluene	ND	0.50	0.07
trans-1,2-Dichloroethene	ND	0.50	0.11
trans-1,3-Dichloropropene	ND	0.50	0.04
Trichloroethene	ND	0.50	0.05
Trichlorofluoromethane	ND	0.50	0.14
Vinyl acetate	ND	10	1.3
Vinyl chloride	ND	0.50	0.05

<i>Surrogate: 1,2-Dichloroethane-d4</i>	26.94		25.0000	108	57 - 152
<i>Surrogate: 4-Bromofluorobenzene</i>	25.88		25.0000	104	62 - 134
<i>Surrogate: Dibromofluoromethane</i>	27.63		25.0000	111	56 - 167
<i>Surrogate: Toluene-d8</i>	26.43		25.0000	106	33 - 170

LCS (B9C0769-BS1)

Prepared: 3/27/2019 Analyzed: 3/27/2019

1,1,1,2-Tetrachloroethane	20.0700	0.50	0.11	20.0000	100	80 - 137
1,1,1-Trichloroethane	18.9700	0.50	0.18	20.0000	94.8	75 - 148
1,1,1,2,2-Tetrachloroethane	15.8900	0.50	0.17	20.0000	79.4	64 - 118
1,1,2-Trichloroethane	20.4700	0.50	0.12	20.0000	102	77 - 113
1,1-Dichloroethane	18.9800	0.50	0.16	20.0000	94.9	72 - 131
1,1-Dichloroethene	19.3000	0.50	0.09	20.0000	96.5	75 - 132
1,1-Dichloropropene	20.8500	0.50	0.21	20.0000	104	84 - 141



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0769 - MSVOA_W (continued)

LCS (B9C0769-BS1) - Continued

Prepared: 3/27/2019 Analyzed: 3/27/2019

1,2,3-Trichloropropane	17.4900	0.50	0.16	20.0000		87.4	65 - 111			
1,2,3-Trichlorobenzene	19.3500	0.50	0.12	20.0000		96.8	79 - 117			
1,2,4-Trichlorobenzene	19.6300	0.50	0.12	20.0000		98.2	78 - 121			
1,2,4-Trimethylbenzene	18.5400	0.50	0.08	20.0000		92.7	83 - 125			
1,2-Dibromo-3-chloropropane	15.8600	0.50	0.24	20.0000		79.3	54 - 116			
1,2-Dibromoethane	20.1600	0.50	0.11	20.0000		101	79 - 118			
1,2-Dichlorobenzene	18.0200	0.50	0.09	20.0000		90.1	82 - 115			
1,2-Dichloroethane	19.4100	0.50	0.19	20.0000		97.0	76 - 115			
1,2-Dichloropropane	17.6700	0.50	0.36	20.0000		88.4	74 - 113			
1,3,5-Trimethylbenzene	18.9700	0.50	0.05	20.0000		94.8	83 - 126			
1,3-Dichlorobenzene	18.4800	0.50	0.10	20.0000		92.4	84 - 118			
1,3-Dichloropropane	19.7700	0.50	0.07	20.0000		98.8	72 - 116			
1,4-Dichlorobenzene	18.0500	0.50	0.07	20.0000		90.2	83 - 112			
2,2-Dichloropropane	19.9300	0.50	0.16	20.0000		99.6	72 - 150			
2-Chlorotoluene	18.1200	0.50	0.08	20.0000		90.6	82 - 120			
4-Chlorotoluene	18.2400	0.50	0.08	20.0000		91.2	81 - 121			
4-Isopropyltoluene	18.4500	0.50	0.06	20.0000		92.2	86 - 124			
Benzene	37.9700	0.50	0.03	40.0000		94.9	81 - 118			
Bromobenzene	18.0000	0.50	0.09	20.0000		90.0	82 - 117			
Bromochloromethane	20.6000	0.50	0.24	20.0000		103	70 - 136			
Bromodichloromethane	19.4000	0.50	0.14	20.0000		97.0	80 - 122			
Bromoform	17.9800	0.50	0.13	20.0000		89.9	53 - 145			
Bromomethane	15.0700	0.50	0.42	20.0000		75.4	30 - 204			
Carbon disulfide	17.5100	1.0	0.12	20.0000		87.6	85 - 131			
Carbon tetrachloride	20.9300	0.50	0.19	20.0000		105	77 - 157			
Chlorobenzene	18.8900	0.50	0.07	20.0000		94.4	86 - 113			
Chloroethane	19.5300	0.50	0.40	20.0000		97.6	70 - 160			
Chloroform	19.3100	0.50	0.17	20.0000		96.6	66 - 136			
Chloromethane	12.9800	0.50	0.08	20.0000		64.9	52 - 138			
cis-1,2-Dichloroethene	20.2900	0.50	0.13	20.0000		101	71 - 128			
cis-1,3-Dichloropropene	24.0800	0.50	0.05	20.0000		120	71 - 123			
Di-isopropyl ether	20.1800	0.50	0.12	20.0000		101	64 - 123			
Dibromochloromethane	18.5100	0.50	0.14	20.0000		92.6	78 - 140			
Dibromomethane	18.6300	0.50	0.10	20.0000		93.2	78 - 109			
Dichlorodifluoromethane	12.2100	0.50	0.10	20.0000		61.0	64 - 144			L4
Ethyl Acetate	178.970	10	1.8	200.000		89.5	55 - 123			
Ethyl Ether	181.890	10	1.3	200.000		90.9	74 - 122			
Ethyl tert-butyl ether	21.2600	0.50	0.11	20.0000		106	72 - 120			
Ethylbenzene	37.8700	0.50	0.07	40.0000		94.7	90 - 116			
Freon-113	22.4400	0.50	0.17	20.0000		112	76 - 143			
Hexachlorobutadiene	17.6900	0.50	0.14	20.0000		88.4	81 - 129			
Isopropylbenzene	19.3900	0.50	0.05	20.0000		97.0	83 - 129			



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0769 - MSVOA_W (continued)

LCS (B9C0769-BS1) - Continued

Prepared: 3/27/2019 Analyzed: 3/27/2019

m,p-Xylene	41.0800	1.0	0.08	40.0000		103	88 - 124		
Methylene chloride	20.9600	1.0	0.46	20.0000		105	76 - 137		
MTBE	21.5900	0.50	0.12	20.0000		108	67 - 121		
n-Butylbenzene	17.5100	0.50	0.05	20.0000		87.6	83 - 129		
n-Propylbenzene	17.7100	0.50	0.07	20.0000		88.6	85 - 124		
Naphthalene	16.2400	0.50	0.15	20.0000		81.2	67 - 113		
o-Xylene	41.2000	0.50	0.05	40.0000		103	82 - 129		
sec-Butylbenzene	18.1200	0.50	0.04	20.0000		90.6	86 - 127		
Styrene	21.1700	0.50	0.06	20.0000		106	83 - 122		
tert-Amyl methyl ether	19.4500	0.50	0.11	20.0000		97.2	61 - 114		
tert-Butanol	97.7700	10	2.9	100.000		97.8	45 - 121		
tert-Butylbenzene	18.4400	0.50	0.06	20.0000		92.2	84 - 130		
Tetrachloroethene	18.8300	0.50	0.07	20.0000		94.2	87 - 123		
Toluene	39.6000	0.50	0.07	40.0000		99.0	84 - 115		
trans-1,2-Dichloroethene	20.7900	0.50	0.11	20.0000		104	60 - 148		
trans-1,3-Dichloropropene	20.5800	0.50	0.04	20.0000		103	77 - 118		
Trichloroethene	20.7200	0.50	0.05	20.0000		104	79 - 129		
Trichlorofluoromethane	21.7700	0.50	0.14	20.0000		109	68 - 162		
Vinyl acetate	211.540	10	1.3	200.000		106	65 - 134		
Vinyl chloride	16.5900	0.50	0.05	20.0000		83.0	73 - 128		

Surrogate: 1,2-Dichloroethane-d4

24.98

25.0000

99.9

57 - 152

Surrogate: 4-Bromofluorobenzene

25.92

25.0000

104

62 - 134

Surrogate: Dibromofluoromethane

26.58

25.0000

106

56 - 167

Surrogate: Toluene-d8

29.33

25.0000

117

33 - 170

LCS Dup (B9C0769-BS1)

Prepared: 3/27/2019 Analyzed: 3/27/2019

1,1,1,2-Tetrachloroethane	18.8100	0.50	0.11	20.0000		94.0	80 - 137	6.48	20
1,1,1-Trichloroethane	18.1800	0.50	0.18	20.0000		90.9	75 - 148	4.25	20
1,1,2,2-Tetrachloroethane	16.3100	0.50	0.17	20.0000		81.6	64 - 118	2.61	20
1,1,2-Trichloroethane	19.2600	0.50	0.12	20.0000		96.3	77 - 113	6.09	20
1,1-Dichloroethane	18.0100	0.50	0.16	20.0000		90.0	72 - 131	5.24	20
1,1-Dichloroethene	17.4500	0.50	0.09	20.0000		87.2	75 - 132	10.1	20
1,1-Dichloropropene	20.1900	0.50	0.21	20.0000		101	84 - 141	3.22	20
1,2,3-Trichloropropane	18.5600	0.50	0.16	20.0000		92.8	65 - 111	5.94	20
1,2,3-Trichlorobenzene	20.9200	0.50	0.12	20.0000		105	79 - 117	7.80	20
1,2,4-Trichlorobenzene	21.0600	0.50	0.12	20.0000		105	78 - 121	7.03	20
1,2,4-Trimethylbenzene	19.7500	0.50	0.08	20.0000		98.8	83 - 125	6.32	20
1,2-Dibromo-3-chloropropane	18.3900	0.50	0.24	20.0000		92.0	54 - 116	14.8	20
1,2-Dibromoethane	18.5900	0.50	0.11	20.0000		93.0	79 - 118	8.10	20
1,2-Dichlorobenzene	18.8900	0.50	0.09	20.0000		94.4	82 - 115	4.71	20
1,2-Dichloroethane	19.0800	0.50	0.19	20.0000		95.4	76 - 115	1.71	20



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915

Report To : Michael Anselmo

Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec RPD	RPD Limit	Notes
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Batch B9C0769 - MSVOA_W (continued)

LCS Dup (B9C0769-BSD1) - Continued

Prepared: 3/27/2019 Analyzed: 3/27/2019

1,2-Dichloropropane	16.7600	0.50	0.36	20.0000		83.8	74 - 113	5.29	20	
1,3,5-Trimethylbenzene	19.2800	0.50	0.05	20.0000		96.4	83 - 126	1.62	20	
1,3-Dichlorobenzene	18.9700	0.50	0.10	20.0000		94.8	84 - 118	2.62	20	
1,3-Dichloropropane	21.2500	0.50	0.07	20.0000		106	72 - 116	7.22	20	
1,4-Dichlorobenzene	18.1500	0.50	0.07	20.0000		90.8	83 - 112	0.552	20	
2,2-Dichloropropane	18.8400	0.50	0.16	20.0000		94.2	72 - 150	5.62	20	
2-Chlorotoluene	18.6400	0.50	0.08	20.0000		93.2	82 - 120	2.83	20	
4-Chlorotoluene	19.0800	0.50	0.08	20.0000		95.4	81 - 121	4.50	20	
4-Isopropyltoluene	19.0400	0.50	0.06	20.0000		95.2	86 - 124	3.15	20	
Benzene	37.9300	0.50	0.03	40.0000		94.8	81 - 118	0.105	20	
Bromobenzene	19.0100	0.50	0.09	20.0000		95.0	82 - 117	5.46	20	
Bromochloromethane	20.5500	0.50	0.24	20.0000		103	70 - 136	0.243	20	
Bromodichloromethane	17.5900	0.50	0.14	20.0000		88.0	80 - 122	9.79	20	
Bromoform	18.4200	0.50	0.13	20.0000		92.1	53 - 145	2.42	20	
Bromomethane	13.3000	0.50	0.42	20.0000		66.5	30 - 204	12.5	20	
Carbon disulfide	15.9200	1.0	0.12	20.0000		79.6	85 - 131	9.51	20	L4
Carbon tetrachloride	18.7200	0.50	0.19	20.0000		93.6	77 - 157	11.1	20	
Chlorobenzene	18.4400	0.50	0.07	20.0000		92.2	86 - 113	2.41	20	
Chloroethane	18.9300	0.50	0.40	20.0000		94.6	70 - 160	3.12	20	
Chloroform	18.3200	0.50	0.17	20.0000		91.6	66 - 136	5.26	20	
Chloromethane	12.3300	0.50	0.08	20.0000		61.6	52 - 138	5.14	20	
cis-1,2-Dichloroethene	20.0600	0.50	0.13	20.0000		100	71 - 128	1.14	20	
cis-1,3-Dichloropropene	20.0600	0.50	0.05	20.0000		100	71 - 123	18.2	20	
Di-isopropyl ether	19.1000	0.50	0.12	20.0000		95.5	64 - 123	5.50	20	
Dibromochloromethane	19.4000	0.50	0.14	20.0000		97.0	78 - 140	4.70	20	
Dibromomethane	17.5700	0.50	0.10	20.0000		87.8	78 - 109	5.86	20	
Dichlorodifluoromethane	11.2800	0.50	0.10	20.0000		56.4	64 - 144	7.92	20	L4
Ethyl Acetate	184.840	10	1.8	200.000		92.4	55 - 123	3.23	20	
Ethyl Ether	172.340	10	1.3	200.000		86.2	74 - 122	5.39	20	
Ethyl tert-butyl ether	20.1600	0.50	0.11	20.0000		101	72 - 120	5.31	20	
Ethylbenzene	37.6600	0.50	0.07	40.0000		94.2	90 - 116	0.556	20	
Freon-113	18.9400	0.50	0.17	20.0000		94.7	76 - 143	16.9	20	
Hexachlorobutadiene	18.0600	0.50	0.14	20.0000		90.3	81 - 129	2.07	20	
Isopropylbenzene	20.4000	0.50	0.05	20.0000		102	83 - 129	5.08	20	
m,p-Xylene	40.9700	1.0	0.08	40.0000		102	88 - 124	0.268	20	
Methylene chloride	19.2500	1.0	0.46	20.0000		96.2	76 - 137	8.51	20	
MTBE	20.2100	0.50	0.12	20.0000		101	67 - 121	6.60	20	
n-Butylbenzene	18.0000	0.50	0.05	20.0000		90.0	83 - 129	2.76	20	
n-Propylbenzene	18.2700	0.50	0.07	20.0000		91.4	85 - 124	3.11	20	
Naphthalene	17.6200	0.50	0.15	20.0000		88.1	67 - 113	8.15	20	
o-Xylene	40.9400	0.50	0.05	40.0000		102	82 - 129	0.633	20	
sec-Butylbenzene	18.9100	0.50	0.04	20.0000		94.6	86 - 127	4.27	20	



Certificate of Analysis

C. James & Associates Inc.
 PO Box 4832
 Oceanside , CA 92052

Project Number : CARLEN PLAZA, 01915
 Report To : Michael Anselmo
 Reported : 03/28/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B9C0769 - MSVOA_W (continued)

LCS Dup (B9C0769-BSD1) - Continued

Prepared: 3/27/2019 Analyzed: 3/27/2019

Styrene	20.8100	0.50	0.06	20.0000		104	83 - 122	1.72	20
tert-Amyl methyl ether	20.4900	0.50	0.11	20.0000		102	61 - 114	5.21	20
tert-Butanol	95.7900	10	2.9	100.000		95.8	45 - 121	2.05	20
tert-Butylbenzene	19.4200	0.50	0.06	20.0000		97.1	84 - 130	5.18	20
Tetrachloroethene	19.0600	0.50	0.07	20.0000		95.3	87 - 123	1.21	20
Toluene	34.0400	0.50	0.07	40.0000		85.1	84 - 115	15.1	20
trans-1,2-Dichloroethene	20.1700	0.50	0.11	20.0000		101	60 - 148	3.03	20
trans-1,3-Dichloropropene	18.9400	0.50	0.04	20.0000		94.7	77 - 118	8.30	20
Trichloroethene	19.6000	0.50	0.05	20.0000		98.0	79 - 129	5.56	20
Trichlorofluoromethane	20.3000	0.50	0.14	20.0000		102	68 - 162	6.99	20
Vinyl acetate	196.140	10	1.3	200.000		98.1	65 - 134	7.55	20
Vinyl chloride	15.3600	0.50	0.05	20.0000		76.8	73 - 128	7.70	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>26.49</i>			<i>25.0000</i>		<i>106</i>	<i>57 - 152</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>26.25</i>			<i>25.0000</i>		<i>105</i>	<i>62 - 134</i>		
<i>Surrogate: Dibromofluoromethan</i>	<i>26.79</i>			<i>25.0000</i>		<i>107</i>	<i>56 - 167</i>		
<i>Surrogate: Toluene-d8</i>	<i>26.70</i>			<i>25.0000</i>		<i>107</i>	<i>33 - 170</i>		



Certificate of Analysis

C. James & Associates Inc.

Project Number : CARLEN PLAZA, 01915

PO Box 4832

Report To : Michael Anselmo

Oceanside , CA 92052

Reported : 03/28/2019

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

For Laboratory Use Only ATLCC Ver:20180321

Method of Transport		Sample Conditions Upon Receipt	
<input checked="" type="checkbox"/> Client	<input type="checkbox"/> ATL	Condition	Y N
<input type="checkbox"/> FedEx	<input type="checkbox"/> OnTrac	1. CHILLED	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> GSO	<input type="checkbox"/> Other: _____	2. HEADSPACE (VDA)	<input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/>		3. CONTAINER INTACT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/>		4. SEALED	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
		5. # OF SAMPLES MATCH COC	<input type="checkbox"/> Y <input type="checkbox"/> N
		6. PRESERVED	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
		7. COOLER TEMP. deg C:	19

Instruction: Complete all shaded areas.

Company: C. JAMES & ASSOCIATES INC
Address: P.O. Box 4832
City: OXENSIDE
State: CA **Zip:** 92052

Attn: M. ANSELMO
Email: c.james@reagan.com

Address: _____
City: _____
State: _____
Zip: _____

SEND REPORT TO: _____
Address: _____
City: _____
State: _____
Zip: _____

SEND INVOICE TO: _____
Address: _____
City: _____
State: _____
Zip: _____

Tel: _____
Fax: _____

Method of Transport: Client ATL FedEx GSO Other: _____

Sample Conditions Upon Receipt: 1. CHILLED Y N 2. HEADSPACE (VDA) Y N 3. CONTAINER INTACT Y N 4. SEALED Y N 5. # OF SAMPLES MATCH COC Y N 6. PRESERVED Y N 7. COOLER TEMP. deg C: 19

ITEM	Laboratory ID (For Lab Use Only)	Sample ID / Location	Sample Description	Requested Analysis		Sample Matrix	Container	Remarks
				Quote #:	PO #:			
1	1901084-01	MW-1		8260 / 624 (Volatiles)	8015 (GRO)	SOIL	5-Liter, 6-Liter, 7-Canister	4-c: 5-Zn(Ac); 6-NaOH; 7-NAZS2O3
2		MW-2		8015 (DRO)	8082 (PCBs)	GROUNDWATER	1-Vial, 2-Plastic, 3-Metal	
3		MW-3		8015 (GRO)	8270 (Semi-volatiles)	WASTEWATER		
4		MW-4		8015 (GRO)	6010 / 7000 (Title 22 Metals)	SOIL		
5		MW-5		8015 (GRO)	8081 (Organochlorine Pesticides)	SOIL		
6		MW-6		8015 (GRO)	8082 (PCBs)	SOIL		
7		MW-7		8015 (GRO)	8015 (DRO)	SOIL		
8		MW-8		8015 (GRO)	8270 (Semi-volatiles)	SOIL		
9		MW-9		8015 (GRO)	6010 / 7000 (Title 22 Metals)	SOIL		
10		MW-10		8015 (GRO)	8081 (Organochlorine Pesticides)	SOIL		

Special Instructions/Comments: _____

Project Name: CARLEN PUZA
Project No.: 01915
Sampler: BLAINE TECH

Requested Analysis: 8260 / 624 (Volatiles), 8015 (GRO), 8015 (DRO), 8082 (PCBs), 8270 (Semi-volatiles), 6010 / 7000 (Title 22 Metals), TO-15

Sample Matrix: SOIL, GROUNDWATER, WASTEWATER, OIL

Container: 5-Liter, 6-Liter, 7-Canister; Material: 1-Glass, 2-Plastic, 3-Metal; Preservative: 1-HCl, 2-HNO3, 3-H2SO4; 4-c: 5-Zn(Ac); 6-NaOH; 7-NAZS2O3

Quantity: 3 2 1 1

Turnaround Time (TAT): 5

EDD: Excel EDDF Equis

QA/QC: Routine Caltrans Legal RWQCB Level IV

Method of Transport: Client ATL FedEx GSO Other: _____

Sample Conditions Upon Receipt: 1. CHILLED Y N 2. HEADSPACE (VDA) Y N 3. CONTAINER INTACT Y N 4. SEALED Y N 5. # OF SAMPLES MATCH COC Y N 6. PRESERVED Y N 7. COOLER TEMP. deg C: 19

7. Electronic records maintained for five (5) years from receipt of samples.
8. Hard copy reports will be disposed of after 45 calendar days from receipt of samples.
9. Storage and Report Fees:
 Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; \$2/sample/month if extended storage or hold is requested.
 Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$20 sample/week if extended storage is requested.
 Hard copy and regenerated reports/EDDs: \$17.50 per hard copy report requested; \$50.00 per regenerated/reformatted report; \$35 per processed EDD.

10. Rush TAT/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of \$7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; all samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from receipt of samples.
8. Hard copy reports will be disposed of after 45 calendar days from receipt of samples.
9. Storage and Report Fees:
 Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; \$2/sample/month if extended storage or hold is requested.
 Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$20 sample/week if extended storage is requested.
 Hard copy and regenerated reports/EDDs: \$17.50 per hard copy report requested; \$50.00 per regenerated/reformatted report; \$35 per processed EDD.

10. Rush TAT/STLC samples: add 2 days to analysis TAT for extraction procedure.
11. Unanalyzed samples will incur a disposal fee of \$7 per sample.
12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

Received by: (Signature and Printed Name) _____ Date: 3/20/19 Time: 10:00
Received by: (Signature and Printed Name) _____ Date: _____ Time: _____
Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

As the authorized agent of the company above, I hereby guarantee laboratory services from ATL as shown above and hereby guarantee payment as quoted.
Printed Name: SCOTT GREEN
Signature: _____

Instruction: Complete all shaded areas.

For Laboratory Use Only ATLCCOC Ver:20180321

Method of Transport: Client, ATL, FedEx, OnTrac, GSO, Other: _____

Sample Conditions Upon Receipt: Y, N, Condition: _____, 5. # OF SAMPLES MATCH COC:

1. CHILLED 2. HEADSPACE (VOA) 3. CONTAINER INTACT 4. SEALED

6. PRESERVED 7. COOLER TEMP, deg C: _____

Company: **C. JAMES & ASSOCIATES, INC.** Address: _____ Tel: _____
 Attn: **M. ANSELMO** Email: **cjames@reagan.com** City: _____ State: **CA** Zip: **92052**
 Company: _____ Address: _____ City: _____ State: _____ Zip: _____
 Address: **P.O. Box 4832** City: **OCEANSIDE** State: **CA** Zip: **92052**

SEND INVOICE TO: _____ SEND REPORT TO: _____

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EDD: Excel, XEDF, Equis, RWQCB, Level IV

QA/QC: Routine, Caltrans, Legal, RWQCB, Level IV

ITEM	Laboratory ID (For Lab Use Only)	Sample ID / Location	Sample Description	Date		Requested Analysis	Sample Matrix	Turnaround Time (TAT)	Container	Remarks
				Date	Time					
1	190108-10	MW-11		3/20/19	07:38	8260 / 624 (Volatiles)	SOIL	5	1	
2	-11	MW-12		"	08:08	8015 (GR)	GROUNDWATER	5	1	
3						8015 (PRO)				
4						8082 (PCBs)				
5						8270 (Semi-volatiles)				
6						6010 / 7000 (Title 22 Metals)				
7						TO-15				
8										
9										
10										

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
 2. Samples submitted AFTER 3:00 PM are considered received the following business day at 8:00 AM.
 3. The following turnaround time conditions apply:
 TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
 TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
 TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
 TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
 TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
 TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)

Weekend, holiday, after-hours work ... ask for quote.
 Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab - ask for quote.

6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
 7. Electronic records maintained for five (5) years from report date.
 8. Hard copy reports will be disposed of after 45 calendar days from report date.
 9. Storage and Report Fees:
 - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; \$2/sample/month if extended storage or hold is requested.
 - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$20 sample/week if extended storage is requested.
 - Hard copy and regenerated reports/EODs: \$17.50 per hard copy report requested; \$50.00 per regenerated/reformatted report; \$35 per processed EDD.

10. Rush TCEP/STLC samples: add 2 days to analyst TAT for extraction procedure.
 11. Unanalyzed samples will incur a disposal fee of \$7 per sample.
 12. The laboratory will randomly select from all QC samples received the sample to spike for Matrix Spike/Matrix Spike Duplicate (MS/MSD) at no cost. However, if you want the laboratory to additionally perform MS/MSD on your sample, a charge will be assessed for the specific sample used.

Received by: (Signature and Printed Name) **WPK** Date: **3/20/19** Time: **16:00**
 Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____
 Received by: (Signature and Printed Name) _____ Date: _____ Time: _____
 Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.
SCOTT GREEN Printed Name
 _____ Signature

**SOIL GAS INVESTIGATION REPORT
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California**

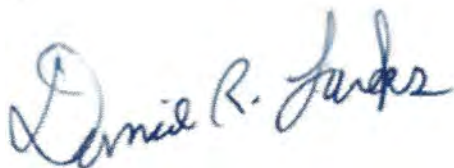
**SARWQCB Case No. 2080155
Global ID: T1000009409**

July 14, 2017

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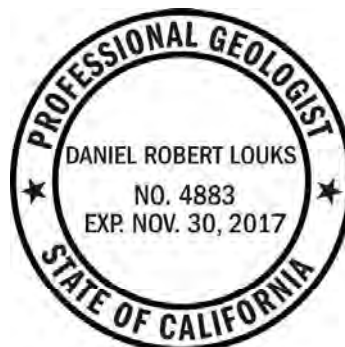


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1.0 INTRODUCTION

This report presents the results of a supplemental soil gas investigation performed at the former Crown Cleaners site located at 24601 Raymond Way in Lake Forest, California. This work was required by the Santa Ana Regional Water Quality Control Board (SARWQCB) in its oversight of the project, which has subsurface impacts from a release of tetrachloroethene (PCE). This work was intended to provide an updated and more comprehensive evaluation of PCE distribution in soil and soil gas media at the site and in surrounding areas. The scope of work was presented in L. Joseph Associates, LLC (LJA) *“Soil Vapor Mitigation Plan”* dated February 17, 2017, and conditionally approved by SARWQCB by email correspondence dated March 3, 2017. GSA Engineering, Inc. (GSA) has been contracted to complete the work and prepare this report of findings.

2.0 BACKGROUND

The subject property consists of a 3.5-acre retail center known as Carlen Plaza located on the northern corner of Raymond Way and El Toro Road in Lake Forest, California (**Figure 1**). An L-shaped, multi-tenant retail building addressed as 24601 Raymond Way is located along the northern portion of the property, and a restaurant building addressed as 23501 El Toro Road is located in the southern corner of the site. A former dry cleaning facility identified as Crown Cleaners occupied Suite 15 of the 24601 Raymond Way building from the time the property was developed in the late-1970s until approximately 2010, when the site was vacated and the dry cleaning equipment was removed. This suite is currently occupied by Impressions Beauty Salon and Supply (**Figure 2**).

In November 2009, Avalon Environmental Consultants (AEC) installed three soil borings (GP1-GP3) to 20 feet below grade in targeted areas near the dry cleaning equipment. Soil samples were obtained for laboratory analysis at 1, 5, 10, and 20 feet below grade in each boring. Results of laboratory analysis indicated each boring had samples with detectable levels of PCE with concentrations ranging up to 94 µg/Kg as found in sample GP2-20, the deepest sample in the boring. Borings GP1 and GP3 displayed a similar vertical profile with the highest concentrations found at 10 or 20 feet below grade (maximum concentrations of 30 and 85 µg/Kg, respectively). No TCE or other VOC was detected in the samples.

In December 2010, LJA continued the subsurface investigation and installed four additional soil borings (B1-B4) to 25-30 feet below grade in similar locations to the GP1-GP3 series of borings (**Figure 3B**). Groundwater was encountered during drilling and the borings were terminated without well installation. Results of laboratory analysis indicated a maximum of 190 µg/Kg PCE in soil sample B4-25. In addition, three of the four borings had detectable levels of PCE in the deepest soil sample. No VOC other than PCE was detected in these soil samples.

In June 2011, LJA installed four groundwater monitoring wells (MW1-MW4) at the site. Well MW2 was installed where the removed dry cleaning machine had been. Wells MW3 and MW4 were also installed in indoor locations in the former Crown Cleaners suite. Well MW1 was installed just behind the building to the north. The wells were installed to 35-40 feet below grade and were screened from 15 feet below grade to maximum depth. Soil samples were preserved for laboratory analysis between 20 and 40 feet below grade to attempt to define the vertical extent of contamination. Results indicated the deepest samples from MW1, MW2, and MW4 had less than detectable or very low concentrations of PCE with a maximum of 34 µg/Kg. Soil samples MW3-30 and MW3-35 had among the highest concentrations with 220 and 96 µg/Kg PCE, respectively.

In January-March 2012, LJA installed six additional groundwater monitoring wells (MW5-MW10) to attempt to define the lateral extent of contamination. Wells MW5, MW6, MW9, and MW10 were installed in adjoining suites and wells MW7 and MW8 were installed outside the building to the southwest and northeast (**Figure 3A**). The wells were installed to 30-35 feet below grade and screened from 15 feet to maximum depth. The well construction details are summarized in **Table 1**. Soil samples were obtained during drilling at 15-20 feet below grade for laboratory analysis. Results indicated each sample except MW7-15 had less than detectable levels of PCE. This sample had just 14 µg/Kg PCE. The soil sampling data is summarized in **Table 2**. The pre-remediation distribution of PCE in soil is depicted in figures prepared by LJA and included as **Appendix A**.

Groundwater monitoring at the site since 2011 indicates a fairly stable water table that has steadily dropped about 3 feet in elevation to its current level at about 24-25 feet below grade. The dissolved levels have fluctuated somewhat over time, particularly in wells MW1 and MW6 which have ranged from less than 5 µg/L PCE (MCL) to greater than 700 µg/L PCE. Typically, indoor wells MW2, MW3, MW4 and MW5 have the highest dissolved levels usually with greater than 100 µg/L PCE. Other VOC have not been detected in significant concentrations on a consistent basis. The historical groundwater monitoring and sampling data is summarized in **Table 3**.

In July 2014, LJA initiated interim remedial action at the site. A vapor extraction/dual phase extraction system was installed and operated using wells MW1, MW3, MW5, MW6, MW9, and MW10 for extraction. Each well is connected by underground 1.5-inch conveyance piping to a treatment compound area outside the building. Each well is equipped with a dedicated valve so that wells can be operated in multiple configurations. The system includes a high flow, moderate vacuum, 11 hp, 2-stage regenerative blower, capable of extracting up to 250 cfm and inducing a vacuum of 195 in. WC. The unit also has a 50-gallon water condenser tank and centrifugal pump to transport groundwater from the tank through the groundwater treatment media and into an appropriate storage container. The system operated until May 2017 when it was shut down pending this soil gas investigation. The treatment system is located just north of the building as indicated on **Figures 3A and 3B**.

2.1 Vicinity Dry Cleaner Information

Four former or existing dry cleaning operations (including the subject site) have been identified in the near vicinity of the property. These have been identified as the former Orange Tree Plaza Dry Cleaners (OTP) located east of the site across El Toro Road at 23532 El Toro Road, the former Silver Dry Cleaners site (Silver) located south of the site at 23684 El Toro Road, and the existing Spic N Span Dry Cleaners located northeast of the site at 23374 El Toro Road. The locations of each are indicated on **Figure 1A**.

Subsurface investigations have been conducted at the first two sites, but the Spic N Span site has not been investigated yet based on information available on the GeoTracker website. Each of the three sites where subsurface investigations were conducted has had significant impacts by PCE in soil, soil gas, and groundwater media and interim remedial efforts have been conducted at each of the three sites (including the subject site).

Drilling at the former Silver Dry Cleaners site conducted by PES Environmental Inc. (PES) indicated the lithologic section consists mostly of silty sand and sandy silt deposits that extend to about 20-25 feet below grade. Saturated sediment was encountered within this upper unit (at 12-20 feet), underlain by a “dry to moist clay or dense silt” layer at 20-24 feet below grade. This unit was underlain by the silty sand/sandy silt

deposits typical of the upper unit. The presence of this finer grained layer and the noted decrease in moisture content led PES to install shallow and deep groundwater monitoring wells to investigate the possibility of multiple hydraulic zones. However, results from groundwater monitoring since the wells were installed revealed very similar groundwater elevations and flow directions between the two intervals. In addition, PES identified significant dissolved PCE concentrations in groundwater upgradient (north) of the Silver Dry Cleaners site, and concluded that groundwater contamination from the OTP site had migrated onto the Orchard Shopping Center property (formerly occupied by Silver).

SARWQCB provides regulatory oversight for all three sites and was concerned that there might be comingling of plumes and the possibility of multiple differentiated groundwater zones. Accordingly, SARWQCB required specific supplemental groundwater investigations at the OTP and former Crown Cleaners sites. These investigations included cone penetrometer testing (CPT) of the subsurface sediment and discrete in-situ groundwater sampling across different depths to determine if there were multiple hydraulic zones of significance.

2.2 Supplemental Groundwater Investigation

In April-May 2017, LJA conducted the required in-situ groundwater investigation. Results of CPT testing were inconclusive as far as defining separate hydraulic zones in the saturated section (ranging from 25 to 40 feet below grade). This data is consistent with the CPT results at the OTP site located across El Toro Road, where there was no evidence of a laterally continuous deeper water bearing zone, but rather an undifferentiated shallow water zone that extended to the maximum depth of investigation.

The in-situ groundwater sampling program included attempts to obtain groundwater samples from discrete depths at targeted intervals provided by SARWQCB. In several cases, groundwater samples could not be obtained from the shallow target (24-27 feet) or the deep target (40-44 feet), but most locations were able to be sampled at the 29-32 foot interval. This data is consistent with the results from the OTP site, where numerous attempts at sampling distinct intervals were unsuccessful. In addition, the groundwater zone was very slow to produce groundwater and in many instances required several hours to produce sufficient quantities for sampling. This corresponds well with the dual phase program at the site which has apparently produced very low groundwater flows over time (6,861 gallons over 2+ years of operation).

Results from in-situ groundwater sampling indicated just one sample had PCE levels greater than MCL levels with 33 µg/L detected in sample GW9, from a depth range of 24 to 27 feet below grade. Slightly deeper samples (29-32 feet) in this same location did not have detectable levels of PCE. Some samples had low levels of carbon tetrachloride with a maximum of 0.56 µg/L; however, no other VOC was detected with concentrations greater than California MCL levels. These results are summarized in **Table 4**.

Based on these results, the dissolved PCE plume was reasonably defined in all directions except to the northeast. In addition, the data indicate no significant differences in the hydrogeologic section that are suggestive of multiple significant hydraulic zones. Although there are likely small variations in the hydraulics that could feature limited confining pressures, the saturated zone appears to be best interpreted as a transitional zone from an unconfined shallow saturated zone to a semi-permeable, semi-consolidated, variable bedrock interface that apparently has an irregular surface ranging from approximately 35-50 feet below grade.

3.0 GEOLOGY/HYDROGEOLOGY

The local geology features Miocene and Pliocene age marine deposits that have been uplifted, faulted, and dissected by stream erosion from Aliso Creek and are exposed along the surrounding hillsides. These formations consist of dense sandstone and siltstone known as the Niguel and Monterey formations. The lowland basins are filled with alluvium deposits derived from marine terrace deposits. These are underlain by the older and harder Pliocene and Miocene bedrock. The local unconsolidated material consists of mixed silty clay, silt, and silty sand deposits with no apparent macro-layering pattern.

The site lies outside the boundaries of the groundwater basins delineated by the California Department of Water Resources and the nearest basin is the Coastal Plain of Orange County located northwest of the property. The site overlies an area of limited water bearing deposits and is reportedly a poor and unreliable source of groundwater. Groundwater monitoring at the former Silver Cleaners site and the OTP site confirm a relatively flat south-southwesterly hydraulic gradient of about 0.007 ft/ft. Groundwater levels in both shallow and deep wells at the Silver Cleaners site exhibit very similar elevations and flow directions, suggesting direct hydraulic communication between the intervals.

Static groundwater at the Crown Cleaners site currently lies at about 24-25 feet below grade. The groundwater elevations 5+ years ago were about 3 feet higher and the recent steady decline may be a result of the current drought conditions in southern California. Previous groundwater monitoring data from the site indicates a complicated groundwater flow pattern that trends roughly to the northeast but is likely influenced by the (then) ongoing dual phase extraction system operations.

4.0 SOIL GAS INVESTIGATION

On June 20-21, 2017, a hydraulic direct push GeoProbe type drilling rig provided by Interphase Environmental, Inc. was used to advance 12 borings (VP1-VP12) in targeted areas approved by SARWQCB. This drilling method uses 1-¼ -inch diameter rods that are driven to specific depths for soil sampling. At the required depth the rods are retrieved from the hole and a soil sampling tool is installed and driven into the undisturbed soil. The tool is lined with an acetate tube, which is retrieved from the tool after sampling. All sampling equipment was washed in a detergent solution and rinsed with water between sampling events to prevent cross-contamination. The boring locations are shown on **Figure 4**.

During drilling, the soil column was logged by a California Professional Geologist. Results indicated a mixed sequence of material consisting mostly of silty clay in the upper 10 feet of section, underlain by silty sand and clayey sand at 15 feet below grade, the maximum depth of exploration. The drilling logs include sediment descriptions using the USCS classification system and are provided in **Appendix B**.

During drilling soil samples were obtained at 5, 10, and 15 feet below grade and each was preserved using EPA Method 5035 with laboratory-provided vials which contained the required preservatives. Approximately 5 grams of soil was driven into the vials using a tool specialized for this task. The preserved samples were labelled, stored in an ice-filled chest and delivered to the State certified analytical laboratory. The soil samples were analyzed for VOC using EPA Method 8260B (full scan) by Advanced Technology Laboratories of Signal Hill, California.

After soil sampling, each boring was completed as a nested soil gas probe with sampling tips installed at 5, 10, and 15 feet below grade. One location (VP6) was not completed with a five-foot probe because of saturated soil conditions in the exploratory boring which had standing water at 5 feet. A probe set in these conditions would have been quickly plugged by wet sediment and would have been unusable. In addition, because of the expected low permeability and the high moisture content of the native sediment in multiple locations, each probe was completed with a 9-inch sampling tip to ensure that representative samples could be obtained in the future. The probes consist of stainless steel vapor implants that are approximately 9 inches long with a 0.5-inch outside diameter, connected to 0.25-inch outside diameter nylaflo tubing that extended above the surface. The annulus around the vapor implants was backfilled with 1-foot of screen-washed #3 sand, extending 1.5 inches above and below the sampling tip. The probes were sealed using six inches of dry bentonite placed immediately above each sand pack overlain by hydrated bentonite above it to provide a secure borehole seal. The probes were finished with gas-tight fittings at the surface pending vapor purging and sampling and each cluster of probes was set in a traffic-rated vault to allow for future sampling.

On June 28 and 30, 2017, the probes were purged and sampled by a technician from A&R Laboratories. A tracer material was applied at the surface of the sealed probe to ensure that there was no interference of air from the surface. The purpose of purging is to remove stagnant air from the vapor sampling train to ensure representative samples are obtained. The probes were purged of three purge volumes of soil vapor (a purge volume includes the volume of tubing plus the void space of the sand pack around the probe) using an adjustable vacuum pump. After static conditions were established, the probes were sampled at a flow rate of approximately 200 cc/min. and stored in a pre-cleaned glass bulb. The vapor samples were then immediately analyzed by the mobile laboratory for VOC by EPA Method 8260B. At each location a leak check compound was used to demonstrate sample integrity. Duplicate and QA/QC samples were also collected and analyzed by the mobile laboratory as required.

4.1 Laboratory Results

The laboratory results from soil sampling indicated just one boring location had soil samples with detectable VOC. Boring VP6, located in the outdoor treatment compound area, had 1,400 µg/Kg PCE and 4.9 µg/Kg TCE at 5 feet below grade. In addition, sample VP6-10 had 1,200 µg/Kg PCE. None of the other samples (including the deepest sample in this boring, VP6-15) had detectable levels of VOC. The detected concentrations were compared to the Regional Screening Level (RSL) guidelines provided by EPA and modified by DTSC for use in California. These guidelines are based on human health risk factors for residential and commercial settings and are commonly used as screening tools. None of the detected concentrations exceed the current soil screening levels for commercial applications. These results are summarized in **Table 2**. The current distribution of PCE in soil is shown on **Figure 4**. The laboratory reports from soil sampling are included in **Appendix C**.

Laboratory results from soil gas sampling indicated the PCE concentrations in the probes ranged from less than detectable to a maximum of 35 µg/L PCE. The highest concentrations were detected in the VP6 probe location (located in the treatment compound adjacent to well MW1), which had the maximum concentration at 15 feet below grade and 16 µg/L PCE at 10 feet. These results were compared to DTSC screening guidelines for PCE in soil gas in commercial applications (2.1 µg/L). These guidelines use screening numbers for indoor air that are modified using attenuation factors provided by DTSC for soil gas. Four other probe locations had at least one sample with greater than the DTSC screening level for PCE in soil gas in a commercial application. Samples VP4-15 and VP5-15 had 7.9 µg/L and 3.7 µg/L PCE, though the 5 and 10 foot samples in each location had less than 1 µg/L PCE. Probes VP7-5 and VP7-15 had 13 µg/L and 4.1 µg/L PCE, respectively. Finally, probe VP8-5 had 6.2 µg/L PCE. None of the remaining probes had greater than 1.1 µg/L

PCE. Low levels of TCE and cis 1,2 DCE were detected in a few samples but none exceeded 0.60 µg/L. These results are summarized in **Table 5**. The current distribution of PCE in soil gas is shown on **Figure 5**. The laboratory reports from soil gas sampling are included in **Appendix D**.

To characterize the human health risk potential beyond the conservative RSL screening levels, the data from soil gas sampling was used in a computer model to assess potential vapor intrusion risks to human health.

5.0 VAPOR INTRUSION RISK ASSESSMENT

The EPA provides a computer model for quantifying the risk of vapor intrusion into an existing or proposed structure from subsurface sources of contamination. The model was modified by DTSC for use in dedicated commercial or residential settings using risk factors specific to California. In a commercial setting, the Johnson-Ettinger model takes known soil gas concentrations and provides an indication of whether these conditions would adversely impact workers exposed to the air space inside a structure. It uses standard human health risk factors and measured contaminant characteristics with common vapor migration algorithms.

The Johnson-Ettinger model is a one-dimensional analytical solution to diffusive and convective transport of volatile chemical vapor into indoor spaces made available by the EPA. The model provides a theoretical description of vapor intrusion from the subsurface into an indoor air space and relates vapor concentrations at a subsurface source to potential vapor concentrations in an enclosed air space. It was developed as a screening tool and has a number of inherent simplifying assumptions regarding contaminant distribution, subsurface characteristics, transport mechanisms, and building construction. The model assumes that isotropic homogeneous conditions adequately characterize the subsurface.

The model assumes an infinite contaminant source and that vapor flux through the subsurface occurs only by one-dimensional diffusion (upward) to the base of the building foundation. Diffusive flow through the subsurface is simulated using common vapor flux equations controlled by the assigned soil property variables. Convection carries the mass through simulated cracks and openings in the foundation into the structure. The convective sweep is caused by presumed air movement in the building from heating/cooling, stack, and wind effects. Both diffusive and convective transports are assumed to be uniform and steady state. The model does not account for attenuation factors such as biodegradation or sorption during transport to the base of the building.

The model treats the entire default building as a single chamber with instantaneous and homogeneous vapor dispersion. It therefore neglects contaminant sinks and room to room variations in vapor concentrations due to unbalanced mechanical or natural ventilation. Once a representative soil gas vapor concentration is determined, all vapors directly below the areal extent of the structure are presumed to enter the structure, and since the mass is considered infinite, steady state transport prevails and the intrusion rate remains constant.

There are several versions of the EPA's Johnson-Ettinger model including ones that use concentrations of volatile contaminants in soil, groundwater, and soil gas to predict exposure risk within an enclosed air space. When soil gas data is available, it can be directly input into the model, providing the most direct and reliable calculation. The DTSC modified version includes risk factors specific to California and is named SG-SCREEN (version 2.0 04/2003 - DTSC Modified December 2014).

To provide a conservative analysis, the maximum PCE soil gas concentration at each sampled interval was analyzed. The model also allows input of the site specific soil type in the vadose zone and calculates values of permeability; soil moisture content and other important parameters based on the selection. Based on drilling logs the shallow sediment consists of a mixed assemblage ranging from silty clay to silty sand. To provide a conservative value, the soil type chosen for the model input was loamy sand (LS). This data was used with the DTSC default values for the remaining parameters.

5.1 Model Results

The results of the model provide an assessment of the exposure risk to humans in a default structure using accepted risk factors. Since the model is primarily a screening tool it provides very conservative results. Accordingly, the acceptable exposure risk values are conservative. For carcinogens the exposure risk is 10⁻⁶, for non-carcinogens the hazard risk quotient is 1. A calculated risk that exceeds the acceptable value indicates a formal risk assessment might be required. Alternatively, DTSC can provide a risk management decision if the results lie between 10⁻⁶ and 10⁻⁴. A calculated risk that is at or below the 10⁻⁶ standard is considered insignificant. For commercial applications, OEHHA typically closes sites with 10⁻⁵ exposure risk factors if the plume is considered defined.

Results of the modelling exercise indicate that the calculated carcinogenic risk using the maximum PCE level at 5, 10, and 15 feet below grade ranged from 2.1 to 3.3 E-06, which exceeds the most conservative screening level but is well below the typical commercial action level and well within range of a favorable DTSC risk management decision. The model input and results are presented in **Appendix E**.

6.0 CONCLUSIONS

The subject site is a former dry cleaning establishment known as Crown Cleaners that was located in a tenant suite in the Carlen Plaza shopping center from the 1970s through 2010, when the suite was vacated and the dry cleaning equipment was removed. This suite is currently occupied by Impressions Beauty Salon and Supply. Environmental investigations initiated in 2009 identified subsurface impacts from PCE, a common dry cleaning solvent. Results of these investigations indicated soil was impacted with PCE below the approximate groundwater interface located at about 22-24 feet below grade.

The plume of impacted groundwater is centered near the removed dry cleaning equipment and extends radially from the release zone. Typically the near-source wells located inside the structure have greater than 100 µg/L dissolved PCE, with maximum concentrations frequently greater than 1,000 µg/L. In May 2017, a series of in-situ groundwater samples were obtained in plume-perimeter locations outside the building to attempt to define the lateral and vertical extents of groundwater contamination. Results indicated none of the samples collected north, south or west of the building had significant concentrations of VOC, essentially defining the extent of dissolved contamination in these directions. One sample (GW9), located east of the heart of the plume had 33 µg/L PCE from a depth range of 24 to 27 feet below grade. Slightly deeper samples (29-32 feet) in this same location did not have detectable levels of PCE.

Interim remedial action operations were conducted at the property in an attempt to reduce PCE concentrations in soil, soil vapor, and groundwater near the release zone. A vapor extraction/dual phase extraction system operated at the site from July 2014 to May 2017, when the system was shut down pending soil gas testing for the current work.

The objective of the current investigation was to meet the requirements of SARWQCB by completing a soil and soil gas assessment after several years of remediation by LJA. Twelve soil borings were installed in target locations including inside the former Crown Cleaners and adjoining suites, in outdoor locations north and south of the suites, and near the Montessori School located just northwest of the source area.

Results from soil sampling indicated just one location had detectable levels of VOC with up to 1,400 µg/Kg PCE and 4.9 µg/Kg TCE at 5 feet below grade in boring VP6, located in the outdoor treatment compound area. In addition, soil sample VP6-10 had 1,200 µg/Kg PCE, but none of the other samples (including the deepest sample in this boring, VP6-15) had detectable levels of VOC.

Results from soil gas sampling indicated probe VP6 had the highest concentrations of PCE in soil gas with 35 µg/L detected at 15 feet below grade and 16 µg/L PCE at 10 feet. This location has no 5-foot probe due to the saturated soil conditions observed during drilling, when standing water was observed in the open borehole. In addition to VP6, proximal probes VP4, VP7, and VP8 also had PCE concentrations greater than the DTSC soil gas screening level of 2.1 µg/L PCE. This distribution pattern suggests the area behind the dry cleaners may be a source of subsurface contamination that needs to be addressed further. This area has a surface water drain nearby and possibly a sanitary sewer line that could be contributing to the subsurface source. In addition, the very moist to saturated conditions identified in soil in this area (including VP4, VP6, VP7, VP8, and VP9) suggests a possible leaking plumbing system.

7.0 RECOMMENDATIONS

The results of vapor intrusion modeling suggest the soil gas conditions are within range of a favorable risk management decision by OEHHA for commercial applications. However, the soil and soil gas sampling data suggest that the area just outside the former Crown Cleaners suite to the north may be a secondary source of contamination that is impeding progress of the site remediation effort. Based on these results, GSA recommends installation of a new set of extraction wells in this area. Three wells are proposed including near MW1, probe VP6, and in-situ groundwater sample GW9. These wells will be installed to 25 feet below grade and will be screened to 5 feet below grade so that the upper soil zone can be effectively treated as well as the deeper sediments.

In addition, the site continues to have elevated concentrations of dissolved PCE that will require additional treatment using vapor and dual phase extraction. The current results suggest that the lateral extent of groundwater contamination is relatively limited and may have been hydraulically controlled by the DPE system operations conducted to date. However, data suggests the groundwater gradient may extend in a northeasterly direction, so an additional groundwater monitoring well may be needed to fully define the dissolved plume.

GSA recommends obtaining a fixed system permit through the SCAQMD to continue remedial efforts at the site.

TABLE 1
Well Construction Summary

Well ID	Install Date	Drill Method	Casing Diameter	Total Depth	Screened Interval	Connected to System
MW1	06/27/11	HSA	2 in	40 ft	15-40 ft	Yes
MW2	06/28/11	HSA	2 in	40 ft	15-40 ft	No
MW3	06/28/11	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW4	06/27/11	HSA	2 in	35 ft	15-35 ft	No
MW5	01/18/12	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW6	01/18/12	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW7	02/28/12	HSA	2 in	35 ft	15-35 ft	No
MW8	02/28/12	HSA	2 in	35 ft	15-35 ft	No
MW9	02/29/12	Hand Auger	2 in	30 ft	15-30 ft	Yes
MW10	03/01/12	Hand Auger	2 in	30 ft	15-30 ft	Yes

Notes: HSA=Hollow Stem Auger. Wells Connected to System may be used for vapor and dual phase extraction. The Table depths are shown in feet below grade surface.

TABLE 2
Summary of Soil Sampling Results (µg/Kg)

Sample ID	PCE	TCE	Other VOC
Sampled November 2009			
GP1-1	<2.0	<2.0	ND
GP1-5	18	<2.0	ND
GP1-10	30	<2.0	ND
GP1-20	15	<2.0	ND
GP2-1	3.0	<2.0	ND
GP2-5	26	<2.0	ND
GP2-10	84	<2.0	ND
GP2-20	94	<2.0	ND
GP3-1	4.8	<2.0	ND
GP3-5	6.0	<2.0	ND
GP3-10	56	<2.0	ND
GP3-20	85	<2.0	ND
Sampled December 2010			
B1-15	<5	<5	ND
B1-20	18	<5	ND
B1-25	10	<5	ND
B1-30	6	<5	ND
B2-15	<5	<5	ND
B2-20	7	<5	ND
B2-25	58	<5	ND
B2-30	16	<5	ND
B3-20	<5	<5	ND
B3-25	<5	<5	ND
B4-20	5	<5	ND
B4-25	190	<5	ND
B4-30	9	<5	ND
Sampled June 2011			
MW1-25	<5	<5	ND
MW1-30	120	<5	ND
MW1-35	<5	<5	ND
MW1-40	<5	<5	ND
MW2-20	<5	<5	ND
MW2-30	19	<5	ND
MW2-35	34	<5	ND
MW2-40	<5	<5	ND
Residential RSL	600*	940	--
Commercial RSL	2,700*	6,000	--

TABLE 2-Contd.
Summary of Soil Sampling Results ($\mu\text{g}/\text{Kg}$)

Sample ID	PCE	TCE	Other VOC
Sampled June 2011			
MW3-25	<5	<5	ND
MW3-30	220	<5	ND
MW3-35	96	<5	ND
MW4-25	170	<5	ND
MW4-30	14	<5	ND
MW4-35	5	<5	ND
MW4-40	6	<5	ND
Sampled January 2012			
MW5-20	<5	<5	ND
MW6-20	<5	7	ND
Sampled February 2012			
MW7-15	14	<5	ND
MW7-20	<5	<5	ND
MW8-15	<5	<5	ND
MW8-20	<5	<5	ND
MW9-20	<5	<5	ND
Sampled March 2012			
MW10-14	<5	<5	ND
MW10-20	<5	<5	ND
Sampled June 2017			
VP1-5	ND<5	ND<5	ND
VP1-10	ND<5	ND<5	ND
VP1-15	ND<5	ND<5	ND
VP2-5	ND<5	ND<5	ND
VP2-10	ND<5	ND<5	ND
VP2-15	ND<5	ND<5	ND
VP3-5	ND<5	ND<5	ND
VP3-10	ND<5	ND<5	ND
VP3-15	ND<5	ND<5	ND
VP4-5	ND<5	ND<5	ND
VP4-10	ND<5	ND<5	ND
VP4-15	ND<5	ND<5	ND
VP5-5	ND<5	ND<5	ND
VP5-10	ND<5	ND<5	ND
VP5-15	ND<5	ND<5	ND
Residential RSL	600*	940	--
Commercial RSL	2,700*	6,000	--

TABLE 2-Contd.
Summary of Soil Sampling Results (µg/Kg)

Sample ID	PCE	TCE	Other VOC
Sampled June 2017			
VP6-5	1,400	4.9	ND
VP6-10	1,200	ND<5	ND
VP6-15	ND<5	ND<5	ND
VP7-5	ND<5	ND<5	ND
VP7-10	ND<5	ND<5	ND
VP7-15	ND<5	ND<5	ND
VP8-5	ND<5	ND<5	ND
VP8-10	ND<5	ND<5	ND
VP8-15	ND<5	ND<5	ND
VP9-5	ND<5	ND<5	ND
VP9-10	ND<5	ND<5	ND
VP9-15	ND<5	ND<5	ND
VP10-5	ND<5	ND<5	ND
VP10-10	ND<5	ND<5	ND
VP10-15	ND<5	ND<5	ND
VP11-5	ND<5	ND<5	ND
VP11-10	ND<5	ND<5	ND
VP11-15	ND<5	ND<5	ND
VP12-5	ND<5	ND<5	ND
VP12-10	ND<5	ND<5	ND
VP12-15	ND<5	ND<5	ND
Residential RSL	600*	940	--
Commercial RSL	2,700*	6,000	--

Notes: ND - Not Detected. EPA Regional Screening Levels (RSLs) are human health risk based screening levels used by EPA and DTSC to determine Health Risk in residential and commercial settings. *-Values modified for California by DTSC HHRA Note 3. Please refer to laboratory reports for complete results.

TABLE 3
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW1 402.87	07/07/11	21.23	381.64	39.50	13	<0.5	ND
	12/30/11	21.27	381.60	39.50	17	<0.5	ND
	03/22/12	22.47	380.40	39.50	510	<0.5	ND
	06/27/12	22.56	380.31	39.50	770	<0.5	ND
	09/28/12	22.54	380.33	39.50	310	<0.5	ND
	12/20/12	22.77	380.10	39.50	590	<0.5	ND
	03/19/13	23.03	379.84	39.50	310	1.2	ND
	06/12/13	22.52	380.35	39.50	210	<0.5	ND
	09/25/13	Not	Sampled		Inaccessible		
	03/21/14	23.41	379.46	39.50	300	<0.5	ND
	06/16/14	24.12	378.75	39.50	530	<0.5	ND
	09/26/14	23.78	379.09	39.50	340	<0.5	ND
	12/29/14	24.08	378.79	39.48	150	<0.5	ND
	03/26/15	24.10	378.77	39.50	200	<0.5	ND
	06/30/15	24.35	378.52	39.46	170	<0.5	ND
	09/29/15	24.67	378.2	39.45	150	0.51	ND
	12/29/15	24.22	378.65	39.46	300	<0.5	ND
	03/22/16	25.12	377.75	39.48	160	<0.5	ND
	06/21/16	25.20	377.67	39.45	200	<0.5	ND
	09/27/16	25.06	377.81	39.45	1.4	<0.5	ND
12/29/16	25.70	377.17	39.45	84	<0.5	ND	
3/20/17	24.12	378.75	37.47	100	<0.5	ND	
6/20/17	24.43	378.44	38.04	77	<0.5	ND	
MW2 403.11	07/07/11	21.45	381.66	39.78	140	<0.5	ND
	12/30/11	21.52	381.59	39.75	160	<0.5	ND
	03/22/12	22.71	380.40	39.74	880	<0.5	ND
	06/27/12	22.78	380.33	39.74	680	<0.5	ND
	09/28/12	Not	Sampled		Inaccessible		
	12/20/12	23.02	380.09	39.75	1800	<0.5	ND
	03/19/13	23.39	379.72	39.75	1400	2.5	ND
	06/12/13	23.65	379.46	39.75	1200	1.2	ND
	09/25/13	23.36	379.75	39.75	1100	1.6	ND
	03/21/14	23.64	379.47	39.74	1400	<0.5	ND
	06/16/14	23.87	379.24	39.75	990	<0.5	ND
	09/26/14	23.42	379.69	39.73	720	<0.5	ND
	12/29/14	Not	Sampled		Inaccessible	---	
	03/26/15	24.31	378.80	39.75	440	<0.5	ND
	06/30/15	24.50	378.61	39.72	470	<0.5	ND
	09/29/15	24.25	378.86	39.72	410	<1	ND
	12/29/15	24.08	379.03	39.71	370	<0.5	ND
	03/22/16	25.19	377.92	39.74	550	0.50	ND
	06/21/16	25.20	377.91	39.72	470	<1.0	ND
	09/27/16	25.01	378.10	39.70	270	<1.0	ND
12/29/16	26.01	377.10	39.70	230	<1.0	ND	
3/20/17	24.34	378.77	39.20	84	<1.0	ND	
6/20/17	24.09	379.02	39.05	520	<0.5	ND	

TABLE 3-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW3 403.47	07/07/11	21.83	381.64	30.99	1200	1.2	ND
	12/30/11	21.94	381.53	30.05	1400	2.4	ND
	03/22/12	23.08	380.39	30.05	2100	8.8	ND
	06/27/12	23.14	380.33	30.06	1900	8.8	ND
	09/28/12	Not	Sampled		inaccessible		--
	12/20/12	23.38	380.09	30.05	2000	8.8	ND
	03/19/13	23.79	379.68	30.05	790	2.4	ND
	06/12/13	23.81	379.66	30.05	1300	3.8	ND
	09/25/13	23.45	380.02	30.06	2000	7.6	ND
	03/21/14	24.12	379.35	30.02	1100	5.2	ND
	06/16/14	24.37	379.10	30.00	2200	5.2	ND
	09/26/14	24.53	378.94	30.02	960	3.1	ND
	12/29/14	Not	Sampled	---	inaccessible	---	--
	03/26/15	24.60	378.87	30.00	590	<0.5	ND
	06/30/15	25.00	378.47	30.00	1600	1.5	ND
	09/29/15	24.40	379.07	30.00	1700	<2.5	ND
	12/29/15	24.47	379.00	30.00	1000	<2.5	ND
	03/22/16	25.61	377.86	30.00	950	<0.5	ND
	06/21/16	25.68	377.79	30.00	1200	<2.5	ND
	09/27/16	25.11	378.36	30.01	310	<1.0	ND
	12/29/16	26.25	377.22	30.00	540	<1.0	ND
3/20/17	24.80	378.67	28.48	630	1.0	ND	
6/20/17	24.27	379.20	28.47	430	<1.0	ND	
MW4 402.99	07/07/11	21.35	381.64	33.11	1300	<0.5	ND
	12/30/11	21.47	381.52	33.10	1600	6.4	ND
	03/22/12	22.58	380.41	33.12	3800	8.3	ND
	06/27/12	22.84	380.15	33.10	2400	2.6	ND
	09/28/12	22.58	380.41	33.11	970	1.2	ND
	12/20/12	22.90	380.09	33.10	3200	2.6	ND
	03/19/13	23.10	379.89	33.10	3800	3.2	ND
	06/12/13	23.15	379.84	33.10	3400	1.0	ND
	09/25/13	23.23	379.76	33.12	3300	1.6	ND
	03/21/14	23.40	379.59	33.10	4000	<0.5	ND
	06/16/14	23.78	379.21	33.09	4100	<0.5	ND
	09/26/14	24.01	378.98	33.08	3000	<0.5	ND
	12/29/14	Not	Sampled	---	Inaccessible	---	--
	03/26/15	24.10	378.89	33.10	3400	<0.5	ND
	06/30/15	24.35	378.64	33.08	1500	<0.5	ND
	09/29/15	24.24	378.75	33.05	1400	<2	ND
	12/29/15	24.17	378.82	33.09	1600	<2.5	ND
	03/22/16	24.15	378.84	33.09	1100	<0.5	ND
	06/21/16	24.28	378.71	33.05	1500	<2.5	ND
	09/27/16	24.18	378.81	33.06	490	<1.0	ND
	12/29/16	25.65	377.34	33.01	470	<1.0	ND
3/20/17	24.11	378.88	30.37	280	<1.0	ND	
6/20/17	23.91	379.08	30.50	680	<1.0	ND	

TABLE 3-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW5 403.36	01/26/12	22.85	380.51	29.85	841	<0.5	ND
	03/22/12	22.96	380.40	29.85	1100	<0.5	ND
	06/27/12	23.01	380.35	29.85	1400	<0.5	ND
	09/28/12	23.00	380.36	29.84	510	2.2	ND
	12/20/12	23.29	380.07	29.85	820	<0.5	ND
	03/19/13	23.68	379.68	29.85	740	<0.5	ND
	06/12/13	23.78	379.58	29.83	780	4.7	ND
	09/25/13	23.89	379.47	29.81	620	5.1	ND
	03/21/14	23.96	379.40	29.80	790	4.4	ND
	06/16/14	23.90	379.46	29.80	830	4.4	ND
	09/26/14	23.98	379.38	27.54	610	2.7	ND
	12/29/14	24.62	378.74	28.56	520	1.7	ND
	03/26/15	24.54	378.82	28.60	300	<0.5	ND
	06/30/15	24.98	378.38	28.58	1400	<0.5	ND
	09/29/15	24.75	378.61	28.60	330	<0.5	ND
	12/29/15	24.68	378.68	28.75	390	<0.5	ND
	03/22/16	24.88	378.48	28.70	360	<0.5	ND
	06/21/16	25.01	378.35	28.75	390	<0.5	ND
	09/27/16	24.86	378.50	28.74	450	<0.5	ND
	12/29/16	24.98	378.38	28.73	170	<0.5	ND
3/20/17	24.77	378.59	28.60	620	<0.5	ND	
6/20/17	24.48	378.88	27.76	470	<1.0	Chl-ethane=21	
MW6 403.40	03/26/12	22.97	380.43	29.90	1400	1.8	ND
	03/22/12	22.99	380.41	29.91	2400	<0.5	ND
	06/27/12	23.02	380.38	29.90	2000	<0.5	ND
	09/28/12	23.10	380.30	29.89	260	4.0	ND
	12/20/12	23.41	379.99	29.90	1100	<0.5	ND
	03/19/13	23.69	379.71	29.90	710	20	ND
	06/13/13	23.70	379.70	29.89	810	36	ND
	09/25/13	23.81	379.59	29.90	770	61	ND
	03/21/14	23.93	379.47	29.75	1200	63	ND
	06/16/14	23.85	379.55	29.78	1400	63	ND
	09/26/14	23.75	379.65	29.70	1100	52	ND
	12/29/14	24.48	378.92	29.70	960	14	ND
	03/26/15	24.56	378.84	29.74	1200	2.5	ND
	06/30/15	24.70	378.70	29.75	1100	<0.5	ND
	09/29/15	24.67	378.73	29.75	530	<1	ND
	12/29/15	24.51	378.89	29.76	35	<0.5	ND
	03/22/16	---	---	25.80	Dry	---	--
	06/21/16	24.75	378.65	28.74	3.7	<0.5	ND
	09/27/16	24.66	378.74	28.77	<0.5	<0.5	ND
	12/29/16	24.80	378.60	28.75	0.61	<0.5	ND
3/20/17	25.31	378.09	25.53	--	--	--	
6/20/17	24.34	379.06	25.47	140	<0.5	ND	

TABLE 3-Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW7 402.49	03/22/12	22.05	380.44	34.75	63	<0.5	ND
	06/27/12	22.06	380.43	34.75	120	<0.5	ND
	09/28/12	22.01	380.48	34.75	190	<0.5	ND
	12/20/12	22.27	380.22	34.75	340	<0.5	ND
	03/19/13	22.58	379.91	34.75	140	<0.5	ND
	06/12/13	23.52	378.97	34.75	270	<0.5	ND
	09/25/13	22.61	379.88	34.75	270	<0.5	ND
	03/21/14	22.89	379.60	34.75	310	<0.5	ND
	06/16/14	23.16	379.33	34.73	460	<0.5	ND
	09/26/14	23.39	379.10	34.75	270	<0.5	ND
	12/29/14	23.44	379.05	34.75	170	<0.5	ND
	03/26/15	23.42	379.07	34.75	85	<0.5	ND
	06/30/15	23.65	378.84	34.75	76	<0.5	ND
	09/29/15	23.92	378.57	34.75	72	<0.5	ND
	12/29/15	23.52	378.97	34.72	86	<0.5	ND
	03/22/16	24.38	378.11	37.75	71	<0.5	ND
	06/21/16	24.70	377.79	37.72	730	0.52	ND
	09/27/16	24.59	377.90	37.70	41	<0.5	ND
	12/29/16	25.06	377.43	37.70	43	<0.5	ND
	3/20/17	23.46	379.03	35.14	36	<0.5	ND
6/20/17	23.26	379.23	35.15	57	<0.5	ND	
MW8 403.35	03/22/12	22.98	380.37	34.84	20	<0.5	ND
	06/27/12	23.06	380.29	34.85	21	<0.5	ND
	09/28/12	23.02	380.33	34.85	55	<0.5	ND
	12/20/12	23.30	380.05	34.85	110	<0.5	ND
	03/19/13	23.52	379.83	34.85	71	<0.5	ND
	06/12/13	23.62	379.73	34.85	110	<0.5	ND
	09/25/13	23.70	379.65	34.82	180	1.3	ND
	03/21/14	23.91	379.44	34.80	150	<0.5	ND
	06/16/14	24.19	379.16	34.80	270	<0.5	ND
	09/26/14	24.44	378.91	34.79	160	6.3	ND
	12/29/14	24.60	378.75	34.75	75	<0.5	ND
	03/26/15	24.64	378.71	34.77	35	<0.5	ND
	06/30/15	24.55	378.80	34.74	32	<0.5	ND
	09/29/15	25.25	378.10	34.77	30	<0.5	ND
	12/29/15	24.77	378.58	34.75	470	<1	ND
	03/22/16	25.68	377.67	34.72	230	0.52	ND
	06/21/16	25.85	377.50	34.75	87	<0.5	ND
	09/27/16	25.44	377.91	34.70	97	<0.5	ND
	12/29/16	26.12	377.23	34.72	97	<0.5	ND
	3/20/17	24.79	378.56	34.92	120	<0.5	ND
6/20/17	24.52	378.83	34.87	190	<0.5	ND	

TABLE 3 Contd.
Summary of Historic Groundwater Sampling Data (µg/L)

Sample ID	Date Sampled	DTW	GW Elev.	TD	PCE	TCE	Other VOC
MW9 403.52	03/22/12	23.19	380.33	29.71	650	<0.5	ND
	06/27/12	23.22	380.30	29.70	430	<0.5	ND
	09/28/12	23.35	380.17	29.71	49	<0.5	ND
	12/20/12	23.62	379.90	29.70	270	<0.5	ND
	03/19/13	23.84	379.68	29.70	160	1.8	ND
	06/12/13	23.46	380.06	29.69	250	2.9	ND
	09/25/13	23.88	379.64	29.68	290	4.7	ND
	03/21/14	23.59	379.93	29.68	320	3.2	ND
	06/16/14	24.52	379.00	29.70	590	<0.5	ND
	09/26/14	24.69	378.83	29.68	330	14	ND
	12/29/14	24.85	378.67	29.65	190	2.9	ND
	03/26/15	24.82	378.70	29.66	110	<0.5	ND
	06/30/15	25.08	378.44	29.64	110	1.5	ND
	09/29/15	24.98	378.54	29.70	94	2.7	ND
	12/29/15	24.92	378.60	29.69	61	0.77	ND
	03/22/16	25.78	377.74	29.70	53	1.5	ND
	06/21/16	24.98	378.54	29.70	65	<0.5	ND
	09/27/16	24.74	378.78	29.71	20	<0.5	ND
	12/29/16	26.54	376.98	29.70	9.6	<0.5	ND
	3/20/17	25.00	378.52	27.33	<0.5	<0.5	ND
6/20/17	24.79	378.73	27.28	63	<0.5	ND	
MW10 403.59	03/22/12	23.13	380.46	29.16	240	<0.5	ND
	06/27/12	23.24	380.35	29.15	1500	<0.5	ND
	09/28/12	23.26	380.33	29.15	840	<0.5	ND
	12/20/12	---	---	21.44	Dry	---	---
	03/19/13	---	---	21.48	Dry	---	---
	06/12/13	---	---	19.45	Dry	---	---
	09/25/13	---	---	19.48	Dry	---	---
	03/21/14	---	---	19.40	Dry	---	---
	06/16/14	---	---	21.51	Dry	---	---
	09/26/14	---	---	21.55	Dry	---	---
	12/29/14	---	---	21.53	Dry	---	---
	03/26/15	---	---	21.50	Dry	---	---
	06/30/15	---	---	21.48	Dry	---	---
	09/29/15	---	---	21.17	Dry	---	---
	12/29/15	---	---	21.20	Dry	---	---
	03/22/16	---	---	21.20	Dry	---	---
	06/21/16	---	---	21.18	Dry	---	---
	09/27/16	---	---	21.20	Dry	---	---
	12/29/16	---	---	21.20	Dry	---	---
	3/20/17	---	---	24.80	Dry	---	---
6/20/17	---	---	24.62	Dry	---	---	

TABLE 4
Summary of In-Situ Groundwater Sampling Results (µg/L)

Probe ID	Screen Interval	BDCM	Bromoform	Chloroform	DBCM	CTC	PCE	TCE	Other VOC
Sampled May 2017									
GW1	29-32 ft	13	1.3	31	3.2	ND<0.5	ND<0.5	ND<0.5	ND
GW1	29-32 ft (Dup.)	10	0.65	21	3.0	ND<0.5	1.1	ND<0.5	ND
GW2	29-32 ft	5.5	ND<0.5	26	1.7	ND<0.5	ND<0.5	ND<0.5	ND
GW3	24-27 ft	13	ND<0.5	30	3.1	ND<0.5	ND<0.5	ND<0.5	ND
GW3	29-32 ft	15	ND<0.5	26	4.5	ND<0.5	ND<0.5	ND<0.5	ND
GW3	40-44 ft	13	0.99	25	4.1	ND<0.5	ND<0.5	ND<0.5	ND
GW4	29-32 ft	17	ND<0.5	31	4.8	0.56	ND<0.5	ND<0.5	ND
GW4	40-44 ft	13	ND<0.5	25	3.9	ND<0.5	ND<0.5	ND<0.5	ND
GW5	24-27 ft	12	ND<0.5	26	3.2	0.52	1.3	ND<0.5	ND
GW5	40-44 ft	14	ND<0.5	27	4.1	ND<0.5	ND<0.5	ND<0.5	ND
GW6	29-32 ft	16	0.53	31	4.6	0.56	1.1	ND<0.5	ND
GW6	40-44 ft	12	ND<0.5	21	3.3	ND<0.5	4.2	ND<0.5	ND
GW7	28-32 ft	13	ND<0.5	25	4.0	ND<0.5	ND<0.5	ND<0.5	ND
GW9	24-27 ft	10	0.53	20	3.0	ND<0.5	33	ND<0.5	ND
GW9	29-32 ft	15	ND<0.5	28	4.3	ND<0.5	ND<0.5	ND<0.5	ND
GW9	29-32 ft (Dup.)	14	ND<0.5	25	4.0	ND<0.5	ND<0.5	ND<0.5	ND
GW10	28-32 ft	13	ND<0.5	25	3.6	ND<0.5	ND<0.5	ND<0.5	ND
GW11	28-32 ft	13	ND<0.5	26	3.7	ND<0.5	ND<0.5	ND<0.5	ND
GW12	28-32 ft	13	ND<0.5	27	3.6	ND<0.5	ND<0.5	ND<0.5	ND
MCL		--	--	--	--	0.5	5	5	--

Notes: ND - Not Detected. Maximum Contaminant Levels (MCL) based on California MCL List updated July 22, 2016. Disinfection products bromodichloromethane (BDCM), bromoform, chloroform, and dibromochloromethane (DBCM) do not have California MCLs. Please refer to laboratory report for complete results.

TABLE 5
Summary of Soil Gas Sampling Results (µg/L)

Sample ID	Toluene	cis 1,2 DCE	TCE	PCE	Other VOC
Sampled June 28-30, 2017					
VP1-5	ND<0.05	ND<0.05	ND<0.05	0.16	ND
VP1-10	0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP1-15	ND<0.05	ND<0.05	ND<0.05	0.13	ND
VP2-5	ND<0.05	ND<0.05	ND<0.05	0.09	ND
VP2-10	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP2-15	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP3-5	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP3-10	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP3-15	ND<0.05	ND<0.05	ND<0.05	0.51	ND
VP4-5	ND<0.05	ND<0.05	ND<0.05	0.47	ND
VP4-10	ND<0.05	ND<0.05	ND<0.05	0.15	ND
VP4-15	ND<0.05	ND<0.05	ND<0.05	7.9	ND
VP5-5	ND<0.05	ND<0.05	ND<0.05	0.86	ND
VP5-10	0.28	ND<0.05	ND<0.05	ND<0.05	ND
VP5-15	ND<0.05	ND<0.05	ND<0.05	3.7	ND
VP6-5	No	Probe			
VP6-10	ND<0.05	ND<0.05	ND<0.05	16	ND
VP6-15	ND<0.05	ND<0.05	ND<0.05	35	ND
VP7-5	ND<0.05	0.33	0.60	13	ND
VP7-10	ND<0.05	0.10	0.23	0.57	ND
VP7-15	ND<0.05	0.09	0.08	4.1	ND
VP8-5	ND<0.05	ND<0.05	0.09	6.2	ND
VP8-10	ND<0.05	ND<0.05	ND<0.05	0.09	ND
VP8-15	ND<0.05	ND<0.05	ND<0.05	0.12	ND
VP9-5	0.15	ND<0.05	ND<0.05	1.1	ND
VP9-10	0.20	ND<0.05	ND<0.05	0.12	ND
VP9-15	ND<0.05	ND<0.05	ND<0.05	0.10	ND
VP10-5	ND<0.05	ND<0.05	ND<0.05	0.05	ND
VP10-10	ND<0.05	ND<0.05	ND<0.05	ND<0.05	ND
VP10-15	ND<0.05	ND<0.05	ND<0.05	0.05	ND
VP11-5	ND<0.05	ND<0.05	ND<0.05	0.13	ND
VP11-10	ND<0.05	ND<0.05	ND<0.05	0.15	ND
VP11-15	ND<0.05	ND<0.05	ND<0.05	0.09	ND
VP12-5	0.12	ND<0.05	ND<0.05	ND<0.05	ND
VP12-10	0.36	ND<0.05	ND<0.05	0.15	ND
VP12-15	ND<0.05	ND<0.05	ND<0.05	0.21	ND
Residential RSL	155*	4.15*	0.24	0.24*	--
Commercial RSL	1,300*	35*	3.0	2.1*	--

Notes: ND - Not Detected. EPA Region 9 Regional Screening Levels (RSLs) are human health risk based screening levels used by EPA and DTSC to determine Health Risk in residential and commercial settings. *-Values modified for California by DTSC HHRA Note 3. Screening levels for soil gas calculated using indoor air values and attenuation factors provided by DTSC. No Other VOC detected. Refer to laboratory report for complete results.

FIGURES

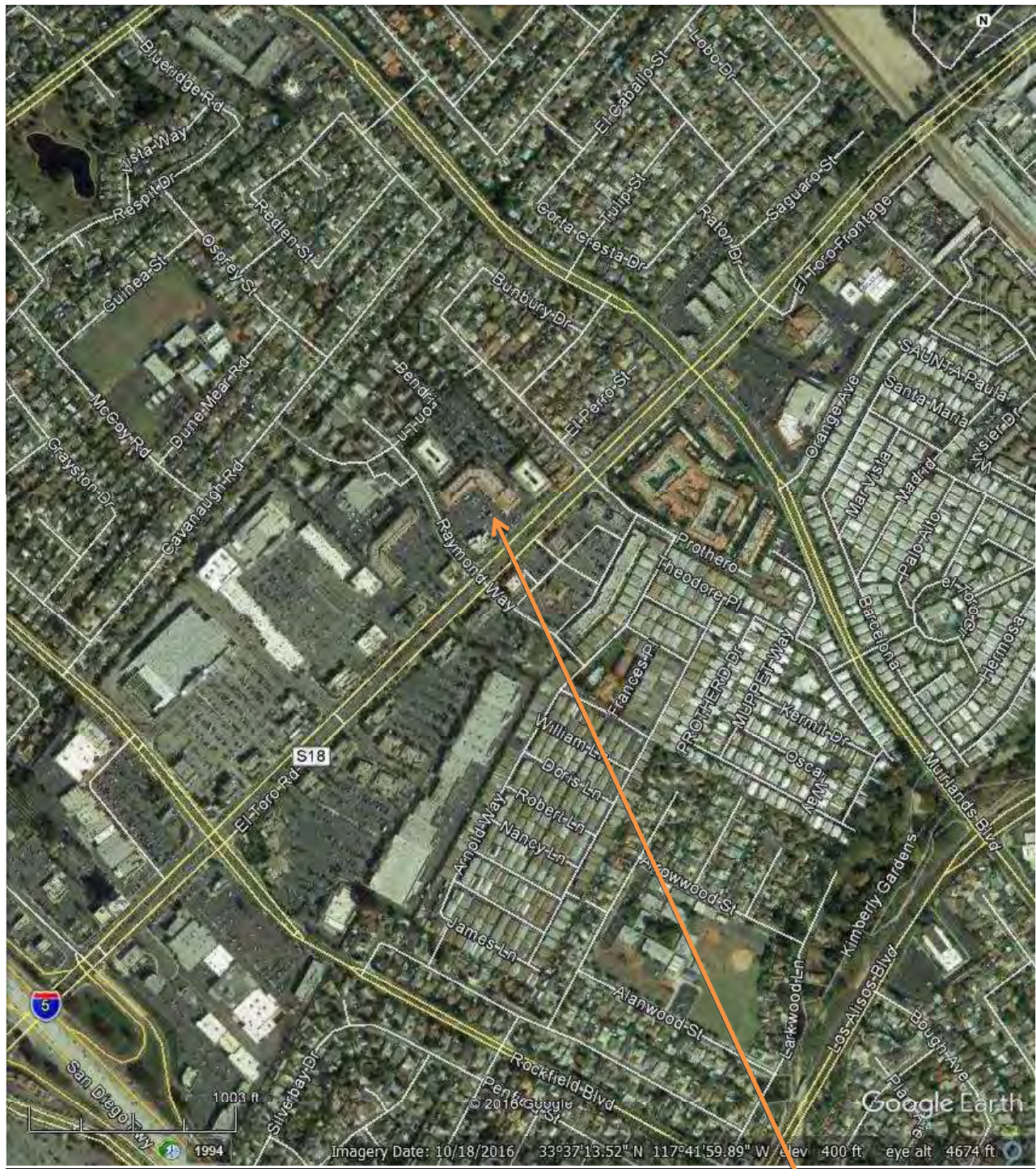


FIGURE 1

SITE

SITE VICINITY MAP
CARLEN PLAZA SHOPPING CENTER
24601 Raymond Way
Lake Forest, California





Approx. Scale: 1"=400'

FIGURE 1A

LOCATIONS OF DRY CLEANERS IN VICINITY
 FORMER CROWN CLEANERS SITE
 24601 Raymond Way
 Lake Forest, California



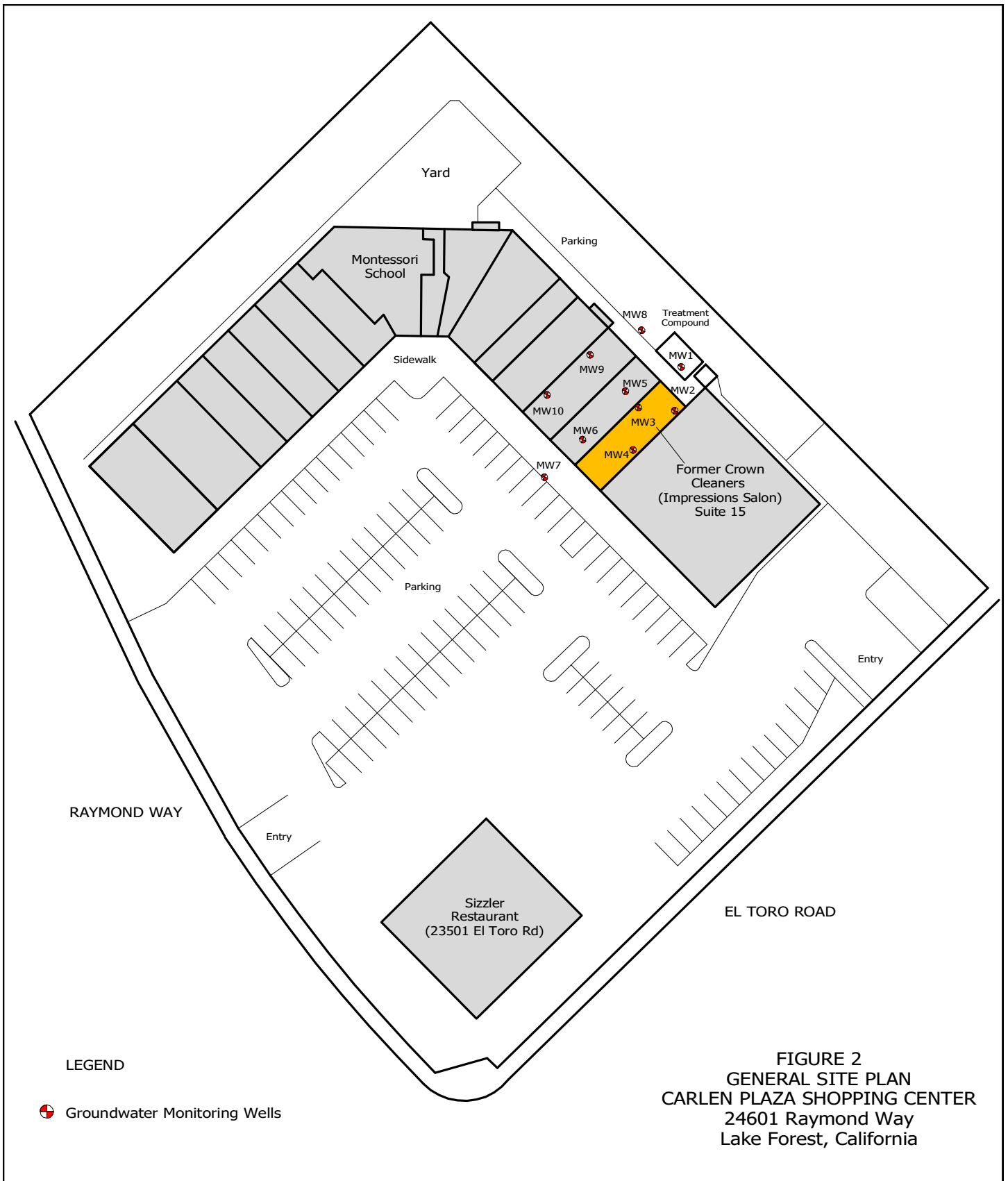
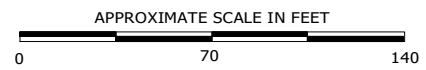
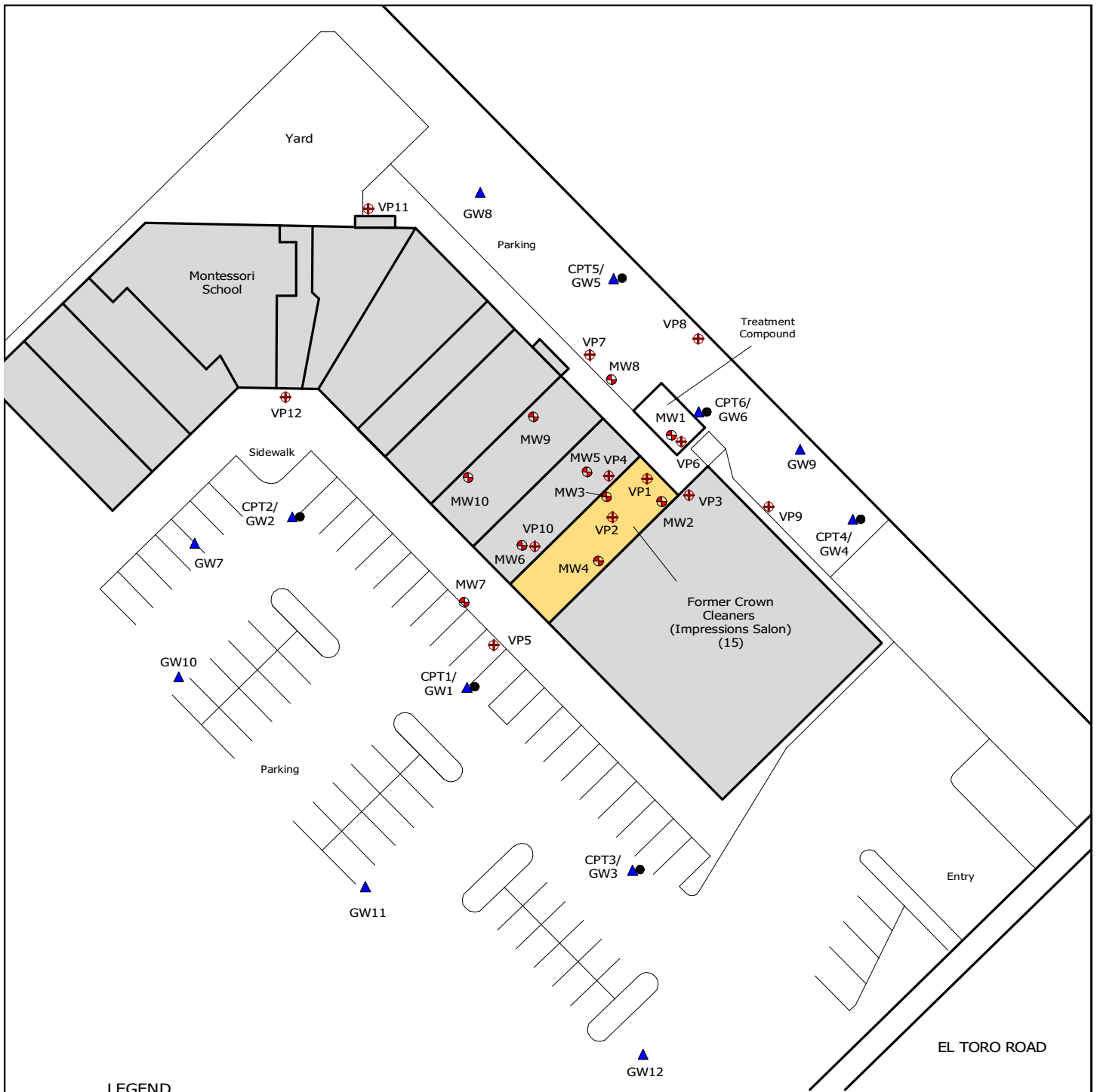


FIGURE 2
 GENERAL SITE PLAN
 CARLEN PLAZA SHOPPING CENTER
 24601 Raymond Way
 Lake Forest, California



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LEGEND





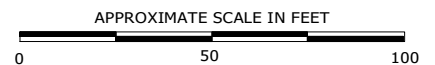
-  Groundwater Monitoring Wells
-  CPT Borings
-  In-Situ Groundwater Samples
-  Soil Gas Probes





FIGURE 3A
 GENERAL SITE PLAN
 FORMER CROWN CLEANERS
 24601 Raymond Way
 Lake Forest, California



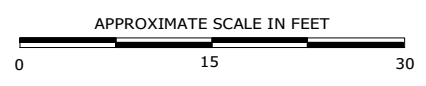
GSA
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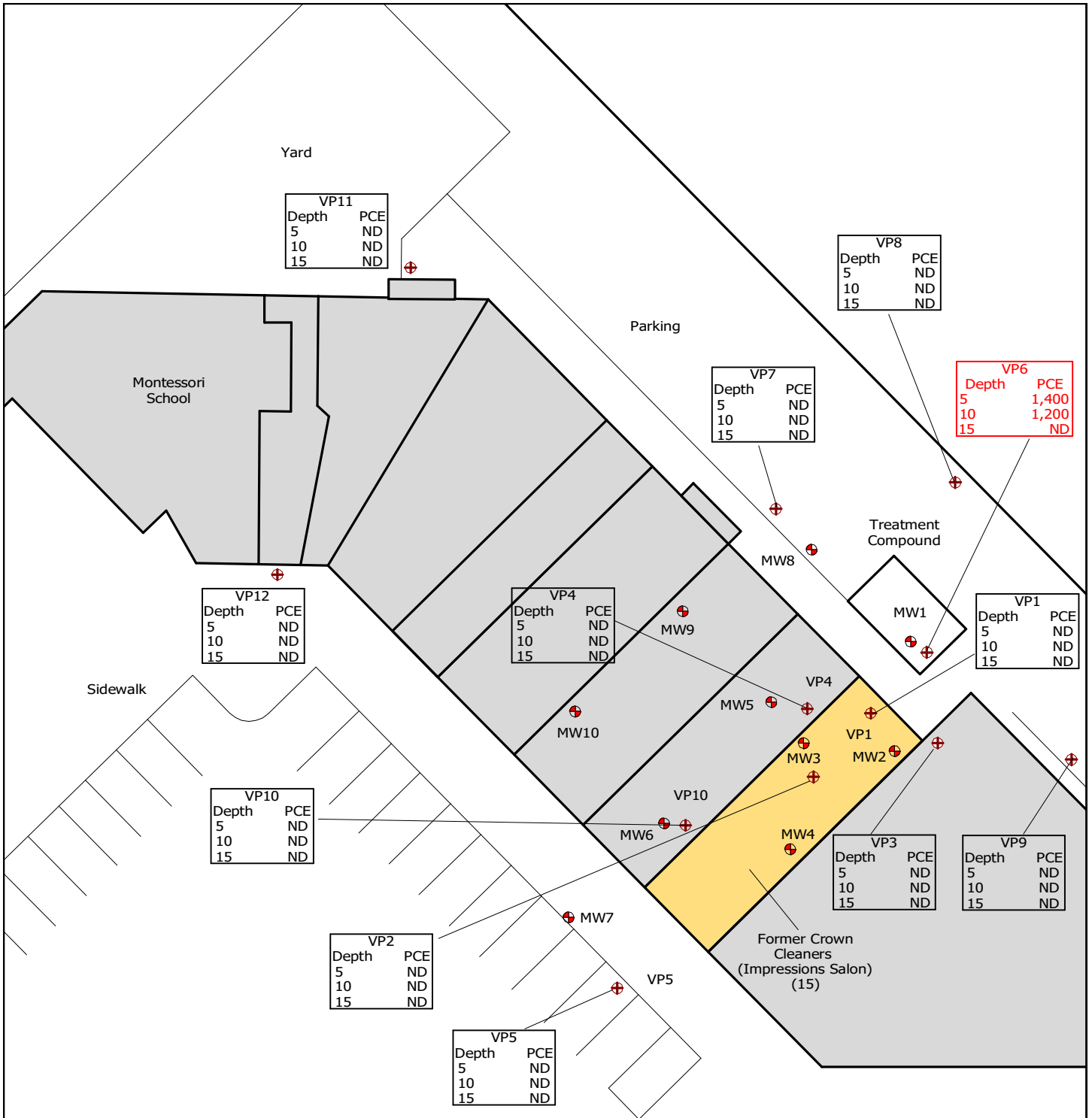




- LEGEND**
-  Groundwater Monitoring Wells
 -  Soil Borings (LJA 2010)
 -  Soil Borings (Avalon)
 -  Soil Gas Probes/Borings (GSA 2017)

**FIGURE 3B
AREA DETAIL
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California**





LEGEND

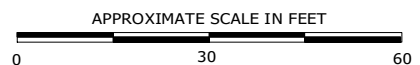
- Groundwater Monitoring Wells
- Soil Borings/Soil Gas Probes

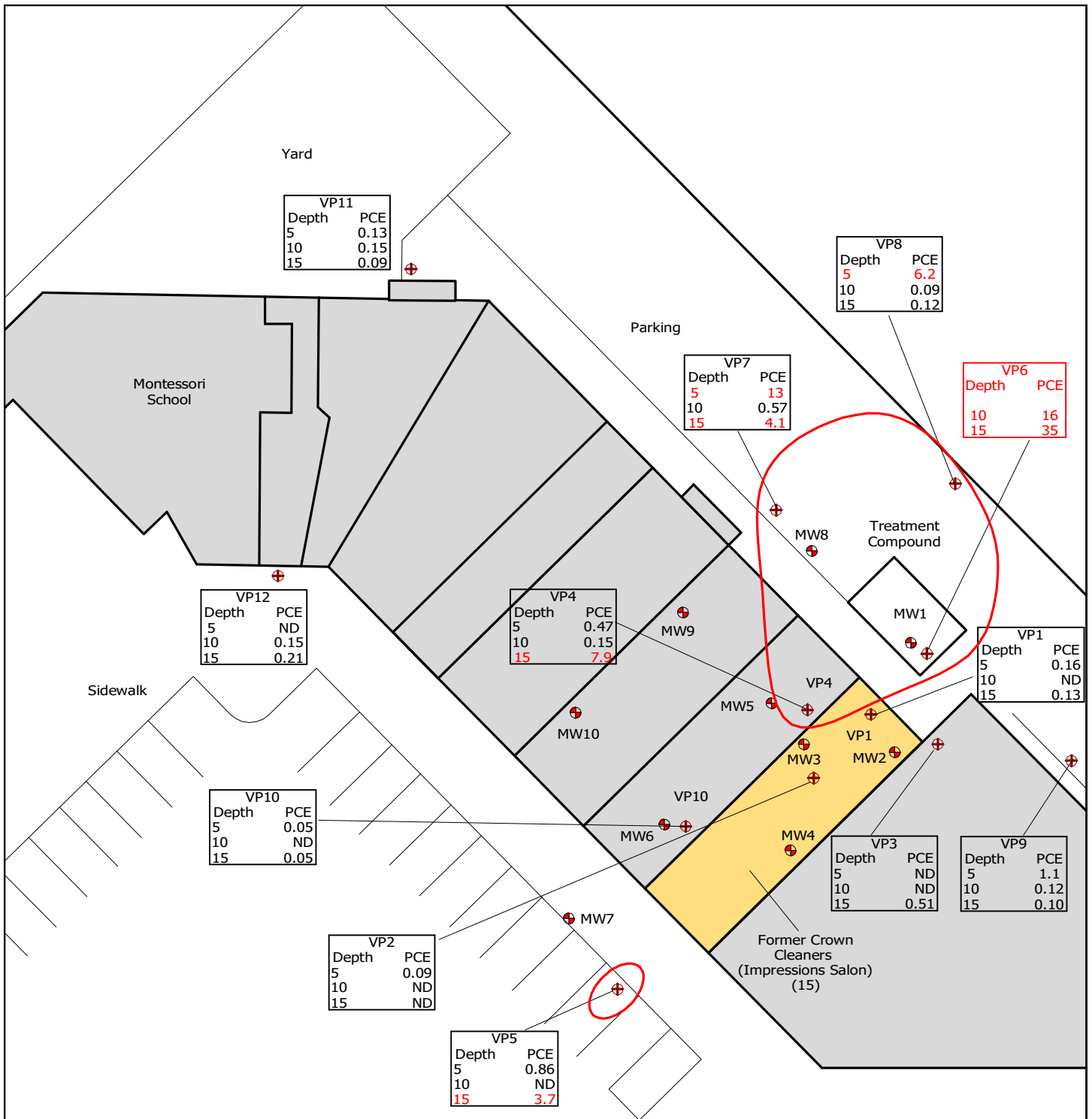
FIGURE 4
CURRENT DISTRIBUTION OF PCE IN SOIL
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

PCE Concentrations in Soil Media Shown in ug/Kg (June 2017).



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LEGEND

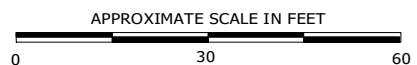
- Groundwater Monitoring Wells
- Soil Borings/Soil Gas Probes

FIGURE 5
CURRENT DISTRIBUTION OF PCE IN SOIL GAS
FORMER CROWN CLEANERS
24601 Raymond Way
Lake Forest, California

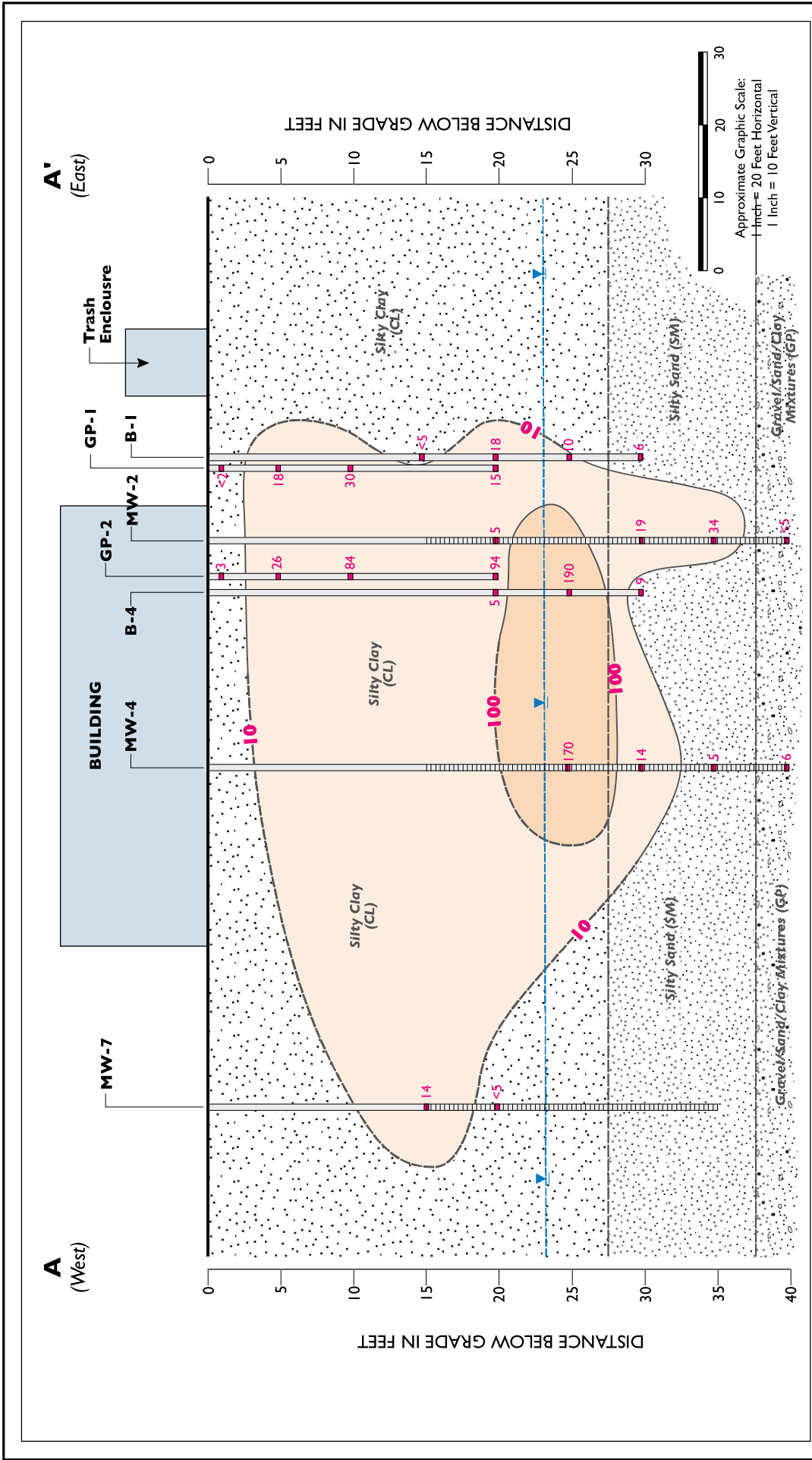
PCE Concentrations in Soil Gas Media Shown in ug/L (June 2017).



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APPENDIX A



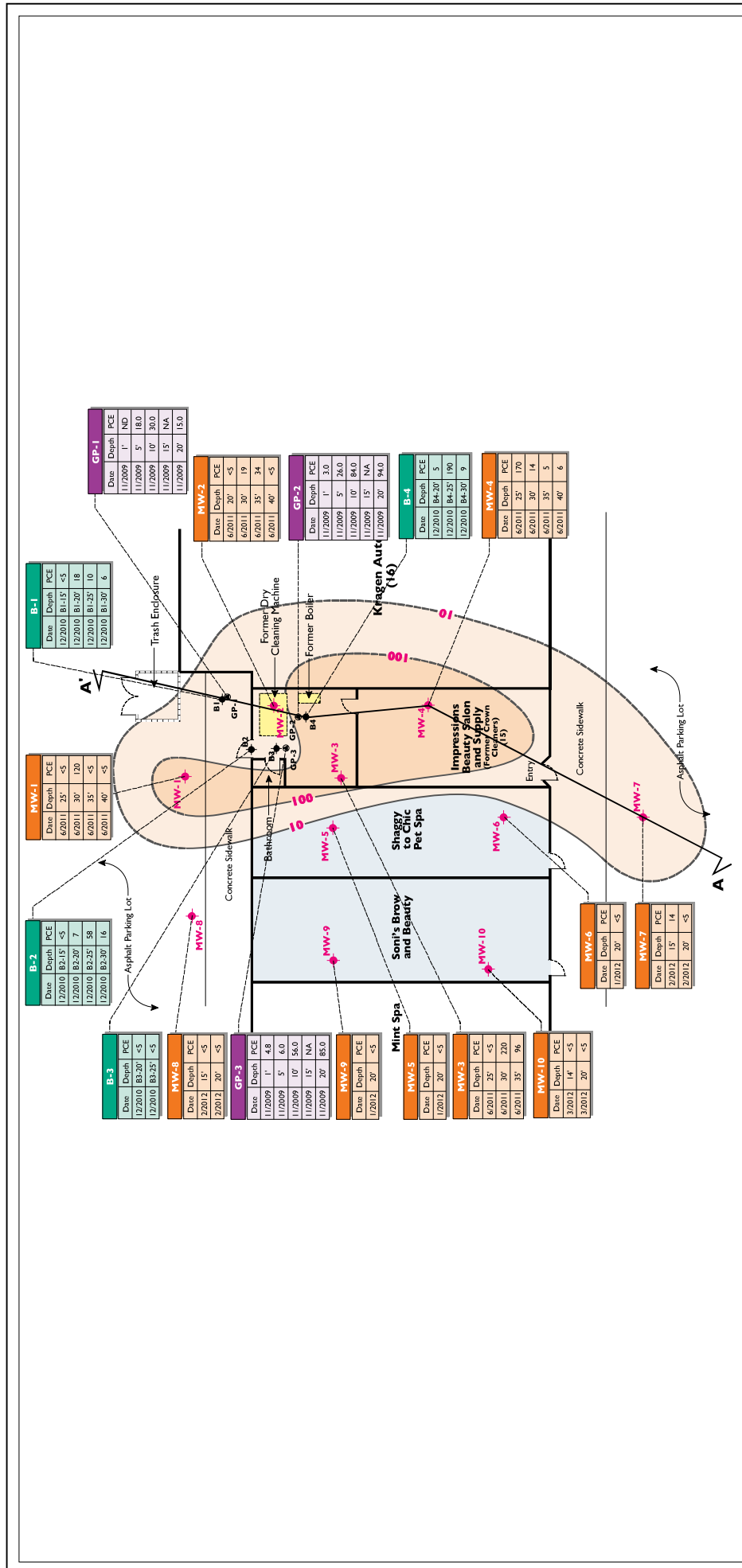
EXPLANATION

- MW-7 Groundwater monitoring well with screen interval indicated
- Groundwater level
- Geologic contact line
- Contour line represents equal concentration of PCE in micrograms per kilogram (µg/kg), dashed where interpreted
- 190 PCE concentration in Micrograms per kilogram (µg/kg)

L. JOSEPH ASSOCIATES, LLC
 Environmental Consultants

Client:
Former Crown Cleaners
 2460 J Raymond Way, Suite 15
 Lake Forest, California

GEOLOGIC CROSS SECTION A-A'



Well ID	Date	Depth	PCE
MW-1	12/20/10	1' 15"	<5
	12/20/10	1' 20"	18
	12/20/10	1' 25"	10
	12/20/10	1' 30"	6
MW-2	6/20/11	20'	<5
	6/20/11	30'	19
	6/20/11	35'	34
	6/20/11	40'	<5
MW-3	11/20/09	1'	3.0
	11/20/09	5'	26.0
	11/20/09	10'	84.0
	11/20/09	15'	NA
MW-4	12/20/10	84-20'	5
	12/20/10	84-35'	180
	12/20/10	84-30'	9
	6/20/11	25'	170
MW-5	6/20/11	30'	14
	6/20/11	35'	5
	6/20/11	40'	6
	6/20/11	40'	6
MW-6	3/20/12	14'	<5
	3/20/12	14'	<5
	3/20/12	20'	<5
	3/20/12	20'	<5
MW-7	12/20/10	83-20'	<5
	12/20/10	83-25'	7
	12/20/10	82-25'	58
	12/20/10	82-30'	16
MW-8	2/20/12	15'	<5
	2/20/12	20'	<5
	11/20/09	1'	4.8
	11/20/09	5'	6.0
MW-9	11/20/09	10'	56.0
	11/20/09	15'	NA
	11/20/09	20'	85.0
	12/20/12	20'	<5
MW-10	12/20/12	14'	<5
	3/20/12	14'	<5
	3/20/12	20'	<5
	3/20/12	20'	<5
GP-1	11/20/09	1'	ND
	11/20/09	5'	18.0
	11/20/09	10'	30.0
	11/20/09	15'	NA
GP-2	6/20/11	20'	<5
	6/20/11	30'	19
	6/20/11	35'	34
	6/20/11	40'	<5
GP-3	11/20/09	1'	4.8
	11/20/09	5'	6.0
	11/20/09	10'	56.0
	11/20/09	15'	NA
B-1	12/20/10	81-15'	<5
	12/20/10	81-20'	18
	12/20/10	81-25'	10
	12/20/10	81-30'	6
B-2	12/20/10	82-15'	<5
	12/20/10	82-20'	7
	12/20/10	82-25'	58
	12/20/10	82-30'	16
B-3	12/20/10	83-20'	<5
	12/20/10	83-25'	7
	12/20/10	82-25'	58
	12/20/10	82-30'	16
B-4	12/20/10	84-20'	5
	12/20/10	84-35'	180
	12/20/10	84-30'	9
	6/20/11	25'	170

EXPLANATION

- MW-10: Location and designation of monitoring well by L. Joseph Associates, LLC.
- B4: Location and designation of soil boring by L. Joseph Associates, LLC. December 3, 2010.
- GP-3: Location and designation of previous soil boring by Avalon Environmental Consultants.
- 100: Contour of PCE concentration in micrograms per kilogram (µg/kg). Dashed white interior.
- A-A: Geologic cross section (See figure 4)

Notes:

- Locations are approximate.
- Base map is based on field visit on August 5, 2011.

Location and designation of analyte result as reported by L. Joseph Associates, LLC, with PCE concentration at specified depth in micrograms per kilogram (µg/kg).

Location and designation of analyte result as reported by Avalon Environmental Consultants, with PCE concentration at specified depth in parts per billion (ppb). ND indicates non-detect at laboratory detection level and NA indicates not analyzed.

Location and designation of analyte result as reported by L. Joseph Associates, LLC, with PCE concentration at specified depth in micrograms per kilogram (µg/kg).

Client: **Former Crown Cleaners**
2000 Lake Forest, California

Environmental Consultants: **L. JOSEPH ASSOCIATES, LLC**

SITE PLAN WITH PCE RESULTS IN SOIL

Project Number: 01915 | Date: November 2016

Approved By: H.H. | Drawn By: H.H.

Plate 3

APPENDIX B

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP1
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 20, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP1-5	1400	CL	Silty CLAY; olive-brown, medium plasticity, no odor.
10	Sample Tip			VP1-10	1410	CL	Silty CLAY; olive-brown, medium plasticity, no odor.
15	Sample Tip			VP1-15	1425	SC	Clayey SAND; light brown, very fine grained, some silt, no odor.

Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP2
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 20, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP2-5	0800	CL	Silty CLAY; brown, medium plasticity, trace very fine sand, no odor.
10	Sample Tip			VP2-10	0815	CL	Silty CLAY; brown, low plasticity, 10% very fine sand, no odor.
15	Sample Tip			VP2-15	0830	SM	Silty SAND; light brown, very fine grained, some clay, loose, no odor.
Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.							

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP3
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 20, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP3-5	0655	CL	Silty CLAY; brown, medium plasticity, stiff, trace very fine sand, no odor.
10	Sample Tip			VP3-10	0720	CL	Silty CLAY; brown, low plasticity, trace very fine sand, stiff, no odor.
15	Sample Tip			VP3-15	0735	SM	Silty SAND; light brown, very fine grained, some clay, loose, no odor.
Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.							

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP4
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 21, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP4-5	0755	CL	Silty CLAY; tan, medium plasticity, very moist, no odor.
10	Sample Tip			VP4-10	0810	CL	Silty CLAY; gray-brown, medium plasticity, minor sand, no odor.
15	Sample Tip			VP4-15	0830	SC	Silty Clayey SAND; brown, very fine to fine grained, dry, no odor.
Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.							

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP5

PROJECT Former Crown Cleaners

OWNER _____

LOCATION 24601 Raymond Way, Lake Forest, CA

PROJECT NUMBER _____

DATE DRILLED June 21, 2017

TOTAL DEPTH OF HOLE 15 Feet

SURFACE ELEVATION _____

DEPTH TO WATER _____

SCREEN: DIA. _____ **LENGTH** _____

SLOT SIZE _____

CASING: DIA. _____ **LENGTH** _____

TYPE _____

DRILLING COMPANY Interphase

DRILL METHOD GeoProbe

DRILLER _____

LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP5-5	1200	CL	Silty CLAY; light brown, medium plasticity, no odor.
8						SC	Changes to Clayey SAND
10	Sample Tip			VP5-10	1210	CL/SC	Silty CLAY; dark brown, medium plasticity, minor sand, no odor. Changes to Clayey SAND; at 12 feet.
12						SC	Changes to Clayey SAND
15	Sample Tip			VP5-15	1230	SM/CL	Silty SAND; light brown, very fine sand, loose, dry, no odor. Changes to Silty CLAY with very fine sand at 15 feet.
Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.							

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP6
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 20, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	**			VP6-5	1435	CL	Silty CLAY; light brown, medium plasticity, wet, no odor. Water standing in open borehole at 5 feet.
10	Sample Tip			VP6-10	1445	CL	Silty CLAY; dark brown, medium plasticity, very moist, no odor.
15	Sample Tip			VP6-15	1500	SC	Silty, Clayey SAND; light brown, very fine grained, dry, no odor. Install soil gas probes at 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.
							**-Probe not set at 5 feet due to saturated soil, possibly from nearby surface water drain or sewer line.

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP7
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 20, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP7-5	1030	CL	Silty CLAY; light brown, medium plasticity, very moist to wet, no odor.
10	Sample Tip			VP7-10	1040	CL	Silty CLAY; dark brown, medium plasticity, dry, no odor.
15	Sample Tip			VP7-15	1055	SC	Clayey SAND; brown, very fine grained, some silt, dry, no odor.

Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP8

PROJECT Former Crown Cleaners

OWNER _____

LOCATION 24601 Raymond Way, Lake Forest, CA

PROJECT NUMBER _____

DATE DRILLED June 20, 2017

TOTAL DEPTH OF HOLE 15 Feet

SURFACE ELEVATION _____

DEPTH TO WATER _____

SCREEN: DIA. _____ **LENGTH** _____

SLOT SIZE _____

CASING: DIA. _____ **LENGTH** _____

TYPE _____

DRILLING COMPANY Interphase

DRILL METHOD GeoProbe

DRILLER _____

LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP8-5	1325	CL	Silty CLAY; light brown, medium plasticity, very moist, no odor.
10	Sample Tip			VP8-10	1335	CL	Silty CLAY; light brown, medium plasticity, moist, no odor.
15	Sample Tip			VP8-15	1355	CL/SM	Sandy CLAY; brown, low plasticity, 30-40% very fine sand, slightly moist, no odor, Thin 8" lens of brown silty sand.
<p>Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.</p>							

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP9
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 20, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP9-5	1550	SW	SAND; reddish brown, very fine to medium grained, poorly sorted with 10% fine gravel, dry, no odor.
2-6						SW	SAND; reddish brown, very fine to medium grained, poorly sorted with 10% fine gravel, dry, no odor.
6-7						SC	Clayey SAND; light gray-brown, very fine sand, loose, no odor.
7-8						CL	Sandy, Silty CLAY; gray-brown, low plasticity, very hard, no odor.
10	Sample Tip			VP9-10	1600	SC	Clayey SAND; gray-brown, very fine grained, interbedded lenses of Silty CLAY; brown, dense, very moist, no odor.
8-13						SC	Clayey SAND; gray-brown, very fine grained, wet, with interbedded lenses of Silty CLAY; brown, dense, no odor.
14						SM	Silty SAND; brown, very fine to medium grained, loose, wet, no odor.
15	Sample Tip			VP9-15	1615	CL/SC	Silty CLAY; brown, low plasticity. Changes to Clayey SAND; brown, wet, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP10
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 21, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP10-5	0905	CL	Silty CLAY; brown, medium plasticity, some very fine sand, moist, no odor.
10	Sample Tip			VP10-10	0920	CL	Silty CLAY; brown, medium plasticity, some very fine sand, moist, no odor.
15	Sample Tip			VP10-15	0935	SM	Silty SAND; brown, very fine sand, loose, no odor.

Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP11
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 21, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP11-5	1100	CL	Silty CLAY; light brown, medium plasticity, trace very fine sand, no odor.
10	Sample Tip			VP11-10	1110	CL	Silty CLAY; dark brown, medium plasticity, some very fine sand, no odor.
15	Sample Tip			VP11-15	1125	SM	Silty SAND; light brown, very fine sand, some clay, loose, moist, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

DRILL/LITHOLOGIC LOG



BORING/WELL NUMBER VP12
PROJECT Former Crown Cleaners **OWNER** _____
LOCATION 24601 Raymond Way, Lake Forest, CA **PROJECT NUMBER** _____
DATE DRILLED June 21, 2017 **TOTAL DEPTH OF HOLE** 15 Feet
SURFACE ELEVATION _____ **DEPTH TO WATER** _____
SCREEN: DIA. _____ **LENGTH** _____ **SLOT SIZE** _____
CASING: DIA. _____ **LENGTH** _____ **TYPE** _____
DRILLING COMPANY Interphase **DRILL METHOD** GeoProbe
DRILLER _____ **LOG BY** Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS (USCS)	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	TIME		
5	Sample Tip			VP12-5	0955	CL	Silty CLAY; light brown, medium plasticity, trace very fine sand, wet, no odor.
10	Sample Tip			VP12-10	1005	CL	Silty CLAY; dark brown, medium plasticity, some very fine sand, slightly moist, no odor.
15	Sample Tip			VP12-15	1015	SM	Silty SAND; light brown, very fine sand, some clay, loose, moist, no odor.
							Install soil gas probes at 5, 10, and 15 feet. Filter pack 1-foot thick along sample tip, sealed with 0.5 feet dry bentonite, and hydrated bentonite. Probes labeled and set in traffic vault for future sampling.

APPENDIX C

June 28, 2017

Dan Louks
GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades, CA 90272
Tel: (310) 459-7320
Fax:

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1702373
Client Reference : Former Crown Cleaners

Enclosed are the results for sample(s) received on June 20, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP1-5	1702373-01	Soil	6/20/17 14:00	6/20/17 18:05
VP1-10	1702373-02	Soil	6/20/17 14:10	6/20/17 18:05
VP1-15	1702373-03	Soil	6/20/17 14:25	6/20/17 18:05
VP2-5	1702373-04	Soil	6/20/17 8:00	6/20/17 18:05
VP2-10	1702373-05	Soil	6/20/17 8:15	6/20/17 18:05
VP2-15	1702373-06	Soil	6/20/17 8:30	6/20/17 18:05
VP3-5	1702373-07	Soil	6/20/17 6:55	6/20/17 18:05
VP3-10	1702373-08	Soil	6/20/17 7:20	6/20/17 18:05
VP3-15	1702373-09	Soil	6/20/17 7:35	6/20/17 18:05
VP6-5	1702373-10	Soil	6/20/17 14:35	6/20/17 18:05
VP6-10	1702373-11	Soil	6/20/17 14:45	6/20/17 18:05
VP6-15	1702373-12	Soil	6/20/17 15:00	6/20/17 18:05
VP7-5	1702373-13	Soil	6/20/17 10:30	6/20/17 18:05
VP7-10	1702373-14	Soil	6/20/17 10:40	6/20/17 18:05
VP7-15	1702373-15	Soil	6/20/17 10:55	6/20/17 18:05
VP8-5	1702373-16	Soil	6/20/17 13:25	6/20/17 18:05
VP8-10	1702373-17	Soil	6/20/17 13:35	6/20/17 18:05
VP8-15	1702373-18	Soil	6/20/17 13:55	6/20/17 18:05
VP9-5	1702373-19	Soil	6/20/17 15:50	6/20/17 18:05
VP9-10	1702373-20	Soil	6/20/17 16:00	6/20/17 18:05
VP9-15	1702373-21	Soil	6/20/17 16:15	6/20/17 18:05

CASE NARRATIVE

All volatile analyses were performed using 5035 preservation requirements. Any high level dilutions were performed on a preserved methanol sample unless otherwise noted.



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP1-5

Lab ID: 1702373-01

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1,1-Trichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1,2,2-Tetrachloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1,2-Trichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1-Dichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1-Dichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,1-Dichloropropene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,3-Trichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,3-Trichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,4-Trichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2,4-Trimethylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dibromo-3-chloropropane	ND	8.2	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dibromoethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dichloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,2-Dichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,3,5-Trimethylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,3-Dichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,3-Dichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
1,4-Dichlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
2,2-Dichloropropane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
2-Chlorotoluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
4-Chlorotoluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
4-Isopropyltoluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Benzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromochloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromodichloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromoform	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Bromomethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Carbon disulfide	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Carbon tetrachloride	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chlorobenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chloroethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chloroform	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Chloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
cis-1,2-Dichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades, CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP1-5

Lab ID: 1702373-01

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Di-isopropyl ether	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Dibromochloromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Dibromomethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Dichlorodifluoromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethyl Acetate	ND	41	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethyl Ether	ND	41	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethyl tert-butyl ether	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Ethylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Freon-113	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Hexachlorobutadiene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Isopropylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
m,p-Xylene	ND	8.2	1	B7F0438	06/21/2017	06/21/17 10:20	
Methylene chloride	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
MTBE	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
n-Butylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
n-Propylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Naphthalene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
o-Xylene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
sec-Butylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Styrene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
tert-Amyl methyl ether	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
tert-Butanol	ND	82	1	B7F0438	06/21/2017	06/21/17 10:20	
tert-Butylbenzene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Tetrachloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Toluene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
trans-1,2-Dichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
trans-1,3-Dichloropropene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Trichloroethene	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Trichlorofluoromethane	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
Vinyl acetate	ND	41	1	B7F0438	06/21/2017	06/21/17 10:20	
Vinyl chloride	ND	4.1	1	B7F0438	06/21/2017	06/21/17 10:20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>96.2 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	<i>06/21/17 10:20</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>92.6 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	<i>06/21/17 10:20</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>106 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	<i>06/21/17 10:20</i>	
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	<i>06/21/17 10:20</i>	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP1-10

Lab ID: 1702373-02

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1,1-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1,2,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1,2-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,1-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,3-Trichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,3-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,4-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2,4-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dibromo-3-chloropropane	ND	7.7	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dibromoethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,3,5-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,3-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,3-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
1,4-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
2,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
2-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
4-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
4-Isopropyltoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Benzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromodichloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromoform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Bromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Carbon disulfide	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Carbon tetrachloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chloroform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Chloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
cis-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP1-10

Lab ID: 1702373-02

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Di-isopropyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Dibromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Dibromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Dichlorodifluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethyl Acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethyl Ether	ND	38	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethyl tert-butyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Ethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Freon-113	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Hexachlorobutadiene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Isopropylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
m,p-Xylene	ND	7.7	1	B7F0438	06/21/2017	06/21/17 10:39	
Methylene chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
MTBE	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
n-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
n-Propylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Naphthalene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
o-Xylene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
sec-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Styrene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
tert-Amyl methyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
tert-Butanol	ND	77	1	B7F0438	06/21/2017	06/21/17 10:39	
tert-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Tetrachloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Toluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
trans-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
trans-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Trichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Trichlorofluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	
Vinyl acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 10:39	
Vinyl chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 10:39	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>99.0 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	06/21/17 10:39
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>94.6 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	06/21/17 10:39
<i>Surrogate: Dibromofluoromethane</i>	<i>107 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	06/21/17 10:39
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	06/21/17 10:39



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP1-15

Lab ID: 1702373-03

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1,1-Trichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1,2,2-Tetrachloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1,2-Trichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1-Dichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1-Dichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,1-Dichloropropene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,3-Trichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,3-Trichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,4-Trichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2,4-Trimethylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dibromo-3-chloropropane	ND	9.5	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dibromoethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dichloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,2-Dichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,3,5-Trimethylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,3-Dichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,3-Dichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
1,4-Dichlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
2,2-Dichloropropane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
2-Chlorotoluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
4-Chlorotoluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
4-Isopropyltoluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Benzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromochloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromodichloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromoform	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Bromomethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Carbon disulfide	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Carbon tetrachloride	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chlorobenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chloroethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chloroform	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Chloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
cis-1,2-Dichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	



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GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP1-15

Lab ID: 1702373-03

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Di-isopropyl ether	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Dibromochloromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Dibromomethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Dichlorodifluoromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethyl Acetate	ND	47	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethyl Ether	ND	47	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethyl tert-butyl ether	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Ethylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Freon-113	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Hexachlorobutadiene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Isopropylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
m,p-Xylene	ND	9.5	1	B7F0438	06/21/2017	06/21/17 10:57	
Methylene chloride	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
MTBE	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
n-Butylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
n-Propylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Naphthalene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
o-Xylene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
sec-Butylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Styrene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
tert-Amyl methyl ether	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
tert-Butanol	ND	95	1	B7F0438	06/21/2017	06/21/17 10:57	
tert-Butylbenzene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Tetrachloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Toluene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
trans-1,2-Dichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
trans-1,3-Dichloropropene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Trichloroethene	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Trichlorofluoromethane	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
Vinyl acetate	ND	47	1	B7F0438	06/21/2017	06/21/17 10:57	
Vinyl chloride	ND	4.7	1	B7F0438	06/21/2017	06/21/17 10:57	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>100 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	<i>06/21/17 10:57</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>93.0 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	<i>06/21/17 10:57</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>105 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	<i>06/21/17 10:57</i>	
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	<i>06/21/17 10:57</i>	



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GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades, CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP2-5

Lab ID: 1702373-04

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1,1-Trichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1,2,2-Tetrachloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1,2-Trichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1-Dichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1-Dichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,1-Dichloropropene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,3-Trichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,3-Trichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,4-Trichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2,4-Trimethylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dibromo-3-chloropropane	ND	7.3	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dibromoethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dichloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,2-Dichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,3,5-Trimethylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,3-Dichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,3-Dichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
1,4-Dichlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
2,2-Dichloropropane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
2-Chlorotoluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
4-Chlorotoluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
4-Isopropyltoluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Benzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromochloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromodichloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromoform	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Bromomethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Carbon disulfide	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Carbon tetrachloride	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chlorobenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chloroethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chloroform	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Chloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
cis-1,2-Dichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	



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GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP2-5

Lab ID: 1702373-04

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Di-isopropyl ether	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Dibromochloromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Dibromomethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Dichlorodifluoromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethyl Acetate	ND	36	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethyl Ether	ND	36	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethyl tert-butyl ether	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Ethylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Freon-113	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Hexachlorobutadiene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Isopropylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
m,p-Xylene	ND	7.3	1	B7F0438	06/21/2017	06/21/17 11:16	
Methylene chloride	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
MTBE	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
n-Butylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
n-Propylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Naphthalene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
o-Xylene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
sec-Butylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Styrene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
tert-Amyl methyl ether	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
tert-Butanol	ND	73	1	B7F0438	06/21/2017	06/21/17 11:16	
tert-Butylbenzene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Tetrachloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Toluene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
trans-1,2-Dichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
trans-1,3-Dichloropropene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Trichloroethene	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Trichlorofluoromethane	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	
Vinyl acetate	ND	36	1	B7F0438	06/21/2017	06/21/17 11:16	
Vinyl chloride	ND	3.6	1	B7F0438	06/21/2017	06/21/17 11:16	

Surrogate: 1,2-Dichloroethane-d4	96.2 %	12 - 186		B7F0438	06/21/2017	06/21/17 11:16
Surrogate: 4-Bromofluorobenzene	92.0 %	23 - 162		B7F0438	06/21/2017	06/21/17 11:16
Surrogate: Dibromofluoromethane	108 %	23 - 179		B7F0438	06/21/2017	06/21/17 11:16
Surrogate: Toluene-d8	104 %	26 - 164		B7F0438	06/21/2017	06/21/17 11:16



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP2-10

Lab ID: 1702373-05

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1,1-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1,2,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1,2-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,1-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,3-Trichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,3-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,4-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2,4-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dibromoethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,3,5-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,3-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,3-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
1,4-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
2,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
2-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
4-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
4-Isopropyltoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Benzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromodichloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromoform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Bromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Carbon disulfide	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Carbon tetrachloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chloroform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Chloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
cis-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP2-10

Lab ID: 1702373-05

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Di-isopropyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Dibromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Dibromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Dichlorodifluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethyl Acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethyl Ether	ND	38	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethyl tert-butyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Ethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Freon-113	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Hexachlorobutadiene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Isopropylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 11:35	
Methylene chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
MTBE	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
n-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
n-Propylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Naphthalene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
o-Xylene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
sec-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Styrene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
tert-Amyl methyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 11:35	
tert-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Tetrachloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Toluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
trans-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
trans-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Trichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Trichlorofluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	
Vinyl acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 11:35	
Vinyl chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 11:35	

Surrogate: 1,2-Dichloroethane-d4	104 %	12 - 186		B7F0438	06/21/2017	06/21/17 11:35
Surrogate: 4-Bromofluorobenzene	94.3 %	23 - 162		B7F0438	06/21/2017	06/21/17 11:35
Surrogate: Dibromofluoromethane	109 %	23 - 179		B7F0438	06/21/2017	06/21/17 11:35
Surrogate: Toluene-d8	111 %	26 - 164		B7F0438	06/21/2017	06/21/17 11:35



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP2-15

Lab ID: 1702373-06

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1,1-Trichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1,2,2-Tetrachloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1,2-Trichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1-Dichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1-Dichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,1-Dichloropropene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,3-Trichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,3-Trichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,4-Trichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2,4-Trimethylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dibromoethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dichloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,2-Dichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,3,5-Trimethylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,3-Dichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,3-Dichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
1,4-Dichlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
2,2-Dichloropropane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
2-Chlorotoluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
4-Chlorotoluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
4-Isopropyltoluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Benzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromochloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromodichloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromoform	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Bromomethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Carbon disulfide	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Carbon tetrachloride	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chlorobenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chloroethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chloroform	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Chloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
cis-1,2-Dichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP2-15

Lab ID: 1702373-06

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Di-isopropyl ether	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Dibromochloromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Dibromomethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Dichlorodifluoromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethyl Acetate	ND	52	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethyl Ether	ND	52	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethyl tert-butyl ether	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Ethylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Freon-113	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Hexachlorobutadiene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Isopropylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
m,p-Xylene	ND	10	1	B7F0438	06/21/2017	06/21/17 11:53	
Methylene chloride	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
MTBE	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
n-Butylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
n-Propylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Naphthalene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
o-Xylene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
sec-Butylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Styrene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
tert-Amyl methyl ether	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
tert-Butanol	ND	100	1	B7F0438	06/21/2017	06/21/17 11:53	
tert-Butylbenzene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Tetrachloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Toluene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
trans-1,2-Dichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
trans-1,3-Dichloropropene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Trichloroethene	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Trichlorofluoromethane	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
Vinyl acetate	ND	52	1	B7F0438	06/21/2017	06/21/17 11:53	
Vinyl chloride	ND	5.2	1	B7F0438	06/21/2017	06/21/17 11:53	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>93.3 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	<i>06/21/17 11:53</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91.3 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	<i>06/21/17 11:53</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>112 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	<i>06/21/17 11:53</i>	
<i>Surrogate: Toluene-d8</i>	<i>106 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	<i>06/21/17 11:53</i>	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP3-5

Lab ID: 1702373-07

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1,1-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1,2,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1,2-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,1-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,3-Trichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,3-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,4-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2,4-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dibromo-3-chloropropane	ND	7.0	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dibromoethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,3,5-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,3-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,3-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
1,4-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
2,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
2-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
4-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
4-Isopropyltoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Benzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromodichloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromoform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Bromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Carbon disulfide	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Carbon tetrachloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chloroform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Chloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
cis-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP3-5

Lab ID: 1702373-07

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Di-isopropyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Dibromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Dibromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Dichlorodifluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethyl Acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethyl Ether	ND	35	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethyl tert-butyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Ethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Freon-113	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Hexachlorobutadiene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Isopropylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
m,p-Xylene	ND	7.0	1	B7F0438	06/21/2017	06/21/17 12:12	
Methylene chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
MTBE	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
n-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
n-Propylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Naphthalene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
o-Xylene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
sec-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Styrene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
tert-Amyl methyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
tert-Butanol	ND	70	1	B7F0438	06/21/2017	06/21/17 12:12	
tert-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Tetrachloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Toluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
trans-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
trans-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Trichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Trichlorofluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	
Vinyl acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:12	
Vinyl chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:12	

Surrogate: 1,2-Dichloroethane-d4	105 %	12 - 186	B7F0438	06/21/2017	06/21/17 12:12
Surrogate: 4-Bromofluorobenzene	94.2 %	23 - 162	B7F0438	06/21/2017	06/21/17 12:12
Surrogate: Dibromofluoromethane	108 %	23 - 179	B7F0438	06/21/2017	06/21/17 12:12
Surrogate: Toluene-d8	95.9 %	26 - 164	B7F0438	06/21/2017	06/21/17 12:12



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP3-10

Lab ID: 1702373-08

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1,1-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1,2,2-Tetrachloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1,2-Trichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,1-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,3-Trichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,3-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,4-Trichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2,4-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dibromo-3-chloropropane	ND	7.1	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dibromoethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dichloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,3,5-Trimethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,3-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,3-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
1,4-Dichlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
2,2-Dichloropropane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
2-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
4-Chlorotoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
4-Isopropyltoluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Benzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromodichloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromoform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Bromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Carbon disulfide	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Carbon tetrachloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chlorobenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chloroethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chloroform	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Chloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
cis-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP3-10

Lab ID: 1702373-08

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Di-isopropyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Dibromochloromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Dibromomethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Dichlorodifluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethyl Acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethyl Ether	ND	35	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethyl tert-butyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Ethylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Freon-113	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Hexachlorobutadiene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Isopropylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
m,p-Xylene	ND	7.1	1	B7F0438	06/21/2017	06/21/17 12:30	
Methylene chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
MTBE	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
n-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
n-Propylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Naphthalene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
o-Xylene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
sec-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Styrene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
tert-Amyl methyl ether	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
tert-Butanol	ND	71	1	B7F0438	06/21/2017	06/21/17 12:30	
tert-Butylbenzene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Tetrachloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Toluene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
trans-1,2-Dichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
trans-1,3-Dichloropropene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Trichloroethene	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Trichlorofluoromethane	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	
Vinyl acetate	ND	35	1	B7F0438	06/21/2017	06/21/17 12:30	
Vinyl chloride	ND	3.5	1	B7F0438	06/21/2017	06/21/17 12:30	

Surrogate: 1,2-Dichloroethane-d4	105 %	12 - 186	B7F0438	06/21/2017	06/21/17 12:30
Surrogate: 4-Bromofluorobenzene	92.7 %	23 - 162	B7F0438	06/21/2017	06/21/17 12:30
Surrogate: Dibromofluoromethane	110 %	23 - 179	B7F0438	06/21/2017	06/21/17 12:30
Surrogate: Toluene-d8	104 %	26 - 164	B7F0438	06/21/2017	06/21/17 12:30



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP3-15

Lab ID: 1702373-09

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1,1-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1,2-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,1-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,3-Trichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,3-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,4-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2,4-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dibromo-3-chloropropane	ND	8.8	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dibromoethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,3,5-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,3-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,3-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
1,4-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
2,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
2-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
4-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
4-Isopropyltoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Benzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromodichloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromoform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Bromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Carbon disulfide	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Carbon tetrachloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chloroform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Chloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
cis-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP3-15

Lab ID: 1702373-09

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Di-isopropyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Dibromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Dibromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Dichlorodifluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethyl Acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethyl Ether	ND	44	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethyl tert-butyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Ethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Freon-113	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Hexachlorobutadiene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Isopropylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
m,p-Xylene	ND	8.8	1	B7F0438	06/21/2017	06/21/17 12:49	
Methylene chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
MTBE	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
n-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
n-Propylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Naphthalene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
o-Xylene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
sec-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Styrene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
tert-Amyl methyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
tert-Butanol	ND	88	1	B7F0438	06/21/2017	06/21/17 12:49	
tert-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Tetrachloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Toluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
trans-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
trans-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Trichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Trichlorofluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	
Vinyl acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 12:49	
Vinyl chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 12:49	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>109 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	06/21/17 12:49
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>92.2 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	06/21/17 12:49
<i>Surrogate: Dibromofluoromethane</i>	<i>108 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	06/21/17 12:49
<i>Surrogate: Toluene-d8</i>	<i>103 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	06/21/17 12:49



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP6-5

Lab ID: 1702373-10

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1,1-Trichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1,2,2-Tetrachloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1,2-Trichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1-Dichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1-Dichloroethene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,1-Dichloropropene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,3-Trichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,3-Trichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,4-Trichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2,4-Trimethylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dibromo-3-chloropropane	ND	7.9	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dibromoethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dichloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,2-Dichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,3,5-Trimethylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,3-Dichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,3-Dichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
1,4-Dichlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
2,2-Dichloropropane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
2-Chlorotoluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
4-Chlorotoluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
4-Isopropyltoluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Benzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromochloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromodichloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromoform	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Bromomethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Carbon disulfide	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Carbon tetrachloride	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chlorobenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chloroethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chloroform	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Chloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
cis-1,2-Dichloroethene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP6-5

Lab ID: 1702373-10

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Di-isopropyl ether	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Dibromochloromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Dibromomethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Dichlorodifluoromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethyl Acetate	ND	40	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethyl Ether	ND	40	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethyl tert-butyl ether	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Ethylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Freon-113	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Hexachlorobutadiene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Isopropylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
m,p-Xylene	ND	7.9	1	B7F0438	06/21/2017	06/21/17 13:08	
Methylene chloride	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
MTBE	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
n-Butylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
n-Propylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Naphthalene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
o-Xylene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
sec-Butylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Styrene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
tert-Amyl methyl ether	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
tert-Butanol	ND	79	1	B7F0438	06/21/2017	06/21/17 13:08	
tert-Butylbenzene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Tetrachloroethene	1400	190	50	B7F0457	06/21/2017	06/22/17 14:35	
Toluene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
trans-1,2-Dichloroethene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
trans-1,3-Dichloropropene	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Trichloroethene	4.9	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Trichlorofluoromethane	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	
Vinyl acetate	ND	40	1	B7F0438	06/21/2017	06/21/17 13:08	
Vinyl chloride	ND	4.0	1	B7F0438	06/21/2017	06/21/17 13:08	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>66.0 %</i>	<i>12 - 186</i>		B7F0457	06/21/2017	<i>06/22/17 14:35</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>99.5 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	<i>06/21/17 13:08</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91.6 %</i>	<i>23 - 162</i>		B7F0457	06/21/2017	<i>06/22/17 14:35</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>93.6 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	<i>06/21/17 13:08</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>118 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	<i>06/21/17 13:08</i>



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP6-5

Lab ID: 1702373-10

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<i>Surrogate: Dibromofluoromethane</i>	82.4 %	23 - 179		B7F0457	06/21/2017	06/22/17 14:35	
<i>Surrogate: Toluene-d8</i>	104 %	26 - 164		B7F0438	06/21/2017	06/21/17 13:08	
<i>Surrogate: Toluene-d8</i>	99.0 %	26 - 164		B7F0457	06/21/2017	06/22/17 14:35	



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GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP6-10
Lab ID: 1702373-11

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1,1-Trichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1,2,2-Tetrachloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1,2-Trichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1-Dichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1-Dichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,1-Dichloropropene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,3-Trichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,3-Trichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,4-Trichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2,4-Trimethylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dibromo-3-chloropropane	ND	6.6	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dibromoethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dichloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,2-Dichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,3,5-Trimethylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,3-Dichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,3-Dichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
1,4-Dichlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
2,2-Dichloropropane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
2-Chlorotoluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
4-Chlorotoluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
4-Isopropyltoluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Benzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromochloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromodichloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromoform	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Bromomethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Carbon disulfide	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Carbon tetrachloride	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chlorobenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chloroethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chloroform	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Chloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
cis-1,2-Dichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP6-10

Lab ID: 1702373-11

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Di-isopropyl ether	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Dibromochloromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Dibromomethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Dichlorodifluoromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethyl Acetate	ND	33	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethyl Ether	ND	33	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethyl tert-butyl ether	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Ethylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Freon-113	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Hexachlorobutadiene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Isopropylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
m,p-Xylene	ND	6.6	1	B7F0438	06/21/2017	06/21/17 13:26	
Methylene chloride	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
MTBE	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
n-Butylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
n-Propylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Naphthalene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
o-Xylene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
sec-Butylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Styrene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
tert-Amyl methyl ether	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
tert-Butanol	ND	66	1	B7F0438	06/21/2017	06/21/17 13:26	
tert-Butylbenzene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Tetrachloroethene	1200	180	50	B7F0457	06/21/2017	06/22/17 14:54	
Toluene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
trans-1,2-Dichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
trans-1,3-Dichloropropene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Trichloroethene	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Trichlorofluoromethane	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	
Vinyl acetate	ND	33	1	B7F0438	06/21/2017	06/21/17 13:26	
Vinyl chloride	ND	3.3	1	B7F0438	06/21/2017	06/21/17 13:26	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>66.6 %</i>	<i>12 - 186</i>		B7F0457	06/21/2017	<i>06/22/17 14:54</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	<i>06/21/17 13:26</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89.7 %</i>	<i>23 - 162</i>		B7F0457	06/21/2017	<i>06/22/17 14:54</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90.5 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	<i>06/21/17 13:26</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>114 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	<i>06/21/17 13:26</i>



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP6-10

Lab ID: 1702373-11

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
<i>Surrogate: Dibromofluoromethane</i>	82.7 %	23 - 179		B7F0457	06/21/2017	06/22/17 14:54	
<i>Surrogate: Toluene-d8</i>	102 %	26 - 164		B7F0457	06/21/2017	06/22/17 14:54	
<i>Surrogate: Toluene-d8</i>	99.1 %	26 - 164		B7F0438	06/21/2017	06/21/17 13:26	



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GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP6-15

Lab ID: 1702373-12

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1,1-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1,2,2-Tetrachloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1,2-Trichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,1-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,3-Trichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,3-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,4-Trichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2,4-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dibromo-3-chloropropane	ND	8.8	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dibromoethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dichloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,3,5-Trimethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,3-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,3-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
1,4-Dichlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
2,2-Dichloropropane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
2-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
4-Chlorotoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
4-Isopropyltoluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Benzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromodichloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromoform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Bromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Carbon disulfide	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Carbon tetrachloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chlorobenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chloroethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chloroform	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Chloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
cis-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP6-15

Lab ID: 1702373-12

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Di-isopropyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Dibromochloromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Dibromomethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Dichlorodifluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethyl Acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethyl Ether	ND	44	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethyl tert-butyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Ethylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Freon-113	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Hexachlorobutadiene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Isopropylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
m,p-Xylene	ND	8.8	1	B7F0438	06/21/2017	06/21/17 13:45	
Methylene chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
MTBE	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
n-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
n-Propylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Naphthalene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
o-Xylene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
sec-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Styrene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
tert-Amyl methyl ether	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
tert-Butanol	ND	88	1	B7F0438	06/21/2017	06/21/17 13:45	
tert-Butylbenzene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Tetrachloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Toluene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
trans-1,2-Dichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
trans-1,3-Dichloropropene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Trichloroethene	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Trichlorofluoromethane	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	
Vinyl acetate	ND	44	1	B7F0438	06/21/2017	06/21/17 13:45	
Vinyl chloride	ND	4.4	1	B7F0438	06/21/2017	06/21/17 13:45	

Surrogate: 1,2-Dichloroethane-d4	107 %	12 - 186	B7F0438	06/21/2017	06/21/17 13:45
Surrogate: 4-Bromofluorobenzene	88.8 %	23 - 162	B7F0438	06/21/2017	06/21/17 13:45
Surrogate: Dibromofluoromethane	113 %	23 - 179	B7F0438	06/21/2017	06/21/17 13:45
Surrogate: Toluene-d8	102 %	26 - 164	B7F0438	06/21/2017	06/21/17 13:45



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP7-5

Lab ID: 1702373-13

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1,1-Trichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1,2,2-Tetrachloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1,2-Trichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1-Dichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1-Dichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,1-Dichloropropene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,3-Trichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,3-Trichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,4-Trichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2,4-Trimethylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dibromo-3-chloropropane	ND	8.6	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dibromoethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dichloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,2-Dichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,3,5-Trimethylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,3-Dichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,3-Dichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
1,4-Dichlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
2,2-Dichloropropane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
2-Chlorotoluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
4-Chlorotoluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
4-Isopropyltoluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Benzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromochloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromodichloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromoform	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Bromomethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Carbon disulfide	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Carbon tetrachloride	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chlorobenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chloroethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chloroform	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Chloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
cis-1,2-Dichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP7-5

Lab ID: 1702373-13

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Di-isopropyl ether	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Dibromochloromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Dibromomethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Dichlorodifluoromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethyl Acetate	ND	43	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethyl Ether	ND	43	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethyl tert-butyl ether	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Ethylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Freon-113	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Hexachlorobutadiene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Isopropylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
m,p-Xylene	ND	8.6	1	B7F0438	06/21/2017	06/21/17 14:04	
Methylene chloride	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
MTBE	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
n-Butylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
n-Propylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Naphthalene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
o-Xylene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
sec-Butylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Styrene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
tert-Amyl methyl ether	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
tert-Butanol	ND	86	1	B7F0438	06/21/2017	06/21/17 14:04	
tert-Butylbenzene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Tetrachloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Toluene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
trans-1,2-Dichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
trans-1,3-Dichloropropene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Trichloroethene	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Trichlorofluoromethane	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	
Vinyl acetate	ND	43	1	B7F0438	06/21/2017	06/21/17 14:04	
Vinyl chloride	ND	4.3	1	B7F0438	06/21/2017	06/21/17 14:04	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>108 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	06/21/17 14:04	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89.5 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	06/21/17 14:04	
<i>Surrogate: Dibromofluoromethane</i>	<i>105 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	06/21/17 14:04	
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	06/21/17 14:04	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP7-10

Lab ID: 1702373-14

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1,1-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1,2,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1,2-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,1-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,3-Trichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,3-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,4-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2,4-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dibromoethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,3,5-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,3-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,3-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
1,4-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
2,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
2-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
4-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
4-Isopropyltoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Benzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromodichloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromoform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Bromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Carbon disulfide	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Carbon tetrachloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chloroform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Chloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
cis-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP7-10

Lab ID: 1702373-14

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Di-isopropyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Dibromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Dibromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Dichlorodifluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethyl Acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethyl Ether	ND	37	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethyl tert-butyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Ethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Freon-113	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Hexachlorobutadiene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Isopropylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:23	
Methylene chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
MTBE	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
n-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
n-Propylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Naphthalene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
o-Xylene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
sec-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Styrene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
tert-Amyl methyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 14:23	
tert-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Tetrachloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Toluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
trans-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
trans-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Trichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Trichlorofluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	
Vinyl acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:23	
Vinyl chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:23	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>117 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	06/21/17 14:23	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>96.9 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	06/21/17 14:23	
<i>Surrogate: Dibromofluoromethane</i>	<i>116 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	06/21/17 14:23	
<i>Surrogate: Toluene-d8</i>	<i>108 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	06/21/17 14:23	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP7-15

Lab ID: 1702373-15

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1,1-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1,2,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1,2-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,1-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,3-Trichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,3-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,4-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2,4-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dibromoethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,3,5-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,3-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,3-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
1,4-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
2,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
2-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
4-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
4-Isopropyltoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Benzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromodichloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromoform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Bromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Carbon disulfide	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Carbon tetrachloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chloroform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Chloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
cis-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP7-15

Lab ID: 1702373-15

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Di-isopropyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Dibromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Dibromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Dichlorodifluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethyl Acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethyl Ether	ND	37	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethyl tert-butyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Ethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Freon-113	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Hexachlorobutadiene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Isopropylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 14:41	
Methylene chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
MTBE	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
n-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
n-Propylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Naphthalene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
o-Xylene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
sec-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Styrene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
tert-Amyl methyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 14:41	
tert-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Tetrachloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Toluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
trans-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
trans-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Trichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Trichlorofluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	
Vinyl acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 14:41	
Vinyl chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 14:41	

Surrogate: 1,2-Dichloroethane-d4	108 %	12 - 186	B7F0438	06/21/2017	06/21/17 14:41
Surrogate: 4-Bromofluorobenzene	96.6 %	23 - 162	B7F0438	06/21/2017	06/21/17 14:41
Surrogate: Dibromofluoromethane	113 %	23 - 179	B7F0438	06/21/2017	06/21/17 14:41
Surrogate: Toluene-d8	106 %	26 - 164	B7F0438	06/21/2017	06/21/17 14:41



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP8-5

Lab ID: 1702373-16

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1,1-Trichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1,2,2-Tetrachloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1,2-Trichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1-Dichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1-Dichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,1-Dichloropropene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,3-Trichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,3-Trichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,4-Trichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2,4-Trimethylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dibromo-3-chloropropane	ND	8.4	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dibromoethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dichloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,2-Dichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,3,5-Trimethylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,3-Dichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,3-Dichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
1,4-Dichlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
2,2-Dichloropropane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
2-Chlorotoluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
4-Chlorotoluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
4-Isopropyltoluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Benzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromochloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromodichloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromoform	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Bromomethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Carbon disulfide	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Carbon tetrachloride	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chlorobenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chloroethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chloroform	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Chloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
cis-1,2-Dichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP8-5

Lab ID: 1702373-16

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Di-isopropyl ether	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Dibromochloromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Dibromomethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Dichlorodifluoromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethyl Acetate	ND	42	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethyl Ether	ND	42	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethyl tert-butyl ether	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Ethylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Freon-113	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Hexachlorobutadiene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Isopropylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
m,p-Xylene	ND	8.4	1	B7F0438	06/21/2017	06/21/17 15:00	
Methylene chloride	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
MTBE	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
n-Butylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
n-Propylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Naphthalene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
o-Xylene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
sec-Butylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Styrene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
tert-Amyl methyl ether	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
tert-Butanol	ND	84	1	B7F0438	06/21/2017	06/21/17 15:00	
tert-Butylbenzene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Tetrachloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Toluene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
trans-1,2-Dichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
trans-1,3-Dichloropropene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Trichloroethene	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Trichlorofluoromethane	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
Vinyl acetate	ND	42	1	B7F0438	06/21/2017	06/21/17 15:00	
Vinyl chloride	ND	4.2	1	B7F0438	06/21/2017	06/21/17 15:00	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>111 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	<i>06/21/17 15:00</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97.5 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	<i>06/21/17 15:00</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>115 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	<i>06/21/17 15:00</i>	
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	<i>06/21/17 15:00</i>	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP8-10

Lab ID: 1702373-17

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1,1-Trichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1,2,2-Tetrachloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1,2-Trichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1-Dichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1-Dichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,1-Dichloropropene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,3-Trichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,3-Trichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,4-Trichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2,4-Trimethylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dibromo-3-chloropropane	ND	7.8	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dibromoethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dichloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,2-Dichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,3,5-Trimethylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,3-Dichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,3-Dichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
1,4-Dichlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
2,2-Dichloropropane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
2-Chlorotoluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
4-Chlorotoluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
4-Isopropyltoluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Benzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromochloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromodichloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromoform	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Bromomethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Carbon disulfide	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Carbon tetrachloride	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chlorobenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chloroethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chloroform	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Chloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
cis-1,2-Dichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP8-10

Lab ID: 1702373-17

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Di-isopropyl ether	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Dibromochloromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Dibromomethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Dichlorodifluoromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethyl Acetate	ND	39	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethyl Ether	ND	39	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethyl tert-butyl ether	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Ethylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Freon-113	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Hexachlorobutadiene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Isopropylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
m,p-Xylene	ND	7.8	1	B7F0438	06/21/2017	06/21/17 15:19	
Methylene chloride	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
MTBE	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
n-Butylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
n-Propylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Naphthalene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
o-Xylene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
sec-Butylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Styrene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
tert-Amyl methyl ether	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
tert-Butanol	ND	78	1	B7F0438	06/21/2017	06/21/17 15:19	
tert-Butylbenzene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Tetrachloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Toluene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
trans-1,2-Dichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
trans-1,3-Dichloropropene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Trichloroethene	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Trichlorofluoromethane	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	
Vinyl acetate	ND	39	1	B7F0438	06/21/2017	06/21/17 15:19	
Vinyl chloride	ND	3.9	1	B7F0438	06/21/2017	06/21/17 15:19	

Surrogate: 1,2-Dichloroethane-d4	113 %	12 - 186		B7F0438	06/21/2017	06/21/17 15:19
Surrogate: 4-Bromofluorobenzene	99.2 %	23 - 162		B7F0438	06/21/2017	06/21/17 15:19
Surrogate: Dibromofluoromethane	107 %	23 - 179		B7F0438	06/21/2017	06/21/17 15:19
Surrogate: Toluene-d8	109 %	26 - 164		B7F0438	06/21/2017	06/21/17 15:19



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP8-15

Lab ID: 1702373-18

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1,1-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1,2,2-Tetrachloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1,2-Trichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,1-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,3-Trichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,3-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,4-Trichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2,4-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dibromoethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dichloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,3,5-Trimethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,3-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,3-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
1,4-Dichlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
2,2-Dichloropropane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
2-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
4-Chlorotoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
4-Isopropyltoluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Benzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromodichloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromoform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Bromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Carbon disulfide	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Carbon tetrachloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chlorobenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chloroethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chloroform	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Chloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
cis-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP8-15

Lab ID: 1702373-18

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Di-isopropyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Dibromochloromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Dibromomethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Dichlorodifluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethyl Acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethyl Ether	ND	37	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethyl tert-butyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Ethylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Freon-113	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Hexachlorobutadiene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Isopropylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 15:37	
Methylene chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
MTBE	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
n-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
n-Propylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Naphthalene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
o-Xylene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
sec-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Styrene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
tert-Amyl methyl ether	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 15:37	
tert-Butylbenzene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Tetrachloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Toluene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
trans-1,2-Dichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
trans-1,3-Dichloropropene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Trichloroethene	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Trichlorofluoromethane	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	
Vinyl acetate	ND	37	1	B7F0438	06/21/2017	06/21/17 15:37	
Vinyl chloride	ND	3.7	1	B7F0438	06/21/2017	06/21/17 15:37	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>119 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	06/21/17 15:37	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>96.5 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	06/21/17 15:37	
<i>Surrogate: Dibromofluoromethane</i>	<i>109 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	06/21/17 15:37	
<i>Surrogate: Toluene-d8</i>	<i>108 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	06/21/17 15:37	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP9-5

Lab ID: 1702373-19

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1,1-Trichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1,2,2-Tetrachloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1,2-Trichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1-Dichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1-Dichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,1-Dichloropropene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,3-Trichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,3-Trichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,4-Trichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2,4-Trimethylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dibromo-3-chloropropane	ND	11	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dibromoethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dichloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,2-Dichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,3,5-Trimethylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,3-Dichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,3-Dichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
1,4-Dichlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
2,2-Dichloropropane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
2-Chlorotoluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
4-Chlorotoluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
4-Isopropyltoluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Benzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromochloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromodichloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromoform	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Bromomethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Carbon disulfide	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Carbon tetrachloride	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chlorobenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chloroethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chloroform	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Chloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
cis-1,2-Dichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP9-5

Lab ID: 1702373-19

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Di-isopropyl ether	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Dibromochloromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Dibromomethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Dichlorodifluoromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethyl Acetate	ND	53	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethyl Ether	ND	53	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethyl tert-butyl ether	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Ethylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Freon-113	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Hexachlorobutadiene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Isopropylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
m,p-Xylene	ND	11	1	B7F0438	06/21/2017	06/21/17 15:56	
Methylene chloride	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
MTBE	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
n-Butylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
n-Propylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Naphthalene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
o-Xylene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
sec-Butylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Styrene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
tert-Amyl methyl ether	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
tert-Butanol	ND	110	1	B7F0438	06/21/2017	06/21/17 15:56	
tert-Butylbenzene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Tetrachloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Toluene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
trans-1,2-Dichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
trans-1,3-Dichloropropene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Trichloroethene	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Trichlorofluoromethane	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	
Vinyl acetate	ND	53	1	B7F0438	06/21/2017	06/21/17 15:56	
Vinyl chloride	ND	5.3	1	B7F0438	06/21/2017	06/21/17 15:56	

Surrogate: 1,2-Dichloroethane-d4	109 %	12 - 186		B7F0438	06/21/2017	06/21/17 15:56
Surrogate: 4-Bromofluorobenzene	97.2 %	23 - 162		B7F0438	06/21/2017	06/21/17 15:56
Surrogate: Dibromofluoromethane	106 %	23 - 179		B7F0438	06/21/2017	06/21/17 15:56
Surrogate: Toluene-d8	102 %	26 - 164		B7F0438	06/21/2017	06/21/17 15:56



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP9-10

Lab ID: 1702373-20

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1,1-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1,2,2-Tetrachloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1,2-Trichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,1-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,3-Trichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,3-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,4-Trichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2,4-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dibromo-3-chloropropane	ND	7.5	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dibromoethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dichloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,3,5-Trimethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,3-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,3-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
1,4-Dichlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
2,2-Dichloropropane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
2-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
4-Chlorotoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
4-Isopropyltoluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Benzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromodichloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromoform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Bromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Carbon disulfide	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Carbon tetrachloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chlorobenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chloroethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chloroform	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Chloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
cis-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP9-10

Lab ID: 1702373-20

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Di-isopropyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Dibromochloromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Dibromomethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Dichlorodifluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethyl Acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethyl Ether	ND	38	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethyl tert-butyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Ethylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Freon-113	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Hexachlorobutadiene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Isopropylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
m,p-Xylene	ND	7.5	1	B7F0438	06/21/2017	06/21/17 16:15	
Methylene chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
MTBE	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
n-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
n-Propylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Naphthalene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
o-Xylene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
sec-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Styrene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
tert-Amyl methyl ether	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
tert-Butanol	ND	75	1	B7F0438	06/21/2017	06/21/17 16:15	
tert-Butylbenzene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Tetrachloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Toluene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
trans-1,2-Dichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
trans-1,3-Dichloropropene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Trichloroethene	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Trichlorofluoromethane	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
Vinyl acetate	ND	38	1	B7F0438	06/21/2017	06/21/17 16:15	
Vinyl chloride	ND	3.8	1	B7F0438	06/21/2017	06/21/17 16:15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>108 %</i>	<i>12 - 186</i>		B7F0438	06/21/2017	<i>06/21/17 16:15</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91.2 %</i>	<i>23 - 162</i>		B7F0438	06/21/2017	<i>06/21/17 16:15</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>110 %</i>	<i>23 - 179</i>		B7F0438	06/21/2017	<i>06/21/17 16:15</i>	
<i>Surrogate: Toluene-d8</i>	<i>107 %</i>	<i>26 - 164</i>		B7F0438	06/21/2017	<i>06/21/17 16:15</i>	



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP9-15

Lab ID: 1702373-21

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1,1-Trichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1,2,2-Tetrachloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1,2-Trichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1-Dichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1-Dichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,1-Dichloropropene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,3-Trichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,3-Trichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,4-Trichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2,4-Trimethylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dibromo-3-chloropropane	ND	6.5	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dibromoethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dichloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,2-Dichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,3,5-Trimethylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,3-Dichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,3-Dichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
1,4-Dichlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
2,2-Dichloropropane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
2-Chlorotoluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
4-Chlorotoluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
4-Isopropyltoluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Benzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromochloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromodichloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromoform	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Bromomethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Carbon disulfide	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Carbon tetrachloride	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chlorobenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chloroethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chloroform	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Chloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
cis-1,2-Dichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP9-15

Lab ID: 1702373-21

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Di-isopropyl ether	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Dibromochloromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Dibromomethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Dichlorodifluoromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethyl Acetate	ND	33	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethyl Ether	ND	33	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethyl tert-butyl ether	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Ethylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Freon-113	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Hexachlorobutadiene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Isopropylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
m,p-Xylene	ND	6.5	1	B7F0457	06/22/2017	06/22/17 14:17	
Methylene chloride	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
MTBE	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
n-Butylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
n-Propylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Naphthalene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
o-Xylene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
sec-Butylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Styrene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
tert-Amyl methyl ether	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
tert-Butanol	ND	65	1	B7F0457	06/22/2017	06/22/17 14:17	
tert-Butylbenzene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Tetrachloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Toluene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
trans-1,2-Dichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
trans-1,3-Dichloropropene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Trichloroethene	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Trichlorofluoromethane	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
Vinyl acetate	ND	33	1	B7F0457	06/22/2017	06/22/17 14:17	
Vinyl chloride	ND	3.3	1	B7F0457	06/22/2017	06/22/17 14:17	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>84.6 %</i>	<i>12 - 186</i>		B7F0457	06/22/2017	06/22/17 14:17	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>87.5 %</i>	<i>23 - 162</i>		B7F0457	06/22/2017	06/22/17 14:17	
<i>Surrogate: Dibromofluoromethane</i>	<i>88.0 %</i>	<i>23 - 179</i>		B7F0457	06/22/2017	06/22/17 14:17	
<i>Surrogate: Toluene-d8</i>	<i>99.9 %</i>	<i>26 - 164</i>		B7F0457	06/22/2017	06/22/17 14:17	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0438 - MSVOA_S

Blank (B7F0438-BLK1)

Prepared: 6/21/2017 Analyzed: 6/21/2017

1,1,1,2-Tetrachloroethane	ND	5.0	0.63
1,1,1-Trichloroethane	ND	5.0	0.63
1,1,2,2-Tetrachloroethane	ND	5.0	0.92
1,1,2-Trichloroethane	ND	5.0	1.4
1,1-Dichloroethane	ND	5.0	1.5
1,1-Dichloroethene	ND	5.0	0.69
1,1-Dichloropropene	ND	5.0	2.4
1,2,3-Trichloropropane	ND	5.0	1.2
1,2,3-Trichlorobenzene	ND	5.0	1.1
1,2,4-Trichlorobenzene	ND	5.0	0.96
1,2,4-Trimethylbenzene	ND	5.0	0.53
1,2-Dibromo-3-chloropropane	ND	10	1.1
1,2-Dibromoethane	ND	5.0	0.80
1,2-Dichlorobenzene	ND	5.0	0.51
1,2-Dichloroethane	ND	5.0	0.53
1,2-Dichloropropane	ND	5.0	0.76
1,3,5-Trimethylbenzene	ND	5.0	0.58
1,3-Dichlorobenzene	ND	5.0	0.63
1,3-Dichloropropane	ND	5.0	0.59
1,4-Dichlorobenzene	ND	5.0	0.73
2,2-Dichloropropane	ND	5.0	0.68
2-Chlorotoluene	ND	5.0	0.68
4-Chlorotoluene	ND	5.0	0.62
4-Isopropyltoluene	ND	5.0	0.63
Benzene	ND	5.0	0.59
Bromobenzene	ND	5.0	1.9
Bromochloromethane	ND	5.0	3.1
Bromodichloromethane	ND	5.0	1.0
Bromoform	ND	5.0	0.70
Bromomethane	ND	5.0	4.2
Carbon disulfide	ND	5.0	1.2
Carbon tetrachloride	ND	5.0	1.1
Chlorobenzene	ND	5.0	0.64
Chloroethane	ND	5.0	1.9
Chloroform	ND	5.0	1.4
Chloromethane	ND	5.0	1.9
cis-1,2-Dichloroethene	ND	5.0	0.87
cis-1,3-Dichloropropene	ND	5.0	0.79
Di-isopropyl ether	ND	5.0	0.51



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0438 - MSVOA_S (continued)

Blank (B7F0438-BLK1) - Continued

Prepared: 6/21/2017 Analyzed: 6/21/2017

Dibromochloromethane	ND	5.0	1.0						
Dibromomethane	ND	5.0	0.99						
Dichlorodifluoromethane	ND	5.0	2.2						
Ethyl Acetate	ND	50	9.7						
Ethyl Ether	ND	50	7.3						
Ethyl tert-butyl ether	ND	5.0	1.4						
Ethylbenzene	ND	5.0	0.65						
Freon-113	ND	5.0	1.0						
Hexachlorobutadiene	ND	5.0	0.78						
Isopropylbenzene	ND	5.0	0.59						
m,p-Xylene	ND	10	1.2						
Methylene chloride	ND	5.0	1.4						
MTBE	ND	5.0	0.50						
n-Butylbenzene	ND	5.0	0.75						
n-Propylbenzene	ND	5.0	0.55						
Naphthalene	ND	5.0	1.2						
o-Xylene	ND	5.0	0.86						
sec-Butylbenzene	ND	5.0	0.79						
Styrene	ND	5.0	0.82						
tert-Amyl methyl ether	ND	5.0	1.5						
tert-Butanol	ND	100	5.9						
tert-Butylbenzene	ND	5.0	0.57						
Tetrachloroethene	ND	5.0	0.65						
Toluene	ND	5.0	0.80						
trans-1,2-Dichloroethene	ND	5.0	1.5						
trans-1,3-Dichloropropene	ND	5.0	0.63						
Trichloroethene	ND	5.0	1.1						
Trichlorofluoromethane	ND	5.0	0.89						
Vinyl acetate	ND	50	5.7						
Vinyl chloride	ND	5.0	2.0						

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>40.61</i>			<i>50.0000</i>	<i>81.2</i>	<i>12 - 186</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>44.31</i>			<i>50.0000</i>	<i>88.6</i>	<i>23 - 162</i>		
<i>Surrogate: Dibromofluoromethane</i>	<i>47.45</i>			<i>50.0000</i>	<i>94.9</i>	<i>23 - 179</i>		
<i>Surrogate: Toluene-d8</i>	<i>50.32</i>			<i>50.0000</i>	<i>101</i>	<i>26 - 164</i>		

LCS (B7F0438-BS1)

Prepared: 6/21/2017 Analyzed: 6/21/2017

1,1,1,2-Tetrachloroethane	54.2200	5.0	0.63	50.0000	108	78 - 119		
1,1,1-Trichloroethane	53.5300	5.0	0.63	50.0000	107	75 - 123		
1,1,2,2-Tetrachloroethane	46.7800	5.0	0.92	50.0000	93.6	65 - 117		
1,1,2-Trichloroethane	54.3200	5.0	1.4	50.0000	109	79 - 108		
1,1-Dichloroethane	48.4700	5.0	1.5	50.0000	96.9	69 - 120		L4



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0438 - MSVOA_S (continued)

LCS (B7F0438-BS1) - Continued

Prepared: 6/21/2017 Analyzed: 6/21/2017

1,1-Dichloroethene	45.3000	5.0	0.69	50.0000		90.6	59 - 126
1,1-Dichloropropene	50.6600	5.0	2.4	50.0000		101	76 - 121
1,2,3-Trichloropropane	44.4200	5.0	1.2	50.0000		88.8	66 - 118
1,2,3-Trichlorobenzene	53.9100	5.0	1.1	50.0000		108	75 - 116
1,2,4-Trichlorobenzene	54.7500	5.0	0.96	50.0000		110	79 - 121
1,2,4-Trimethylbenzene	48.6300	5.0	0.53	50.0000		97.3	80 - 118
1,2-Dibromo-3-chloropropane	47.3700	10	1.1	50.0000		94.7	65 - 122
1,2-Dibromoethane	53.0400	5.0	0.80	50.0000		106	77 - 115
1,2-Dichlorobenzene	52.4600	5.0	0.51	50.0000		105	81 - 115
1,2-Dichloroethane	47.0500	5.0	0.53	50.0000		94.1	70 - 122
1,2-Dichloropropane	46.9300	5.0	0.76	50.0000		93.9	77 - 110
1,3,5-Trimethylbenzene	49.0900	5.0	0.58	50.0000		98.2	79 - 119
1,3-Dichlorobenzene	52.6300	5.0	0.63	50.0000		105	81 - 116
1,3-Dichloropropane	48.4700	5.0	0.59	50.0000		96.9	79 - 113
1,4-Dichlorobenzene	51.7400	5.0	0.73	50.0000		103	80 - 117
2,2-Dichloropropane	45.5800	5.0	0.68	50.0000		91.2	70 - 129
2-Chlorotoluene	48.4100	5.0	0.68	50.0000		96.8	76 - 119
4-Chlorotoluene	47.2300	5.0	0.62	50.0000		94.5	79 - 119
4-Isopropyltoluene	49.9300	5.0	0.63	50.0000		99.9	80 - 122
Benzene	99.8400	5.0	0.59	100.000		99.8	79 - 111
Bromobenzene	51.7200	5.0	1.9	50.0000		103	77 - 114
Bromochloromethane	56.8200	5.0	3.1	50.0000		114	69 - 117
Bromodichloromethane	49.2900	5.0	1.0	50.0000		98.6	79 - 114
Bromoform	57.3400	5.0	0.70	50.0000		115	72 - 122
Bromomethane	54.0500	5.0	4.2	50.0000		108	47 - 176
Carbon disulfide	50.8700	5.0	1.2	50.0000		102	50 - 133
Carbon tetrachloride	55.4200	5.0	1.1	50.0000		111	68 - 143
Chlorobenzene	51.1200	5.0	0.64	50.0000		102	81 - 113
Chloroethane	54.5200	5.0	1.9	50.0000		109	47 - 148
Chloroform	52.2900	5.0	1.4	50.0000		105	77 - 116
Chloromethane	39.2400	5.0	1.9	50.0000		78.5	39 - 141
cis-1,2-Dichloroethene	54.1800	5.0	0.87	50.0000		108	68 - 120
cis-1,3-Dichloropropene	52.0500	5.0	0.79	50.0000		104	74 - 113
Di-isopropyl ether	47.0100	5.0	0.51	50.0000		94.0	62 - 124
Dibromochloromethane	52.6100	5.0	1.0	50.0000		105	78 - 114
Dibromomethane	44.6400	5.0	0.99	50.0000		89.3	74 - 112
Dichlorodifluoromethane	40.0200	5.0	2.2	50.0000		80.0	49 - 138
Ethyl Acetate	512.980	50	9.7	500.000		103	63 - 131
Ethyl Ether	424.810	50	7.3	500.000		85.0	56 - 123
Ethyl tert-butyl ether	54.3500	5.0	1.4	50.0000		109	68 - 121
Ethylbenzene	98.7900	5.0	0.65	100.000		98.8	82 - 112
Freon-113	49.5200	5.0	1.0	50.0000		99.0	65 - 133



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0438 - MSVOA_S (continued)

LCS (B7F0438-BS1) - Continued

Prepared: 6/21/2017 Analyzed: 6/21/2017

Hexachlorobutadiene	56.2000	5.0	0.78	50.0000		112	76 - 131			
Isopropylbenzene	49.0800	5.0	0.59	50.0000		98.2	77 - 122			
m,p-Xylene	96.4700	10	1.2	100.000		96.5	80 - 116			
Methylene chloride	53.4500	5.0	1.4	50.0000		107	67 - 144			
MTBE	49.0000	5.0	0.50	50.0000		98.0	62 - 120			
n-Butylbenzene	48.9000	5.0	0.75	50.0000		97.8	78 - 134			
n-Propylbenzene	48.2900	5.0	0.55	50.0000		96.6	77 - 125			
Naphthalene	50.9400	5.0	1.2	50.0000		102	66 - 125			
o-Xylene	96.7300	5.0	0.86	100.000		96.7	80 - 113			
sec-Butylbenzene	50.0100	5.0	0.79	50.0000		100	79 - 124			
Styrene	52.8900	5.0	0.82	50.0000		106	82 - 117			
tert-Amyl methyl ether	47.5900	5.0	1.5	50.0000		95.2	62 - 118			
tert-Butanol	237.710	100	5.9	250.000		95.1	35 - 127			
tert-Butylbenzene	49.2900	5.0	0.57	50.0000		98.6	78 - 121			
Tetrachloroethene	52.9100	5.0	0.65	50.0000		106	75 - 124			
Toluene	106.060	5.0	0.80	100.000		106	79 - 115			
trans-1,2-Dichloroethene	52.4400	5.0	1.5	50.0000		105	65 - 127			
trans-1,3-Dichloropropene	46.1800	5.0	0.63	50.0000		92.4	73 - 115			
Trichloroethene	52.3000	5.0	1.1	50.0000		105	77 - 119			
Trichlorofluoromethane	45.4900	5.0	0.89	50.0000		91.0	57 - 134			
Vinyl acetate	520.350	50	5.7	500.000		104	62 - 147			
Vinyl chloride	39.6700	5.0	2.0	50.0000		79.3	53 - 133			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>43.46</i>			<i>50.0000</i>		<i>86.9</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>45.61</i>			<i>50.0000</i>		<i>91.2</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>51.43</i>			<i>50.0000</i>		<i>103</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>49.92</i>			<i>50.0000</i>		<i>99.8</i>	<i>26 - 164</i>			

LCS Dup (B7F0438-BSD1)

Prepared: 6/21/2017 Analyzed: 6/21/2017

1,1,1,2-Tetrachloroethane	54.5100	5.0	0.63	50.0000		109	78 - 119	0.533	20	
1,1,1-Trichloroethane	49.7000	5.0	0.63	50.0000		99.4	75 - 123	7.42	20	
1,1,2,2-Tetrachloroethane	44.2900	5.0	0.92	50.0000		88.6	65 - 117	5.47	20	
1,1,2-Trichloroethane	50.7900	5.0	1.4	50.0000		102	79 - 108	6.72	20	
1,1-Dichloroethane	46.6100	5.0	1.5	50.0000		93.2	69 - 120	3.91	20	
1,1-Dichloroethene	42.2800	5.0	0.69	50.0000		84.6	59 - 126	6.90	20	
1,1-Dichloropropene	50.0400	5.0	2.4	50.0000		100	76 - 121	1.23	20	
1,2,3-Trichloropropane	43.1800	5.0	1.2	50.0000		86.4	66 - 118	2.83	20	
1,2,3-Trichlorobenzene	54.0700	5.0	1.1	50.0000		108	75 - 116	0.296	20	
1,2,4-Trichlorobenzene	54.6000	5.0	0.96	50.0000		109	79 - 121	0.274	20	
1,2,4-Trimethylbenzene	44.7000	5.0	0.53	50.0000		89.4	80 - 118	8.42	20	
1,2-Dibromo-3-chloropropane	47.3700	10	1.1	50.0000		94.7	65 - 122	0.00	20	
1,2-Dibromoethane	53.9800	5.0	0.80	50.0000		108	77 - 115	1.76	20	



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0438 - MSVOA_S (continued)

LCS Dup (B7F0438-BSD1) - Continued

Prepared: 6/21/2017 Analyzed: 6/21/2017

1,2-Dichlorobenzene	50.4000	5.0	0.51	50.0000		101	81 - 115	4.01	20	
1,2-Dichloroethane	46.2800	5.0	0.53	50.0000		92.6	70 - 122	1.65	20	
1,2-Dichloropropane	47.3200	5.0	0.76	50.0000		94.6	77 - 110	0.828	20	
1,3,5-Trimethylbenzene	45.0100	5.0	0.58	50.0000		90.0	79 - 119	8.67	20	
1,3-Dichlorobenzene	50.0100	5.0	0.63	50.0000		100	81 - 116	5.11	20	
1,3-Dichloropropane	48.8300	5.0	0.59	50.0000		97.7	79 - 113	0.740	20	
1,4-Dichlorobenzene	49.1100	5.0	0.73	50.0000		98.2	80 - 117	5.22	20	
2,2-Dichloropropane	43.2800	5.0	0.68	50.0000		86.6	70 - 129	5.18	20	
2-Chlorotoluene	44.9100	5.0	0.68	50.0000		89.8	76 - 119	7.50	20	
4-Chlorotoluene	44.4500	5.0	0.62	50.0000		88.9	79 - 119	6.06	20	
4-Isopropyltoluene	46.5300	5.0	0.63	50.0000		93.1	80 - 122	7.05	20	
Benzene	96.4400	5.0	0.59	100.000		96.4	79 - 111	3.46	20	
Bromobenzene	48.6700	5.0	1.9	50.0000		97.3	77 - 114	6.08	20	
Bromochloromethane	53.9400	5.0	3.1	50.0000		108	69 - 117	5.20	20	
Bromodichloromethane	49.9300	5.0	1.0	50.0000		99.9	79 - 114	1.29	20	
Bromoform	56.9000	5.0	0.70	50.0000		114	72 - 122	0.770	20	
Bromomethane	45.3900	5.0	4.2	50.0000		90.8	47 - 176	17.4	20	
Carbon disulfide	45.1400	5.0	1.2	50.0000		90.3	50 - 133	11.9	20	
Carbon tetrachloride	52.9400	5.0	1.1	50.0000		106	68 - 143	4.58	20	
Chlorobenzene	50.1000	5.0	0.64	50.0000		100	81 - 113	2.02	20	
Chloroethane	38.4000	5.0	1.9	50.0000		76.8	47 - 148	34.7	20	R
Chloroform	50.8400	5.0	1.4	50.0000		102	77 - 116	2.81	20	
Chloromethane	36.5700	5.0	1.9	50.0000		73.1	39 - 141	7.04	20	
cis-1,2-Dichloroethene	54.0300	5.0	0.87	50.0000		108	68 - 120	0.277	20	
cis-1,3-Dichloropropene	50.4300	5.0	0.79	50.0000		101	74 - 113	3.16	20	
Di-isopropyl ether	45.1900	5.0	0.51	50.0000		90.4	62 - 124	3.95	20	
Dibromochloromethane	52.8800	5.0	1.0	50.0000		106	78 - 114	0.512	20	
Dibromomethane	51.6800	5.0	0.99	50.0000		103	74 - 112	14.6	20	
Dichlorodifluoromethane	36.5700	5.0	2.2	50.0000		73.1	49 - 138	9.01	20	
Ethyl Acetate	496.840	50	9.7	500.000		99.4	63 - 131	3.20	20	
Ethyl Ether	408.000	50	7.3	500.000		81.6	56 - 123	4.04	20	
Ethyl tert-butyl ether	53.1400	5.0	1.4	50.0000		106	68 - 121	2.25	20	
Ethylbenzene	95.8300	5.0	0.65	100.000		95.8	82 - 112	3.04	20	
Freon-113	47.7000	5.0	1.0	50.0000		95.4	65 - 133	3.74	20	
Hexachlorobutadiene	51.6800	5.0	0.78	50.0000		103	76 - 131	8.38	20	
Isopropylbenzene	46.2500	5.0	0.59	50.0000		92.5	77 - 122	5.94	20	
m,p-Xylene	94.5100	10	1.2	100.000		94.5	80 - 116	2.05	20	
Methylene chloride	49.1500	5.0	1.4	50.0000		98.3	67 - 144	8.38	20	
MTBE	49.2200	5.0	0.50	50.0000		98.4	62 - 120	0.448	20	
n-Butylbenzene	45.2700	5.0	0.75	50.0000		90.5	78 - 134	7.71	20	
n-Propylbenzene	45.3100	5.0	0.55	50.0000		90.6	77 - 125	6.37	20	
Naphthalene	51.1500	5.0	1.2	50.0000		102	66 - 125	0.411	20	



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0438 - MSVOA_S (continued)

LCS Dup (B7F0438-BSD1) - Continued

Prepared: 6/21/2017 Analyzed: 6/21/2017

o-Xylene	93.6000	5.0	0.86	100.000		93.6	80 - 113	3.29	20	
sec-Butylbenzene	46.6700	5.0	0.79	50.0000		93.3	79 - 124	6.91	20	
Styrene	51.3200	5.0	0.82	50.0000		103	82 - 117	3.01	20	
tert-Amyl methyl ether	47.8900	5.0	1.5	50.0000		95.8	62 - 118	0.628	20	
tert-Butanol	247.070	100	5.9	250.000		98.8	35 - 127	3.86	20	
tert-Butylbenzene	46.3000	5.0	0.57	50.0000		92.6	78 - 121	6.26	20	
Tetrachloroethene	50.9200	5.0	0.65	50.0000		102	75 - 124	3.83	20	
Toluene	103.500	5.0	0.80	100.000		104	79 - 115	2.44	20	
trans-1,2-Dichloroethene	50.2500	5.0	1.5	50.0000		100	65 - 127	4.27	20	
trans-1,3-Dichloropropene	47.3100	5.0	0.63	50.0000		94.6	73 - 115	2.42	20	
Trichloroethene	54.2300	5.0	1.1	50.0000		108	77 - 119	3.62	20	
Trichlorofluoromethane	49.3800	5.0	0.89	50.0000		98.8	57 - 134	8.20	20	
Vinyl acetate	486.780	50	5.7	500.000		97.4	62 - 147	6.67	20	
Vinyl chloride	36.5000	5.0	2.0	50.0000		73.0	53 - 133	8.32	20	
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<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>43.97</i>			<i>50.0000</i>		<i>87.9</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>43.90</i>			<i>50.0000</i>		<i>87.8</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethan</i>	<i>51.94</i>			<i>50.0000</i>		<i>104</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>48.88</i>			<i>50.0000</i>		<i>97.8</i>	<i>26 - 164</i>			



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S

Blank (B7F0457-BLK1)

Prepared: 6/22/2017 Analyzed: 6/22/2017

1,1,1,2-Tetrachloroethane	ND	5.0	0.63
1,1,1-Trichloroethane	ND	5.0	0.63
1,1,2,2-Tetrachloroethane	ND	5.0	0.92
1,1,2-Trichloroethane	ND	5.0	1.4
1,1-Dichloroethane	ND	5.0	1.5
1,1-Dichloroethene	ND	5.0	0.69
1,1-Dichloropropene	ND	5.0	2.4
1,2,3-Trichloropropane	ND	5.0	1.2
1,2,3-Trichlorobenzene	ND	5.0	1.1
1,2,4-Trichlorobenzene	ND	5.0	0.96
1,2,4-Trimethylbenzene	ND	5.0	0.53
1,2-Dibromo-3-chloropropane	ND	10	1.1
1,2-Dibromoethane	ND	5.0	0.80
1,2-Dichlorobenzene	ND	5.0	0.51
1,2-Dichloroethane	ND	5.0	0.53
1,2-Dichloropropane	ND	5.0	0.76
1,3,5-Trimethylbenzene	ND	5.0	0.58
1,3-Dichlorobenzene	ND	5.0	0.63
1,3-Dichloropropane	ND	5.0	0.59
1,4-Dichlorobenzene	ND	5.0	0.73
2,2-Dichloropropane	ND	5.0	0.68
2-Chlorotoluene	ND	5.0	0.68
4-Chlorotoluene	ND	5.0	0.62
4-Isopropyltoluene	ND	5.0	0.63
Benzene	ND	5.0	0.59
Bromobenzene	ND	5.0	1.9
Bromochloromethane	ND	5.0	3.1
Bromodichloromethane	ND	5.0	1.0
Bromoform	ND	5.0	0.70
Bromomethane	ND	5.0	4.2
Carbon disulfide	ND	5.0	1.2
Carbon tetrachloride	ND	5.0	1.1
Chlorobenzene	ND	5.0	0.64
Chloroethane	ND	5.0	1.9
Chloroform	ND	5.0	1.4
Chloromethane	ND	5.0	1.9
cis-1,2-Dichloroethene	ND	5.0	0.87
cis-1,3-Dichloropropene	ND	5.0	0.79
Di-isopropyl ether	ND	5.0	0.51
Dibromochloromethane	ND	5.0	1.0
Dibromomethane	ND	5.0	0.99



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

Blank (B7F0457-BLK1) - Continued

Prepared: 6/22/2017 Analyzed: 6/22/2017

Dichlorodifluoromethane	ND	5.0	2.2						
Ethyl Acetate	ND	50	9.7						
Ethyl Ether	ND	50	7.3						
Ethyl tert-butyl ether	ND	5.0	1.4						
Ethylbenzene	ND	5.0	0.65						
Freon-113	ND	5.0	1.0						
Hexachlorobutadiene	ND	5.0	0.78						
Isopropylbenzene	ND	5.0	0.59						
m,p-Xylene	ND	10	1.2						
Methylene chloride	ND	5.0	1.4						
MTBE	ND	5.0	0.50						
n-Butylbenzene	ND	5.0	0.75						
n-Propylbenzene	ND	5.0	0.55						
Naphthalene	ND	5.0	1.2						
o-Xylene	ND	5.0	0.86						
sec-Butylbenzene	ND	5.0	0.79						
Styrene	ND	5.0	0.82						
tert-Amyl methyl ether	ND	5.0	1.5						
tert-Butanol	ND	100	5.9						
tert-Butylbenzene	ND	5.0	0.57						
Tetrachloroethene	ND	5.0	0.65						
Toluene	ND	5.0	0.80						
trans-1,2-Dichloroethene	ND	5.0	1.5						
trans-1,3-Dichloropropene	ND	5.0	0.63						
Trichloroethene	ND	5.0	1.1						
Trichlorofluoromethane	ND	5.0	0.89						
Vinyl acetate	ND	50	5.7						
Vinyl chloride	ND	5.0	2.0						

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>40.54</i>			<i>50.0000</i>		<i>81.1</i>	<i>12 - 186</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>44.92</i>			<i>50.0000</i>		<i>89.8</i>	<i>23 - 162</i>		
<i>Surrogate: Dibromofluoromethane</i>	<i>46.68</i>			<i>50.0000</i>		<i>93.4</i>	<i>23 - 179</i>		
<i>Surrogate: Toluene-d8</i>	<i>50.20</i>			<i>50.0000</i>		<i>100</i>	<i>26 - 164</i>		

LCS (B7F0457-BS1)

Prepared: 6/22/2017 Analyzed: 6/22/2017

1,1,1,2-Tetrachloroethane	53.4700	5.0	0.63	50.0000		107	78 - 119		
1,1,1-Trichloroethane	57.3400	5.0	0.63	50.0000		115	75 - 123		
1,1,2,2-Tetrachloroethane	45.4700	5.0	0.92	50.0000		90.9	65 - 117		
1,1,2-Trichloroethane	54.3600	5.0	1.4	50.0000		109	79 - 108		L4
1,1-Dichloroethane	52.2700	5.0	1.5	50.0000		105	69 - 120		
1,1-Dichloroethene	47.8300	5.0	0.69	50.0000		95.7	59 - 126		
1,1-Dichloropropene	52.1700	5.0	2.4	50.0000		104	76 - 121		



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Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

LCS (B7F0457-BS1) - Continued

Prepared: 6/22/2017 Analyzed: 6/22/2017

1,2,3-Trichloropropane	43.9400	5.0	1.2	50.0000		87.9	66 - 118
1,2,3-Trichlorobenzene	50.4800	5.0	1.1	50.0000		101	75 - 116
1,2,4-Trichlorobenzene	50.3500	5.0	0.96	50.0000		101	79 - 121
1,2,4-Trimethylbenzene	48.0000	5.0	0.53	50.0000		96.0	80 - 118
1,2-Dibromo-3-chloropropane	46.1500	10	1.1	50.0000		92.3	65 - 122
1,2-Dibromoethane	52.5200	5.0	0.80	50.0000		105	77 - 115
1,2-Dichlorobenzene	50.6200	5.0	0.51	50.0000		101	81 - 115
1,2-Dichloroethane	50.6800	5.0	0.53	50.0000		101	70 - 122
1,2-Dichloropropane	50.4400	5.0	0.76	50.0000		101	77 - 110
1,3,5-Trimethylbenzene	48.6800	5.0	0.58	50.0000		97.4	79 - 119
1,3-Dichlorobenzene	50.5400	5.0	0.63	50.0000		101	81 - 116
1,3-Dichloropropane	47.2300	5.0	0.59	50.0000		94.5	79 - 113
1,4-Dichlorobenzene	50.1100	5.0	0.73	50.0000		100	80 - 117
2,2-Dichloropropane	48.6100	5.0	0.68	50.0000		97.2	70 - 129
2-Chlorotoluene	47.9900	5.0	0.68	50.0000		96.0	76 - 119
4-Chlorotoluene	48.0100	5.0	0.62	50.0000		96.0	79 - 119
4-Isopropyltoluene	49.4900	5.0	0.63	50.0000		99.0	80 - 122
Benzene	101.560	5.0	0.59	100.000		102	79 - 111
Bromobenzene	48.0000	5.0	1.9	50.0000		96.0	77 - 114
Bromochloromethane	54.3800	5.0	3.1	50.0000		109	69 - 117
Bromodichloromethane	52.1800	5.0	1.0	50.0000		104	79 - 114
Bromoform	51.9500	5.0	0.70	50.0000		104	72 - 122
Bromomethane	76.3900	5.0	4.2	50.0000		153	47 - 176
Carbon disulfide	50.9900	5.0	1.2	50.0000		102	50 - 133
Carbon tetrachloride	56.2700	5.0	1.1	50.0000		113	68 - 143
Chlorobenzene	49.6200	5.0	0.64	50.0000		99.2	81 - 113
Chloroethane	44.9800	5.0	1.9	50.0000		90.0	47 - 148
Chloroform	55.4700	5.0	1.4	50.0000		111	77 - 116
Chloromethane	44.0800	5.0	1.9	50.0000		88.2	39 - 141
cis-1,2-Dichloroethene	54.7800	5.0	0.87	50.0000		110	68 - 120
cis-1,3-Dichloropropene	52.2300	5.0	0.79	50.0000		104	74 - 113
Di-isopropyl ether	50.5600	5.0	0.51	50.0000		101	62 - 124
Dibromochloromethane	50.5300	5.0	1.0	50.0000		101	78 - 114
Dibromomethane	52.6200	5.0	0.99	50.0000		105	74 - 112
Dichlorodifluoromethane	44.6000	5.0	2.2	50.0000		89.2	49 - 138
Ethyl Acetate	537.300	50	9.7	500.000		107	63 - 131
Ethyl Ether	462.410	50	7.3	500.000		92.5	56 - 123
Ethyl tert-butyl ether	56.7400	5.0	1.4	50.0000		113	68 - 121
Ethylbenzene	99.2100	5.0	0.65	100.000		99.2	82 - 112
Freon-113	52.9900	5.0	1.0	50.0000		106	65 - 133
Hexachlorobutadiene	53.0000	5.0	0.78	50.0000		106	76 - 131
Isopropylbenzene	47.6900	5.0	0.59	50.0000		95.4	77 - 122



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Project Number : Former Crown Cleaners
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 Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

LCS (B7F0457-BS1) - Continued

Prepared: 6/22/2017 Analyzed: 6/22/2017

m,p-Xylene	97.9400	10	1.2	100.000		97.9	80 - 116			
Methylene chloride	54.6100	5.0	1.4	50.0000		109	67 - 144			
MTBE	49.7500	5.0	0.50	50.0000		99.5	62 - 120			
n-Butylbenzene	49.8000	5.0	0.75	50.0000		99.6	78 - 134			
n-Propylbenzene	49.2400	5.0	0.55	50.0000		98.5	77 - 125			
Naphthalene	47.2200	5.0	1.2	50.0000		94.4	66 - 125			
o-Xylene	99.0800	5.0	0.86	100.000		99.1	80 - 113			
sec-Butylbenzene	50.2700	5.0	0.79	50.0000		101	79 - 124			
Styrene	52.3500	5.0	0.82	50.0000		105	82 - 117			
tert-Amyl methyl ether	48.7300	5.0	1.5	50.0000		97.5	62 - 118			
tert-Butanol	128.160	100	5.9	250.000		51.3	35 - 127			
tert-Butylbenzene	49.1700	5.0	0.57	50.0000		98.3	78 - 121			
Tetrachloroethene	47.3800	5.0	0.65	50.0000		94.8	75 - 124			
Toluene	107.330	5.0	0.80	100.000		107	79 - 115			
trans-1,2-Dichloroethene	52.3600	5.0	1.5	50.0000		105	65 - 127			
trans-1,3-Dichloropropene	47.5200	5.0	0.63	50.0000		95.0	73 - 115			
Trichloroethene	51.2400	5.0	1.1	50.0000		102	77 - 119			
Trichlorofluoromethane	50.3100	5.0	0.89	50.0000		101	57 - 134			
Vinyl acetate	559.470	50	5.7	500.000		112	62 - 147			
Vinyl chloride	44.3900	5.0	2.0	50.0000		88.8	53 - 133			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>51.25</i>			<i>50.0000</i>		<i>102</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>45.82</i>			<i>50.0000</i>		<i>91.6</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>55.43</i>			<i>50.0000</i>		<i>111</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>51.84</i>			<i>50.0000</i>		<i>104</i>	<i>26 - 164</i>			

Duplicate (B7F0457-DUP1)

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

1,1,1,2-Tetrachloroethane	ND	5.0	0.63		ND				20	
1,1,1-Trichloroethane	ND	5.0	0.63		ND				20	
1,1,2,2-Tetrachloroethane	ND	5.0	0.92		ND				20	
1,1,2-Trichloroethane	ND	5.0	1.4		ND				20	
1,1-Dichloroethane	ND	5.0	1.5		ND				20	
1,1-Dichloroethene	ND	5.0	0.69		ND				20	
1,1-Dichloropropene	ND	5.0	2.4		ND				20	
1,2,3-Trichloropropane	ND	5.0	1.2		ND				20	
1,2,3-Trichlorobenzene	ND	5.0	1.1		ND				20	
1,2,4-Trichlorobenzene	ND	5.0	0.96		ND				20	
1,2,4-Trimethylbenzene	ND	5.0	0.53		ND				20	
1,2-Dibromo-3-chloropropane	ND	10	1.1		ND				20	
1,2-Dibromoethane	ND	5.0	0.80		ND				20	
1,2-Dichlorobenzene	ND	5.0	0.51		ND				20	
1,2-Dichloroethane	ND	5.0	0.53		ND				20	



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

Duplicate (B7F0457-DUP1) - Continued

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

1,2-Dichloropropane	ND	5.0	0.76		ND			20	
1,3,5-Trimethylbenzene	ND	5.0	0.58		ND			20	
1,3-Dichlorobenzene	ND	5.0	0.63		ND			20	
1,3-Dichloropropane	ND	5.0	0.59		ND			20	
1,4-Dichlorobenzene	ND	5.0	0.73		ND			20	
2,2-Dichloropropane	ND	5.0	0.68		ND			20	
2-Chlorotoluene	ND	5.0	0.68		ND			20	
4-Chlorotoluene	ND	5.0	0.62		ND			20	
4-Isopropyltoluene	ND	5.0	0.63		ND			20	
Benzene	ND	5.0	0.59		ND			20	
Bromobenzene	ND	5.0	1.9		ND			20	
Bromochloromethane	ND	5.0	3.1		ND			20	
Bromodichloromethane	ND	5.0	1.0		ND			20	
Bromoform	ND	5.0	0.70		ND			20	
Bromomethane	ND	5.0	4.2		ND			20	
Carbon disulfide	ND	5.0	1.2		ND			20	
Carbon tetrachloride	ND	5.0	1.1		ND			20	
Chlorobenzene	ND	5.0	0.64		ND			20	
Chloroethane	ND	5.0	1.9		ND			20	
Chloroform	ND	5.0	1.4		ND			20	
Chloromethane	ND	5.0	1.9		ND			20	
cis-1,2-Dichloroethene	ND	5.0	0.87		ND			20	
cis-1,3-Dichloropropene	ND	5.0	0.79		ND			20	
Di-isopropyl ether	ND	5.0	0.51		ND			20	
Dibromochloromethane	ND	5.0	1.0		ND			20	
Dibromomethane	ND	5.0	0.99		ND			20	
Dichlorodifluoromethane	ND	5.0	2.2		ND			20	
Ethyl Acetate	ND	50	9.7		ND			20	
Ethyl Ether	ND	50	7.3		ND			20	
Ethyl tert-butyl ether	ND	5.0	1.4		ND			20	
Ethylbenzene	ND	5.0	0.65		ND			20	
Freon-113	ND	5.0	1.0		ND			20	
Hexachlorobutadiene	ND	5.0	0.78		ND			20	
Isopropylbenzene	ND	5.0	0.59		ND			20	
m,p-Xylene	ND	10	1.2		ND			20	
Methylene chloride	ND	5.0	1.4		ND			20	
MTBE	ND	5.0	0.50		ND			20	
n-Butylbenzene	ND	5.0	0.75		ND			20	
n-Propylbenzene	ND	5.0	0.55		ND			20	
Naphthalene	ND	5.0	1.2		ND			20	
o-Xylene	ND	5.0	0.86		ND			20	
sec-Butylbenzene	ND	5.0	0.79		ND			20	



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

Duplicate (B7F0457-DUP1) - Continued

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

Styrene	ND	5.0	0.82		ND				20	
tert-Amyl methyl ether	ND	5.0	1.5		ND				20	
tert-Butanol	ND	100	5.9		ND				20	
tert-Butylbenzene	ND	5.0	0.57		ND				20	
Tetrachloroethene	1.84000	5.0	0.65		2.34000			23.9	20	R
Toluene	ND	5.0	0.80		ND				20	
trans-1,2-Dichloroethene	ND	5.0	1.5		ND				20	
trans-1,3-Dichloropropene	ND	5.0	0.63		ND				20	
Trichloroethene	ND	5.0	1.1		ND				20	
Trichlorofluoromethane	ND	5.0	0.89		ND				20	
Vinyl acetate	ND	50	5.7		ND				20	
Vinyl chloride	ND	5.0	2.0		ND				20	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>43.19</i>			<i>50.0000</i>		<i>86.4</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>46.38</i>			<i>50.0000</i>		<i>92.8</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>48.42</i>			<i>50.0000</i>		<i>96.8</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>50.99</i>			<i>50.0000</i>		<i>102</i>	<i>26 - 164</i>			

Matrix Spike (B7F0457-MS1)

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

1,1,1,2-Tetrachloroethane	41.0400	5.0	0.63	50.0000	ND	82.1	45 - 124			
1,1,1-Trichloroethane	47.5500	5.0	0.63	50.0000	ND	95.1	53 - 125			
1,1,2,2-Tetrachloroethane	36.9700	5.0	0.92	50.0000	ND	73.9	42 - 117			
1,1,2-Trichloroethane	40.4400	5.0	1.4	50.0000	ND	80.9	48 - 120			
1,1-Dichloroethane	41.5400	5.0	1.5	50.0000	ND	83.1	54 - 116			
1,1-Dichloroethene	41.5800	5.0	0.69	50.0000	ND	83.2	47 - 123			
1,1-Dichloropropene	43.0200	5.0	2.4	50.0000	ND	86.0	48 - 126			
1,2,3-Trichloropropane	36.0600	5.0	1.2	50.0000	ND	72.1	46 - 118			
1,2,3-Trichlorobenzene	24.9300	5.0	1.1	50.0000	ND	49.9	1 - 132			
1,2,4-Trichlorobenzene	26.0700	5.0	0.96	50.0000	ND	52.1	2 - 138			
1,2,4-Trimethylbenzene	36.7400	5.0	0.53	50.0000	ND	73.5	32 - 129			
1,2-Dibromo-3-chloropropane	36.4800	10	1.1	50.0000	ND	73.0	34 - 130			
1,2-Dibromoethane	39.3100	5.0	0.80	50.0000	ND	78.6	45 - 125			
1,2-Dichlorobenzene	35.1500	5.0	0.51	50.0000	ND	70.3	25 - 130			
1,2-Dichloroethane	38.1200	5.0	0.53	50.0000	ND	76.2	51 - 119			
1,2-Dichloropropane	38.0400	5.0	0.76	50.0000	ND	76.1	54 - 113			
1,3,5-Trimethylbenzene	38.4000	5.0	0.58	50.0000	ND	76.8	34 - 128			
1,3-Dichlorobenzene	35.7800	5.0	0.63	50.0000	ND	71.6	26 - 130			
1,3-Dichloropropane	37.6600	5.0	0.59	50.0000	ND	75.3	53 - 117			
1,4-Dichlorobenzene	36.1900	5.0	0.73	50.0000	ND	72.4	26 - 130			
2,2-Dichloropropane	41.0800	5.0	0.68	50.0000	ND	82.2	52 - 128			
2-Chlorotoluene	37.6500	5.0	0.68	50.0000	ND	75.3	34 - 126			
4-Chlorotoluene	36.3100	5.0	0.62	50.0000	ND	72.6	32 - 128			



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

Matrix Spike (B7F0457-MS1) - Continued

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

4-Isopropyltoluene	36.9100	5.0	0.63	50.0000	ND	73.8	28 - 133			
Benzene	82.7700	5.0	0.59	100.0000	ND	82.8	55 - 113			
Bromobenzene	37.2400	5.0	1.9	50.0000	ND	74.5	36 - 122			
Bromochloromethane	42.7600	5.0	3.1	50.0000	ND	85.5	50 - 118			
Bromodichloromethane	38.8500	5.0	1.0	50.0000	ND	77.7	51 - 117			
Bromoform	39.4300	5.0	0.70	50.0000	ND	78.9	39 - 130			
Bromomethane	50.0200	5.0	4.2	50.0000	ND	100	38 - 151			
Carbon disulfide	41.0800	5.0	1.2	50.0000	ND	82.2	38 - 126			
Carbon tetrachloride	49.5900	5.0	1.1	50.0000	ND	99.2	43 - 141			
Chlorobenzene	38.2500	5.0	0.64	50.0000	ND	76.5	42 - 122			
Chloroethane	45.4300	5.0	1.9	50.0000	ND	90.9	42 - 129			
Chloroform	43.9600	5.0	1.4	50.0000	ND	87.9	56 - 117			
Chloromethane	36.8100	5.0	1.9	50.0000	ND	73.6	35 - 127			
cis-1,2-Dichloroethene	44.8300	5.0	0.87	50.0000	ND	89.7	50 - 118			
cis-1,3-Dichloropropene	41.4800	5.0	0.79	50.0000	ND	83.0	45 - 118			
Di-isopropyl ether	39.3500	5.0	0.51	50.0000	ND	78.7	51 - 119			
Dibromochloromethane	39.2100	5.0	1.0	50.0000	ND	78.4	47 - 120			
Dibromomethane	39.9900	5.0	0.99	50.0000	ND	80.0	48 - 118			
Dichlorodifluoromethane	39.3900	5.0	2.2	50.0000	ND	78.8	43 - 126			
Ethyl Acetate	404.840	50	9.7	500.0000	ND	81.0	22 - 145			
Ethyl Ether	373.820	50	7.3	500.0000	ND	74.8	49 - 114			
Ethyl tert-butyl ether	44.3400	5.0	1.4	50.0000	ND	88.7	54 - 120			
Ethylbenzene	79.6000	5.0	0.65	100.0000	ND	79.6	42 - 123			
Freon-113	47.2400	5.0	1.0	50.0000	ND	94.5	45 - 132			
Hexachlorobutadiene	28.2700	5.0	0.78	50.0000	ND	56.5	4 - 135			
Isopropylbenzene	40.1200	5.0	0.59	50.0000	ND	80.2	40 - 127			
m,p-Xylene	76.7500	10	1.2	100.0000	ND	76.8	39 - 127			
Methylene chloride	40.9100	5.0	1.4	50.0000	ND	81.8	51 - 140			
MTBE	38.7100	5.0	0.50	50.0000	ND	77.4	52 - 120			
n-Butylbenzene	34.9000	5.0	0.75	50.0000	ND	69.8	19 - 141			
n-Propylbenzene	38.7700	5.0	0.55	50.0000	ND	77.5	34 - 131			
Naphthalene	26.5300	5.0	1.2	50.0000	ND	53.1	11 - 136			
o-Xylene	76.9900	5.0	0.86	100.0000	ND	77.0	40 - 124			
sec-Butylbenzene	38.0300	5.0	0.79	50.0000	ND	76.1	29 - 132			
Styrene	39.1300	5.0	0.82	50.0000	ND	78.3	36 - 130			
tert-Amyl methyl ether	37.5200	5.0	1.5	50.0000	ND	75.0	49 - 119			
tert-Butanol	165.510	100	5.9	250.0000	ND	66.2	29 - 138			
tert-Butylbenzene	38.7900	5.0	0.57	50.0000	ND	77.6	34 - 129			
Tetrachloroethene	42.4000	5.0	0.65	50.0000	2.34000	80.1	37 - 132			
Toluene	88.3400	5.0	0.80	100.0000	ND	88.3	48 - 122			
trans-1,2-Dichloroethene	43.6600	5.0	1.5	50.0000	ND	87.3	51 - 123			
trans-1,3-Dichloropropene	34.9700	5.0	0.63	50.0000	ND	69.9	38 - 125			



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades, CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

Matrix Spike (B7F0457-MS1) - Continued

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

Trichloroethene	42.5100	5.0	1.1	50.0000	ND	85.0	41 - 136			
Trichlorofluoromethane	44.6700	5.0	0.89	50.0000	ND	89.3	44 - 126			
Vinyl acetate	354.480	50	5.7	500.000	ND	70.9	0 - 154			
Vinyl chloride	39.9100	5.0	2.0	50.0000	ND	79.8	47 - 122			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>55.17</i>			<i>50.0000</i>		<i>110</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>45.81</i>			<i>50.0000</i>		<i>91.6</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>52.08</i>			<i>50.0000</i>		<i>104</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>49.95</i>			<i>50.0000</i>		<i>99.9</i>	<i>26 - 164</i>			

Matrix Spike Dup (B7F0457-MSD1)

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

1,1,1,2-Tetrachloroethane	39.7600	5.0	0.63	50.0000	ND	79.5	45 - 124	3.17	20	
1,1,1-Trichloroethane	44.0500	5.0	0.63	50.0000	ND	88.1	53 - 125	7.64	20	
1,1,2,2-Tetrachloroethane	32.1500	5.0	0.92	50.0000	ND	64.3	42 - 117	13.9	20	
1,1,2-Trichloroethane	40.2900	5.0	1.4	50.0000	ND	80.6	48 - 120	0.372	20	
1,1-Dichloroethane	39.7300	5.0	1.5	50.0000	ND	79.5	54 - 116	4.45	20	
1,1-Dichloroethene	39.5100	5.0	0.69	50.0000	ND	79.0	47 - 123	5.11	20	
1,1-Dichloropropene	42.2400	5.0	2.4	50.0000	ND	84.5	48 - 126	1.83	20	
1,2,3-Trichloropropane	32.4300	5.0	1.2	50.0000	ND	64.9	46 - 118	10.6	20	
1,2,3-Trichlorobenzene	24.3400	5.0	1.1	50.0000	ND	48.7	1 - 132	2.39	20	
1,2,4-Trichlorobenzene	25.8800	5.0	0.96	50.0000	ND	51.8	2 - 138	0.731	20	
1,2,4-Trimethylbenzene	34.3400	5.0	0.53	50.0000	ND	68.7	32 - 129	6.75	20	
1,2-Dibromo-3-chloropropane	30.8300	10	1.1	50.0000	ND	61.7	34 - 130	16.8	20	
1,2-Dibromoethane	38.0700	5.0	0.80	50.0000	ND	76.1	45 - 125	3.20	20	
1,2-Dichlorobenzene	33.6500	5.0	0.51	50.0000	ND	67.3	25 - 130	4.36	20	
1,2-Dichloroethane	36.1700	5.0	0.53	50.0000	ND	72.3	51 - 119	5.25	20	
1,2-Dichloropropane	38.0500	5.0	0.76	50.0000	ND	76.1	54 - 113	0.0263	20	
1,3,5-Trimethylbenzene	35.4500	5.0	0.58	50.0000	ND	70.9	34 - 128	7.99	20	
1,3-Dichlorobenzene	33.8200	5.0	0.63	50.0000	ND	67.6	26 - 130	5.63	20	
1,3-Dichloropropane	35.8400	5.0	0.59	50.0000	ND	71.7	53 - 117	4.95	20	
1,4-Dichlorobenzene	33.4000	5.0	0.73	50.0000	ND	66.8	26 - 130	8.02	20	
2,2-Dichloropropane	37.1600	5.0	0.68	50.0000	ND	74.3	52 - 128	10.0	20	
2-Chlorotoluene	34.1500	5.0	0.68	50.0000	ND	68.3	34 - 126	9.75	20	
4-Chlorotoluene	33.9000	5.0	0.62	50.0000	ND	67.8	32 - 128	6.87	20	
4-Isopropyltoluene	35.4200	5.0	0.63	50.0000	ND	70.8	28 - 133	4.12	20	
Benzene	79.0800	5.0	0.59	100.000	ND	79.1	55 - 113	4.56	20	
Bromobenzene	34.4900	5.0	1.9	50.0000	ND	69.0	36 - 122	7.67	20	
Bromochloromethane	41.3200	5.0	3.1	50.0000	ND	82.6	50 - 118	3.43	20	
Bromodichloromethane	38.8400	5.0	1.0	50.0000	ND	77.7	51 - 117	0.0257	20	
Bromoform	37.9100	5.0	0.70	50.0000	ND	75.8	39 - 130	3.93	20	
Bromomethane	42.6600	5.0	4.2	50.0000	ND	85.3	38 - 151	15.9	20	
Carbon disulfide	37.4500	5.0	1.2	50.0000	ND	74.9	38 - 126	9.24	20	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

Matrix Spike Dup (B7F0457-MSD1) - Continued

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

Carbon tetrachloride	46.3800	5.0	1.1	50.0000	ND	92.8	43 - 141	6.69	20	
Chlorobenzene	37.4200	5.0	0.64	50.0000	ND	74.8	42 - 122	2.19	20	
Chloroethane	39.0900	5.0	1.9	50.0000	ND	78.2	42 - 129	15.0	20	
Chloroform	39.7700	5.0	1.4	50.0000	ND	79.5	56 - 117	10.0	20	
Chloromethane	33.1600	5.0	1.9	50.0000	ND	66.3	35 - 127	10.4	20	
cis-1,2-Dichloroethene	42.9900	5.0	0.87	50.0000	ND	86.0	50 - 118	4.19	20	
cis-1,3-Dichloropropene	36.5200	5.0	0.79	50.0000	ND	73.0	45 - 118	12.7	20	
Di-isopropyl ether	38.0300	5.0	0.51	50.0000	ND	76.1	51 - 119	3.41	20	
Dibromochloromethane	37.8500	5.0	1.0	50.0000	ND	75.7	47 - 120	3.53	20	
Dibromomethane	39.1600	5.0	0.99	50.0000	ND	78.3	48 - 118	2.10	20	
Dichlorodifluoromethane	35.2200	5.0	2.2	50.0000	ND	70.4	43 - 126	11.2	20	
Ethyl Acetate	376.840	50	9.7	500.000	ND	75.4	22 - 145	7.16	20	
Ethyl Ether	348.940	50	7.3	500.000	ND	69.8	49 - 114	6.88	20	
Ethyl tert-butyl ether	41.5800	5.0	1.4	50.0000	ND	83.2	54 - 120	6.42	20	
Ethylbenzene	78.3800	5.0	0.65	100.000	ND	78.4	42 - 123	1.54	20	
Freon-113	43.5700	5.0	1.0	50.0000	ND	87.1	45 - 132	8.08	20	
Hexachlorobutadiene	29.8800	5.0	0.78	50.0000	ND	59.8	4 - 135	5.54	20	
Isopropylbenzene	36.6700	5.0	0.59	50.0000	ND	73.3	40 - 127	8.99	20	
m,p-Xylene	76.2100	10	1.2	100.000	ND	76.2	39 - 127	0.706	20	
Methylene chloride	39.3400	5.0	1.4	50.0000	ND	78.7	51 - 140	3.91	20	
MTBE	37.0600	5.0	0.50	50.0000	ND	74.1	52 - 120	4.36	20	
n-Butylbenzene	33.4000	5.0	0.75	50.0000	ND	66.8	19 - 141	4.39	20	
n-Propylbenzene	36.4200	5.0	0.55	50.0000	ND	72.8	34 - 131	6.25	20	
Naphthalene	25.2200	5.0	1.2	50.0000	ND	50.4	11 - 136	5.06	20	
o-Xylene	74.9700	5.0	0.86	100.000	ND	75.0	40 - 124	2.66	20	
sec-Butylbenzene	36.0300	5.0	0.79	50.0000	ND	72.1	29 - 132	5.40	20	
Styrene	38.0400	5.0	0.82	50.0000	ND	76.1	36 - 130	2.82	20	
tert-Amyl methyl ether	35.2700	5.0	1.5	50.0000	ND	70.5	49 - 119	6.18	20	
tert-Butanol	196.160	100	5.9	250.000	ND	78.5	29 - 138	16.9	20	
tert-Butylbenzene	36.1200	5.0	0.57	50.0000	ND	72.2	34 - 129	7.13	20	
Tetrachloroethene	41.3600	5.0	0.65	50.0000	2.34000	78.0	37 - 132	2.48	20	
Toluene	85.8000	5.0	0.80	100.000	ND	85.8	48 - 122	2.92	20	
trans-1,2-Dichloroethene	41.3900	5.0	1.5	50.0000	ND	82.8	51 - 123	5.34	20	
trans-1,3-Dichloropropene	36.2600	5.0	0.63	50.0000	ND	72.5	38 - 125	3.62	20	
Trichloroethene	40.7500	5.0	1.1	50.0000	ND	81.5	41 - 136	4.23	20	
Trichlorofluoromethane	39.7000	5.0	0.89	50.0000	ND	79.4	44 - 126	11.8	20	
Vinyl acetate	282.660	50	5.7	500.000	ND	56.5	0 - 154	22.5	20	R
Vinyl chloride	35.6000	5.0	2.0	50.0000	ND	71.2	47 - 122	11.4	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>50.14</i>			<i>50.0000</i>		<i>100</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>45.43</i>			<i>50.0000</i>		<i>90.9</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>52.64</i>			<i>50.0000</i>		<i>105</i>	<i>23 - 179</i>			



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades, CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0457 - MSVOA_S (continued)

Matrix Spike Dup (B7F0457-MSD1) - Continued

Source: 1702384-01

Prepared: 6/22/2017 Analyzed: 6/22/2017

Surrogate: Toluene-d8

51.61

50.0000

103

26 - 164



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 3

Instruction: Complete all shaded areas.

Method of Transport		Sample Conditions Upon Receipt	
<input type="checkbox"/> Chart	<input type="checkbox"/> OnTrac	<input type="checkbox"/> Y	<input type="checkbox"/> N
<input checked="" type="checkbox"/> Cold	<input type="checkbox"/> OnTrac	Condition	Condition
<input type="checkbox"/> FedEx	<input type="checkbox"/> OnTrac	1. CHILLED	5. # OF SAMPLES MATCH COC
<input type="checkbox"/> GS0	<input type="checkbox"/> OnTrac	2. HEADSPACE (VOM)	6. PRESERVED
<input type="checkbox"/> Other:		3. CONTAINER INTACT	7. COOLER TEMP. DEG. C.
		4. SEALED	22.3.6

For Laboratory Use Only
ATLCOG Ver: 20130715

Company: **GSA ENGINEERING**
Address: **16950 AVENIDA DE SANTA YNEZ**
City: **PACIFIC PALISADES**
State: **CA**
Zip: **90272**

Attn: **DAN LOUKS**
Email: **dan@gsaengineering.net**
Company: **GSA ENG.**

Attn: **Michael Anselmo**
Email: **130524111@ymail.com**
Company: **LDA**
Address: **P.O. BOX 4932**
City: **OCEANSIDE**
State: **CA**
Zip: **92052**

ITEM	Lab No.	Sample ID / Location	Date	Time	Special Instructions/Comments:	Quote No:	Encircle or Write Requested Analysis	Encircle Sample Matrix	Container	REMARKS
1	1702373	V1-5	6/20/17	18:00			8260 / 624 (Vials)	X		
2	V11-10	V11-10		14:10			8015(GRO)	X		
3	V11-15	V11-15		14:25			8015(PRO)	X		
4	V12-5	V12-5		9:00			8270(Semi-volatiles)	X		
5	V12-10	V12-10		8:15			8082(PCBs)	X		
6	V12-15	V12-15		8:30			6010 / 7000 (Title 22 Metals)	X		
7	V13-5	V13-5		6:55			8015(GRO)	X		
8	V13-10	V13-10		7:20			8015(PRO)	X		
9	V13-15	V13-15		7:35			8270(Semi-volatiles)	X		
10										

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Submitter Print Name: **DAN LOUKS**
Signature: *[Signature]*
Date: **6/20/17**
Time: **18:05**

Received by: (Signature and Printed Name) **DAN A. LOUKS**
Date: **6/20/17**
Time: **18:05**

Received by: (Signature and Printed Name) **FORWA**
Date: **6/20/17**
Time: **18:05**

Received by: (Signature and Printed Name) **FORWA**
Date: **6/20/17**
Time: **18:05**

Instruction: Complete all shaded areas.

For Laboratory Use Only
 ALLDOC Ver. 20130715

Method of Transport
 Client
 FedEx
 650
 Other: _____

Sample Conditions Upon Receipt
 Condition Y N
 1. CHILLED
 2. HEADSPACE (VDA)
 3. CONTAINER IMPACT
 4. SEALED

5. # OF SAMPLES MATCH COC
 6. PRESERVED
 7. COOLER TEMP. deg. C: 2, 2, 3, C

Company: **GSA ENGINEERING, INC.**
 Address: _____
 City: _____
 State: _____ Zip: _____

Attn: **DAN LOUKS**
 Email: _____

Company: **GSA ENGINEERING**
 Address: **16950 AVENIDA DE SANTA YNES**
 City: **PACIFIC PALISADES** State: **CA** Zip: **90272**

Attn: **MICHAEL ANSELMO**
 Email: **WJosephilic@gmail.com**

Company: **LITA**
 Address: **P.O. Box 4832**
 City: **OCEANSIDE** State: **CA** Zip: **92052**

Project Name: **FRAMEX CROWN CLEANER**
 Project No.: _____
 Sampler: **DAN LOUKS**
 Quote No.: _____
 PO #: _____

ITEM	Lab No.	Sample ID / Location	Date	Time
1	1702373 - 10	VP6-5	6/20/17	14:35
2	-11	VP6-10	↓	14:45
3	-12	VP6-15	↓	15:00
4	-13	VP7-5	↓	10:30
5	-14	VP7-10	↓	10:40
6	-15	VP7-15	↓	10:55
7	-16	VP8-5	↓	13:25
8	-17	VP8-10	↓	13:35
9	-18	VP8-15	↓	13:55
10				

Encircle or Write Requested Analysis	Encircle Sample Matrix	Container	QA/QC
8260 / 624 (Volatiles)	SOIL / SEDIMENT / SLUDGE	3 #	<input checked="" type="checkbox"/> Routine
8015(GRO)	SOLIDS / WIPE / FILTER		<input type="checkbox"/> Caltrans
8015(DRO)	WATER - DRINKING / GROUND		<input type="checkbox"/> Legal
8270(Semi-volatiles)	WATER - STORM / WASTE		<input type="checkbox"/> RWQCB
8082(PCBs)	AQUEOUS / LAYERED - OIL		<input type="checkbox"/> Level IV
6010 / 7000(Title 22 Metals)			
TO-15			

Material: 1-Glass, 2-Plastic, 3-Metal
 5-Tin, 6-Teflon, 7-Canister
 Type: 1-Tube, 2-Vial, 3-Liner, 4-Print
 Preservative: 1-HCl, 2-HNO3, 3-H2SO4, 4-DC, 5-H2O (Ac2), 6-NaOH, 7-MMS203

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

DAN LOUKS
 Submitter Print Name
 Signature: *Dan Louks*

Date: **6/20/17** Time: **18:05**
 Date: _____ Time: _____
 Date: _____ Time: _____

Relinquished by: (Signature and Printed Name)
 Relinquished by: (Signature and Printed Name)
 Relinquished by: (Signature and Printed Name)

1. Samples receiving times: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM
 2. Samples Submitted AFTER 3:00 PM are considered received the following Business day at 8:00 AM.
 3. The following turnaround time conditions apply:
 TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
 TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
 TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
 TAT = 3 : 25% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
 TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
 TAT = 5 : NO SURCHARGE 5TH BUSINESS DAY (COB 5:00 PM)
 4. Weekend, holiday, after-hours work - ask for quote.
 5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge.
 6. Liquid and solid samples will be disposed after 45 calendar days from receipt of samples, air samples will be disposed after 14 calendar days after receipt of samples.
 7. Electronic records maintained for 7 yr (8 years from report date).
 8. Hard copy reports retained for 45 calendar days from report date.
 9. Storage of Report Fees:
 - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; \$2/sample/month if extended storage or hold is requested.
 - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$20/sample/week if extended storage is requested.
 - Hard copy and regenerated reports/EDDs: \$17.50 per hard copy report requested; \$50.00 per regenerated/reformat ed report.
 10. Rush TAT/STLC samples: add 2 days to analysis TAT for extraction on procedure.
 11. Unanalyzed samples will incur a disposal fee of \$7 per sample.

CHAIN OF CUSTODY RECORD

Page 3 of 3

Instruction: Complete all shaded areas.

ATLCOG Ver: 20130715

For Laboratory Use Only

Sample Conditions Upon Receipt

Condition	Y	N	Condition	Y	N
1. CHILLED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. # OF SAMPLES MATCH COC	<input type="checkbox"/>	<input type="checkbox"/>
2. HEADSPACE (VDA)	<input type="checkbox"/>	<input type="checkbox"/>	6. PRESERVED	<input type="checkbox"/>	<input type="checkbox"/>
3. CONTAINER IMPACT	<input type="checkbox"/>	<input type="checkbox"/>	7. COOLER TEMP. DEG. C	<input type="checkbox"/>	<input type="checkbox"/>
4. SEALED	<input type="checkbox"/>	<input type="checkbox"/>			

Method of Transport

Client ATL FedEx OnTrac

Other: GSO Other: _____

Company: **GSA ENGINEERING** Address: _____ Tel: _____

Attn: **DAN LOUKS** Email: _____ State: _____ Zip: _____

Company: **GSA ENGINEERING** Attn: **MICHAEL ANSELMO** Email: **Josephic@gmail.com**

Address: **16950 AVENUE DE SANTA FE** Address: **LJA**

City: **PACIFIC PALISADES** City: **OCEANSIDE** State: **CA** State: **CA** Zip: **90272** Zip: **92052**

ITEM	Lab No.	Sample Description	Special Instructions/Comments:		Encircle or Write Requested Analysis		Encircle Sample Matrix		Container	REMARKS			
			Quote No:	PO #:	8260 / 624 (Volatiles)	8015(GRO)	8015(DRO)	8270(Semi-volatiles)			8082(PCBs)	6010 / 7000(Title 22 Metals)	TO-15
1	1722373-19	VP9-5			X				3	Preservative: 1=HCL, 2=HNO3, 3=H2SO4, 4=AC, 5=Zn (AAQ), 6=HNOH, 7=MA25203			
2	1-20	VP9-10			X				↓				
3	1-21	VP9-15			X				↓				
4													
5													
6													
7													
8													
9													
10													

1. Samples requiring hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
 2. Samples Submitted AFTER 8:00 PM, are considered received the following Business day at 8:00 AM.
 3. The following turnaround times conditions apply:
 TAT = 0 - 200% Surcharge SAME BUSINESS DAY if received by 9:00 AM
 TAT = 1 - 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
 TAT = 2 - 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
 TAT = 3 - 25% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
 TAT = 4 - 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
 TAT = 5 - NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
 4. Weekend, holiday, after-hours work - ask for quote.
 5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab - ask for quote.
 6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
 7. Electronic records maintained for 11 to 15 years from report date.
 8. Your copy of report will be disposed of after 45 calendar days from report date.
 9. Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; \$2/sample/month if extended storage or hold is requested.
 - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$20/sample/week if extended storage is requested.
 - Hard copy and regenerated reports/EDDs: \$17.50 per hard copy report requested; \$50.00 per regenerated/reformat ed report; \$35 per reprocessed EDD.
 10. Rush TAT/STLC samples: add 2 days to analysis TAT for extraction on procedure.
 11. Unanalyzed samples will incur a disposal fee of \$7 per sample.

Relinquished by: (Signature and Printed Name) **DAN R. LOUKS** Date: **6/20/17** Time: **18:05**

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Submitter Print Name _____ Signature _____

Date: **6/20/17** Time: **18:05**

June 28, 2017

Dan Louks
GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades, CA 90272
Tel: (310) 459-7320
Fax:

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1702387
Client Reference : Former Crown Cleaners

Enclosed are the results for sample(s) received on June 21, 2017 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VP4-5	1702387-01	Soil	6/21/17 7:55	6/21/17 14:15
VP4-10	1702387-02	Soil	6/21/17 8:10	6/21/17 14:15
VP4-15	1702387-03	Soil	6/21/17 8:30	6/21/17 14:15
VP5-5	1702387-04	Soil	6/21/17 12:00	6/21/17 14:15
VP5-10	1702387-05	Soil	6/21/17 12:10	6/21/17 14:15
VP5-15	1702387-06	Soil	6/21/17 12:25	6/21/17 14:15
VP10-5	1702387-07	Soil	6/21/17 9:05	6/21/17 14:15
VP10-10	1702387-08	Soil	6/21/17 9:20	6/21/17 14:15
VP10-15	1702387-09	Soil	6/21/17 9:35	6/21/17 14:15
VP11-5	1702387-10	Soil	6/21/17 11:00	6/21/17 14:15
VP11-10	1702387-11	Soil	6/21/17 11:10	6/21/17 14:15
VP11-15	1702387-12	Soil	6/21/17 11:25	6/21/17 14:15
VP12-5	1702387-13	Soil	6/21/17 9:55	6/21/17 14:15
VP12-10	1702387-14	Soil	6/21/17 10:05	6/21/17 14:15
VP12-15	1702387-15	Soil	6/21/17 10:15	6/21/17 14:15

CASE NARRATIVE

All volatile analyses were performed using 5035 preservation requirements. Any high level dilutions were performed on a preserved methanol sample unless otherwise noted.



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP4-5

Lab ID: 1702387-01

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP4-5

Lab ID: 1702387-01

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 11:44	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 11:44	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 11:44	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 11:44	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>74.8 %</i>	<i>12 - 186</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 11:44</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91.1 %</i>	<i>23 - 162</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 11:44</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>90.2 %</i>	<i>23 - 179</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 11:44</i>
<i>Surrogate: Toluene-d8</i>	<i>100 %</i>	<i>26 - 164</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 11:44</i>



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP4-10

Lab ID: 1702387-02

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP4-10

Lab ID: 1702387-02

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:02	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:02	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:02	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:02	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	82.8 %	12 - 186	B7F0479	06/23/2017	06/23/17 12:02
<i>Surrogate: 4-Bromofluorobenzene</i>	92.2 %	23 - 162	B7F0479	06/23/2017	06/23/17 12:02
<i>Surrogate: Dibromofluoromethane</i>	92.6 %	23 - 179	B7F0479	06/23/2017	06/23/17 12:02
<i>Surrogate: Toluene-d8</i>	99.6 %	26 - 164	B7F0479	06/23/2017	06/23/17 12:02



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP4-15

Lab ID: 1702387-03

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP4-15

Lab ID: 1702387-03

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:21	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:21	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:21	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:21	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>81.1 %</i>	<i>12 - 186</i>	B7F0479	06/23/2017	06/23/17 12:21
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>88.7 %</i>	<i>23 - 162</i>	B7F0479	06/23/2017	06/23/17 12:21
<i>Surrogate: Dibromofluoromethane</i>	<i>94.0 %</i>	<i>23 - 179</i>	B7F0479	06/23/2017	06/23/17 12:21
<i>Surrogate: Toluene-d8</i>	<i>94.9 %</i>	<i>26 - 164</i>	B7F0479	06/23/2017	06/23/17 12:21



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP5-5

Lab ID: 1702387-04

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP5-5

Lab ID: 1702387-04

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:40	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:40	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:40	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:40	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>82.2 %</i>	<i>12 - 186</i>		B7F0479	06/23/2017	<i>06/23/17 12:40</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91.3 %</i>	<i>23 - 162</i>		B7F0479	06/23/2017	<i>06/23/17 12:40</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>95.7 %</i>	<i>23 - 179</i>		B7F0479	06/23/2017	<i>06/23/17 12:40</i>	
<i>Surrogate: Toluene-d8</i>	<i>98.8 %</i>	<i>26 - 164</i>		B7F0479	06/23/2017	<i>06/23/17 12:40</i>	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP5-10

Lab ID: 1702387-05

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP5-10

Lab ID: 1702387-05

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 12:58	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 12:58	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 12:58	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 12:58	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>84.8 %</i>	<i>12 - 186</i>		B7F0479	06/23/2017	<i>06/23/17 12:58</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>96.5 %</i>	<i>23 - 162</i>		B7F0479	06/23/2017	<i>06/23/17 12:58</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>96.7 %</i>	<i>23 - 179</i>		B7F0479	06/23/2017	<i>06/23/17 12:58</i>	
<i>Surrogate: Toluene-d8</i>	<i>98.0 %</i>	<i>26 - 164</i>		B7F0479	06/23/2017	<i>06/23/17 12:58</i>	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP5-15

Lab ID: 1702387-06

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP5-15

Lab ID: 1702387-06

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 13:17	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 13:17	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:17	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:17	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>86.4 %</i>	<i>12 - 186</i>	<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 13:17</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>93.4 %</i>	<i>23 - 162</i>	<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 13:17</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>97.5 %</i>	<i>23 - 179</i>	<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 13:17</i>
<i>Surrogate: Toluene-d8</i>	<i>99.3 %</i>	<i>26 - 164</i>	<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 13:17</i>



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP10-5

Lab ID: 1702387-07

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP10-5

Lab ID: 1702387-07

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 13:36	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 13:36	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:36	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:36	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>84.5 %</i>	<i>12 - 186</i>		B7F0479	06/23/2017	06/23/17 13:36	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>93.3 %</i>	<i>23 - 162</i>		B7F0479	06/23/2017	06/23/17 13:36	
<i>Surrogate: Dibromofluoromethane</i>	<i>93.5 %</i>	<i>23 - 179</i>		B7F0479	06/23/2017	06/23/17 13:36	
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>	<i>26 - 164</i>		B7F0479	06/23/2017	06/23/17 13:36	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP10-10

Lab ID: 1702387-08

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP10-10

Lab ID: 1702387-08

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 13:54	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 13:54	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 13:54	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 13:54	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	85.6 %	12 - 186		B7F0479	06/23/2017	06/23/17 13:54
<i>Surrogate: 4-Bromofluorobenzene</i>	93.7 %	23 - 162		B7F0479	06/23/2017	06/23/17 13:54
<i>Surrogate: Dibromofluoromethane</i>	95.9 %	23 - 179		B7F0479	06/23/2017	06/23/17 13:54
<i>Surrogate: Toluene-d8</i>	99.1 %	26 - 164		B7F0479	06/23/2017	06/23/17 13:54



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP10-15

Lab ID: 1702387-09

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP10-15

Lab ID: 1702387-09

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 14:13	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 14:13	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:13	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:13	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	85.3 %	12 - 186		B7F0479	06/23/2017	06/23/17 14:13
<i>Surrogate: 4-Bromofluorobenzene</i>	91.1 %	23 - 162		B7F0479	06/23/2017	06/23/17 14:13
<i>Surrogate: Dibromofluoromethane</i>	101 %	23 - 179		B7F0479	06/23/2017	06/23/17 14:13
<i>Surrogate: Toluene-d8</i>	96.8 %	26 - 164		B7F0479	06/23/2017	06/23/17 14:13



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP11-5

Lab ID: 1702387-10

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1,1-Trichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1,2-Trichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1-Dichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1-Dichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,1-Dichloropropene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,3-Trichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dibromoethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dichloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,2-Dichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,3-Dichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,3-Dichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
1,4-Dichlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
2,2-Dichloropropane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
2-Chlorotoluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
4-Chlorotoluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
4-Isopropyltoluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Benzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromochloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromodichloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromoform	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Bromomethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Carbon disulfide	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Carbon tetrachloride	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chlorobenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chloroethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chloroform	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Chloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP11-5

Lab ID: 1702387-10

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Di-isopropyl ether	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Dibromochloromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Dibromomethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Dichlorodifluoromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethyl Acetate	ND	50	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethyl Ether	ND	50	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethyl tert-butyl ether	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Ethylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Freon-113	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Hexachlorobutadiene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Isopropylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
m,p-Xylene	ND	10	1	B7F0506	06/26/2017	06/26/17 17:55	
Methylene chloride	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
MTBE	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
n-Butylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
n-Propylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Naphthalene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
o-Xylene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
sec-Butylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Styrene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
tert-Amyl methyl ether	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
tert-Butanol	ND	100	1	B7F0506	06/26/2017	06/26/17 17:55	
tert-Butylbenzene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Tetrachloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Toluene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Trichloroethene	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Trichlorofluoromethane	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	
Vinyl acetate	ND	50	1	B7F0506	06/26/2017	06/26/17 17:55	
Vinyl chloride	ND	5.0	1	B7F0506	06/26/2017	06/26/17 17:55	

Surrogate: 1,2-Dichloroethane-d4	118 %	12 - 186		B7F0506	06/26/2017	06/26/17 17:55
Surrogate: 4-Bromofluorobenzene	91.0 %	23 - 162		B7F0506	06/26/2017	06/26/17 17:55
Surrogate: Dibromofluoromethane	115 %	23 - 179		B7F0506	06/26/2017	06/26/17 17:55
Surrogate: Toluene-d8	108 %	26 - 164		B7F0506	06/26/2017	06/26/17 17:55



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP11-10

Lab ID: 1702387-11

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades, CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP11-10

Lab ID: 1702387-11

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 14:50	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 14:50	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 14:50	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 14:50	

Surrogate: 1,2-Dichloroethane-d4	84.1 %	12 - 186		B7F0479	06/23/2017	06/23/17 14:50
Surrogate: 4-Bromofluorobenzene	89.8 %	23 - 162		B7F0479	06/23/2017	06/23/17 14:50
Surrogate: Dibromofluoromethane	102 %	23 - 179		B7F0479	06/23/2017	06/23/17 14:50
Surrogate: Toluene-d8	99.9 %	26 - 164		B7F0479	06/23/2017	06/23/17 14:50



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP11-15

Lab ID: 1702387-12

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP11-15

Lab ID: 1702387-12

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 15:09	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 15:09	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:09	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:09	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>81.1 %</i>	<i>12 - 186</i>		B7F0479	06/23/2017	06/23/17 15:09	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89.9 %</i>	<i>23 - 162</i>		B7F0479	06/23/2017	06/23/17 15:09	
<i>Surrogate: Dibromofluoromethane</i>	<i>93.4 %</i>	<i>23 - 179</i>		B7F0479	06/23/2017	06/23/17 15:09	
<i>Surrogate: Toluene-d8</i>	<i>99.5 %</i>	<i>26 - 164</i>		B7F0479	06/23/2017	06/23/17 15:09	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP12-5

Lab ID: 1702387-13

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP12-5

Lab ID: 1702387-13

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 15:27	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 15:27	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:27	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:27	
Surrogate: 1,2-Dichloroethane-d4	84.2 %	12 - 186		B7F0479	06/23/2017	06/23/17 15:27	
Surrogate: 4-Bromofluorobenzene	91.7 %	23 - 162		B7F0479	06/23/2017	06/23/17 15:27	
Surrogate: Dibromofluoromethane	94.8 %	23 - 179		B7F0479	06/23/2017	06/23/17 15:27	
Surrogate: Toluene-d8	99.3 %	26 - 164		B7F0479	06/23/2017	06/23/17 15:27	



Certificate of Analysis

GSA Engineering

16950 Avenida De Santa Ynez

Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Client Sample ID VP12-10

Lab ID: 1702387-14

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

Client Sample ID VP12-10

Lab ID: 1702387-14

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 15:46	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 15:46	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 15:46	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 15:46	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>94.9 %</i>	<i>12 - 186</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 15:46</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90.5 %</i>	<i>23 - 162</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 15:46</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>100 %</i>	<i>23 - 179</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 15:46</i>
<i>Surrogate: Toluene-d8</i>	<i>103 %</i>	<i>26 - 164</i>		<i>B7F0479</i>	<i>06/23/2017</i>	<i>06/23/17 15:46</i>



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP12-15

Lab ID: 1702387-15

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1,1-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1,2,2-Tetrachloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1,2-Trichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,1-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,3-Trichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,3-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,4-Trichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2,4-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dibromo-3-chloropropane	ND	10	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dibromoethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dichloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,3,5-Trimethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,3-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,3-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
1,4-Dichlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
2,2-Dichloropropane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
2-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
4-Chlorotoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
4-Isopropyltoluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Benzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromodichloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromoform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Bromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Carbon disulfide	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Carbon tetrachloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chlorobenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chloroethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chloroform	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Chloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
cis-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	



Certificate of Analysis

GSA Engineering
16950 Avenida De Santa Ynez
Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
Report To : Dan Louks
Reported : 06/28/2017

Client Sample ID VP12-15

Lab ID: 1702387-15

Volatile Organic Compounds by EPA 5035/EPA 8260B

Analyst: AG

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
cis-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Di-isopropyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Dibromochloromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Dibromomethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Dichlorodifluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethyl Acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethyl Ether	ND	50	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethyl tert-butyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Ethylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Freon-113	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Hexachlorobutadiene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Isopropylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
m,p-Xylene	ND	10	1	B7F0479	06/23/2017	06/23/17 16:04	
Methylene chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
MTBE	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
n-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
n-Propylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Naphthalene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
o-Xylene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
sec-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Styrene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
tert-Amyl methyl ether	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
tert-Butanol	ND	100	1	B7F0479	06/23/2017	06/23/17 16:04	
tert-Butylbenzene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Tetrachloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Toluene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
trans-1,2-Dichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
trans-1,3-Dichloropropene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Trichloroethene	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Trichlorofluoromethane	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	
Vinyl acetate	ND	50	1	B7F0479	06/23/2017	06/23/17 16:04	
Vinyl chloride	ND	5.0	1	B7F0479	06/23/2017	06/23/17 16:04	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>91.4 %</i>	<i>12 - 186</i>		B7F0479	06/23/2017	06/23/17 16:04	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>88.7 %</i>	<i>23 - 162</i>		B7F0479	06/23/2017	06/23/17 16:04	
<i>Surrogate: Dibromofluoromethane</i>	<i>97.1 %</i>	<i>23 - 179</i>		B7F0479	06/23/2017	06/23/17 16:04	
<i>Surrogate: Toluene-d8</i>	<i>96.7 %</i>	<i>26 - 164</i>		B7F0479	06/23/2017	06/23/17 16:04	



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GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners
 Report To : Dan Louks
 Reported : 06/28/2017

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD	Notes
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Batch B7F0479 - MSVOA_S

Blank (B7F0479-BLK1)

Prepared: 6/23/2017 Analyzed: 6/23/2017

1,1,1,2-Tetrachloroethane	ND	5.0	0.63
1,1,1-Trichloroethane	ND	5.0	0.63
1,1,2,2-Tetrachloroethane	ND	5.0	0.92
1,1,2-Trichloroethane	ND	5.0	1.4
1,1-Dichloroethane	ND	5.0	1.5
1,1-Dichloroethene	ND	5.0	0.69
1,1-Dichloropropene	ND	5.0	2.4
1,2,3-Trichloropropane	ND	5.0	1.2
1,2,3-Trichlorobenzene	ND	5.0	1.1
1,2,4-Trichlorobenzene	ND	5.0	0.96
1,2,4-Trimethylbenzene	ND	5.0	0.53
1,2-Dibromo-3-chloropropane	ND	10	1.1
1,2-Dibromoethane	ND	5.0	0.80
1,2-Dichlorobenzene	ND	5.0	0.51
1,2-Dichloroethane	ND	5.0	0.53
1,2-Dichloropropane	ND	5.0	0.76
1,3,5-Trimethylbenzene	ND	5.0	0.58
1,3-Dichlorobenzene	ND	5.0	0.63
1,3-Dichloropropane	ND	5.0	0.59
1,4-Dichlorobenzene	ND	5.0	0.73
2,2-Dichloropropane	ND	5.0	0.68
2-Chlorotoluene	ND	5.0	0.68
4-Chlorotoluene	ND	5.0	0.62
4-Isopropyltoluene	ND	5.0	0.63
Benzene	ND	5.0	0.59
Bromobenzene	ND	5.0	1.9
Bromochloromethane	ND	5.0	3.1
Bromodichloromethane	ND	5.0	1.0
Bromoform	ND	5.0	0.70
Bromomethane	ND	5.0	4.2
Carbon disulfide	ND	5.0	1.2
Carbon tetrachloride	ND	5.0	1.1
Chlorobenzene	ND	5.0	0.64
Chloroethane	ND	5.0	1.9
Chloroform	ND	5.0	1.4
Chloromethane	ND	5.0	1.9
cis-1,2-Dichloroethene	ND	5.0	0.87
cis-1,3-Dichloropropene	ND	5.0	0.79
Di-isopropyl ether	ND	5.0	0.51



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0479 - MSVOA_S (continued)

Blank (B7F0479-BLK1) - Continued

Prepared: 6/23/2017 Analyzed: 6/23/2017

Dibromochloromethane	ND	5.0	1.0							
Dibromomethane	ND	5.0	0.99							
Dichlorodifluoromethane	ND	5.0	2.2							
Ethyl Acetate	ND	50	9.7							
Ethyl Ether	ND	50	7.3							
Ethyl tert-butyl ether	ND	5.0	1.4							
Ethylbenzene	ND	5.0	0.65							
Freon-113	ND	5.0	1.0							
Hexachlorobutadiene	ND	5.0	0.78							
Isopropylbenzene	ND	5.0	0.59							
m,p-Xylene	ND	10	1.2							
Methylene chloride	ND	5.0	1.4							
MTBE	ND	5.0	0.50							
n-Butylbenzene	ND	5.0	0.75							
n-Propylbenzene	ND	5.0	0.55							
Naphthalene	ND	5.0	1.2							
o-Xylene	ND	5.0	0.86							
sec-Butylbenzene	ND	5.0	0.79							
Styrene	ND	5.0	0.82							
tert-Amyl methyl ether	ND	5.0	1.5							
tert-Butanol	ND	100	5.9							
tert-Butylbenzene	ND	5.0	0.57							
Tetrachloroethene	ND	5.0	0.65							
Toluene	ND	5.0	0.80							
trans-1,2-Dichloroethene	ND	5.0	1.5							
trans-1,3-Dichloropropene	ND	5.0	0.63							
Trichloroethene	ND	5.0	1.1							
Trichlorofluoromethane	ND	5.0	0.89							
Vinyl acetate	ND	50	5.7							
Vinyl chloride	ND	5.0	2.0							

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>31.57</i>			<i>50.0000</i>		<i>63.1</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>44.27</i>			<i>50.0000</i>		<i>88.5</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>42.45</i>			<i>50.0000</i>		<i>84.9</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>50.49</i>			<i>50.0000</i>		<i>101</i>	<i>26 - 164</i>			

LCS (B7F0479-BS1)

Prepared: 6/23/2017 Analyzed: 6/23/2017

1,1,1,2-Tetrachloroethane	55.4400	5.0	0.63	50.0000		111	78 - 119			
1,1,1-Trichloroethane	52.5200	5.0	0.63	50.0000		105	75 - 123			
1,1,2,2-Tetrachloroethane	42.6600	5.0	0.92	50.0000		85.3	65 - 117			
1,1,2-Trichloroethane	49.3700	5.0	1.4	50.0000		98.7	79 - 108			
1,1-Dichloroethane	48.5900	5.0	1.5	50.0000		97.2	69 - 120			



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0479 - MSVOA_S (continued)

LCS (B7F0479-BS1) - Continued

Prepared: 6/23/2017 Analyzed: 6/23/2017

1,1-Dichloroethene	46.9600	5.0	0.69	50.0000		93.9	59 - 126		
1,1-Dichloropropene	56.5000	5.0	2.4	50.0000		113	76 - 121		
1,2,3-Trichloropropane	39.6800	5.0	1.2	50.0000		79.4	66 - 118		
1,2,3-Trichlorobenzene	53.1900	5.0	1.1	50.0000		106	75 - 116		
1,2,4-Trichlorobenzene	54.9700	5.0	0.96	50.0000		110	79 - 121		
1,2,4-Trimethylbenzene	49.1700	5.0	0.53	50.0000		98.3	80 - 118		
1,2-Dibromo-3-chloropropane	42.8300	10	1.1	50.0000		85.7	65 - 122		
1,2-Dibromoethane	50.1000	5.0	0.80	50.0000		100	77 - 115		
1,2-Dichlorobenzene	53.3100	5.0	0.51	50.0000		107	81 - 115		
1,2-Dichloroethane	44.4400	5.0	0.53	50.0000		88.9	70 - 122		
1,2-Dichloropropane	48.2000	5.0	0.76	50.0000		96.4	77 - 110		
1,3,5-Trimethylbenzene	50.0100	5.0	0.58	50.0000		100	79 - 119		
1,3-Dichlorobenzene	54.4500	5.0	0.63	50.0000		109	81 - 116		
1,3-Dichloropropane	46.2000	5.0	0.59	50.0000		92.4	79 - 113		
1,4-Dichlorobenzene	53.2600	5.0	0.73	50.0000		107	80 - 117		
2,2-Dichloropropane	45.4400	5.0	0.68	50.0000		90.9	70 - 129		
2-Chlorotoluene	48.6800	5.0	0.68	50.0000		97.4	76 - 119		
4-Chlorotoluene	48.3200	5.0	0.62	50.0000		96.6	79 - 119		
4-Isopropyltoluene	51.4000	5.0	0.63	50.0000		103	80 - 122		
Benzene	104.710	5.0	0.59	100.000		105	79 - 111		
Bromobenzene	52.9300	5.0	1.9	50.0000		106	77 - 114		
Bromochloromethane	54.9500	5.0	3.1	50.0000		110	69 - 117		
Bromodichloromethane	49.5600	5.0	1.0	50.0000		99.1	79 - 114		
Bromoform	56.1900	5.0	0.70	50.0000		112	72 - 122		
Bromomethane	55.5300	5.0	4.2	50.0000		111	47 - 176		
Carbon disulfide	56.2700	5.0	1.2	50.0000		113	50 - 133		
Carbon tetrachloride	59.2800	5.0	1.1	50.0000		119	68 - 143		
Chlorobenzene	53.1600	5.0	0.64	50.0000		106	81 - 113		
Chloroethane	47.0100	5.0	1.9	50.0000		94.0	47 - 148		
Chloroform	50.5800	5.0	1.4	50.0000		101	77 - 116		
Chloromethane	46.5000	5.0	1.9	50.0000		93.0	39 - 141		
cis-1,2-Dichloroethene	56.5300	5.0	0.87	50.0000		113	68 - 120		
cis-1,3-Dichloropropene	49.7800	5.0	0.79	50.0000		99.6	74 - 113		
Di-isopropyl ether	43.1500	5.0	0.51	50.0000		86.3	62 - 124		
Dibromochloromethane	53.2400	5.0	1.0	50.0000		106	78 - 114		
Dibromomethane	51.3100	5.0	0.99	50.0000		103	74 - 112		
Dichlorodifluoromethane	49.4900	5.0	2.2	50.0000		99.0	49 - 138		
Ethyl Acetate	398.660	50	9.7	500.000		79.7	63 - 131		
Ethyl Ether	383.650	50	7.3	500.000		76.7	56 - 123		
Ethyl tert-butyl ether	49.7200	5.0	1.4	50.0000		99.4	68 - 121		
Ethylbenzene	101.750	5.0	0.65	100.000		102	82 - 112		
Freon-113	53.0300	5.0	1.0	50.0000		106	65 - 133		



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0479 - MSVOA_S (continued)

LCS (B7F0479-BS1) - Continued

Prepared: 6/23/2017 Analyzed: 6/23/2017

Hexachlorobutadiene	59.6100	5.0	0.78	50.0000		119	76 - 131		
Isopropylbenzene	50.1500	5.0	0.59	50.0000		100	77 - 122		
m,p-Xylene	100.740	10	1.2	100.000		101	80 - 116		
Methylene chloride	47.6600	5.0	1.4	50.0000		95.3	67 - 144		
MTBE	44.3000	5.0	0.50	50.0000		88.6	62 - 120		
n-Butylbenzene	49.2500	5.0	0.75	50.0000		98.5	78 - 134		
n-Propylbenzene	49.0100	5.0	0.55	50.0000		98.0	77 - 125		
Naphthalene	46.0500	5.0	1.2	50.0000		92.1	66 - 125		
o-Xylene	98.8500	5.0	0.86	100.000		98.8	80 - 113		
sec-Butylbenzene	50.9000	5.0	0.79	50.0000		102	79 - 124		
Styrene	54.3700	5.0	0.82	50.0000		109	82 - 117		
tert-Amyl methyl ether	43.5100	5.0	1.5	50.0000		87.0	62 - 118		
tert-Butanol	197.260	100	5.9	250.000		78.9	35 - 127		
tert-Butylbenzene	50.7900	5.0	0.57	50.0000		102	78 - 121		
Tetrachloroethene	58.2400	5.0	0.65	50.0000		116	75 - 124		
Toluene	109.570	5.0	0.80	100.000		110	79 - 115		
trans-1,2-Dichloroethene	54.0900	5.0	1.5	50.0000		108	65 - 127		
trans-1,3-Dichloropropene	45.5100	5.0	0.63	50.0000		91.0	73 - 115		
Trichloroethene	58.2800	5.0	1.1	50.0000		117	77 - 119		
Trichlorofluoromethane	48.8800	5.0	0.89	50.0000		97.8	57 - 134		
Vinyl acetate	441.650	50	5.7	500.000		88.3	62 - 147		
Vinyl chloride	44.6600	5.0	2.0	50.0000		89.3	53 - 133		

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>42.65</i>			<i>50.0000</i>		<i>85.3</i>	<i>12 - 186</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>45.24</i>			<i>50.0000</i>		<i>90.5</i>	<i>23 - 162</i>		
<i>Surrogate: Dibromofluoromethane</i>	<i>46.94</i>			<i>50.0000</i>		<i>93.9</i>	<i>23 - 179</i>		
<i>Surrogate: Toluene-d8</i>	<i>47.54</i>			<i>50.0000</i>		<i>95.1</i>	<i>26 - 164</i>		

Matrix Spike (B7F0479-MS1)

Source: 1702387-01

Prepared: 6/23/2017 Analyzed: 6/23/2017

1,1,1,2-Tetrachloroethane	41.9200	5.0	0.63	50.0000	ND	83.8	45 - 124		
1,1,1-Trichloroethane	42.3700	5.0	0.63	50.0000	ND	84.7	53 - 125		
1,1,2,2-Tetrachloroethane	23.1500	5.0	0.92	50.0000	ND	46.3	42 - 117		
1,1,2-Trichloroethane	39.2700	5.0	1.4	50.0000	ND	78.5	48 - 120		
1,1-Dichloroethane	37.5500	5.0	1.5	50.0000	ND	75.1	54 - 116		
1,1-Dichloroethene	42.3600	5.0	0.69	50.0000	ND	84.7	47 - 123		
1,1-Dichloropropene	46.5300	5.0	2.4	50.0000	ND	93.1	48 - 126		
1,2,3-Trichloropropane	35.3900	5.0	1.2	50.0000	ND	70.8	46 - 118		
1,2,3-Trichlorobenzene	24.5500	5.0	1.1	50.0000	ND	49.1	1 - 132		
1,2,4-Trichlorobenzene	22.6400	5.0	0.96	50.0000	ND	45.3	2 - 138		
1,2,4-Trimethylbenzene	32.3400	5.0	0.53	50.0000	ND	64.7	32 - 129		
1,2-Dibromo-3-chloropropane	35.3300	10	1.1	50.0000	ND	70.7	34 - 130		
1,2-Dibromoethane	40.0900	5.0	0.80	50.0000	ND	80.2	45 - 125		



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0479 - MSVOA_S (continued)

Matrix Spike (B7F0479-MS1) - Continued

Source: 1702387-01

Prepared: 6/23/2017 Analyzed: 6/23/2017

1,2-Dichlorobenzene	34.5500	5.0	0.51	50.0000	ND	69.1	25 - 130
1,2-Dichloroethane	34.6200	5.0	0.53	50.0000	ND	69.2	51 - 119
1,2-Dichloropropane	35.9600	5.0	0.76	50.0000	ND	71.9	54 - 113
1,3,5-Trimethylbenzene	31.7600	5.0	0.58	50.0000	ND	63.5	34 - 128
1,3-Dichlorobenzene	35.6000	5.0	0.63	50.0000	ND	71.2	26 - 130
1,3-Dichloropropane	37.3700	5.0	0.59	50.0000	ND	74.7	53 - 117
1,4-Dichlorobenzene	35.2700	5.0	0.73	50.0000	ND	70.5	26 - 130
2,2-Dichloropropane	35.7200	5.0	0.68	50.0000	ND	71.4	52 - 128
2-Chlorotoluene	33.6500	5.0	0.68	50.0000	ND	67.3	34 - 126
4-Chlorotoluene	33.3800	5.0	0.62	50.0000	ND	66.8	32 - 128
4-Isopropyltoluene	29.5100	5.0	0.63	50.0000	ND	59.0	28 - 133
Benzene	81.0900	5.0	0.59	100.000	ND	81.1	55 - 113
Bromobenzene	39.0100	5.0	1.9	50.0000	ND	78.0	36 - 122
Bromochloromethane	40.3200	5.0	3.1	50.0000	ND	80.6	50 - 118
Bromodichloromethane	35.7900	5.0	1.0	50.0000	ND	71.6	51 - 117
Bromoform	44.1500	5.0	0.70	50.0000	ND	88.3	39 - 130
Bromomethane	47.3100	5.0	4.2	50.0000	ND	94.6	38 - 151
Carbon disulfide	41.0600	5.0	1.2	50.0000	ND	82.1	38 - 126
Carbon tetrachloride	47.5000	5.0	1.1	50.0000	ND	95.0	43 - 141
Chlorobenzene	38.7800	5.0	0.64	50.0000	ND	77.6	42 - 122
Chloroethane	43.4400	5.0	1.9	50.0000	ND	86.9	42 - 129
Chloroform	39.0700	5.0	1.4	50.0000	ND	78.1	56 - 117
Chloromethane	37.7900	5.0	1.9	50.0000	ND	75.6	35 - 127
cis-1,2-Dichloroethene	41.5100	5.0	0.87	50.0000	ND	83.0	50 - 118
cis-1,3-Dichloropropene	37.7800	5.0	0.79	50.0000	ND	75.6	45 - 118
Di-isopropyl ether	33.2400	5.0	0.51	50.0000	ND	66.5	51 - 119
Dibromochloromethane	41.6800	5.0	1.0	50.0000	ND	83.4	47 - 120
Dibromomethane	39.1300	5.0	0.99	50.0000	ND	78.3	48 - 118
Dichlorodifluoromethane	43.0600	5.0	2.2	50.0000	ND	86.1	43 - 126
Ethyl Acetate	337.700	50	9.7	500.000	ND	67.5	22 - 145
Ethyl Ether	322.530	50	7.3	500.000	ND	64.5	49 - 114
Ethyl tert-butyl ether	37.3800	5.0	1.4	50.0000	ND	74.8	54 - 120
Ethylbenzene	72.7100	5.0	0.65	100.000	ND	72.7	42 - 123
Freon-113	42.3900	5.0	1.0	50.0000	ND	84.8	45 - 132
Hexachlorobutadiene	15.9000	5.0	0.78	50.0000	ND	31.8	4 - 135
Isopropylbenzene	34.8100	5.0	0.59	50.0000	ND	69.6	40 - 127
m,p-Xylene	69.9300	10	1.2	100.000	ND	69.9	39 - 127
Methylene chloride	35.4200	5.0	1.4	50.0000	ND	70.8	51 - 140
MTBE	36.1600	5.0	0.50	50.0000	ND	72.3	52 - 120
n-Butylbenzene	25.5300	5.0	0.75	50.0000	ND	51.1	19 - 141
n-Propylbenzene	33.1600	5.0	0.55	50.0000	ND	66.3	34 - 131
Naphthalene	28.8500	5.0	1.2	50.0000	ND	57.7	11 - 136



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0479 - MSVOA_S (continued)

Matrix Spike (B7F0479-MS1) - Continued

Source: 1702387-01

Prepared: 6/23/2017 Analyzed: 6/23/2017

o-Xylene	68.9700	5.0	0.86	100.000	ND	69.0	40 - 124			
sec-Butylbenzene	29.6600	5.0	0.79	50.0000	ND	59.3	29 - 132			
Styrene	37.6700	5.0	0.82	50.0000	ND	75.3	36 - 130			
tert-Amyl methyl ether	33.4500	5.0	1.5	50.0000	ND	66.9	49 - 119			
tert-Butanol	209.950	100	5.9	250.000	ND	84.0	29 - 138			
tert-Butylbenzene	31.6000	5.0	0.57	50.0000	ND	63.2	34 - 129			
Tetrachloroethene	43.1700	5.0	0.65	50.0000	ND	86.3	37 - 132			
Toluene	84.1200	5.0	0.80	100.000	ND	84.1	48 - 122			
trans-1,2-Dichloroethene	42.8400	5.0	1.5	50.0000	ND	85.7	51 - 123			
trans-1,3-Dichloropropene	34.3900	5.0	0.63	50.0000	ND	68.8	38 - 125			
Trichloroethene	62.1600	5.0	1.1	50.0000	ND	124	41 - 136			
Trichlorofluoromethane	43.2000	5.0	0.89	50.0000	ND	86.4	44 - 126			
Vinyl acetate	25.6000	50	5.7	500.000	ND	5.12	0 - 154			
Vinyl chloride	39.7300	5.0	2.0	50.0000	ND	79.5	47 - 122			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>42.28</i>			<i>50.0000</i>		<i>84.6</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>43.25</i>			<i>50.0000</i>		<i>86.5</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>48.71</i>			<i>50.0000</i>		<i>97.4</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>49.55</i>			<i>50.0000</i>		<i>99.1</i>	<i>26 - 164</i>			

Matrix Spike Dup (B7F0479-MSD1)

Source: 1702387-01

Prepared: 6/23/2017 Analyzed: 6/23/2017

1,1,1,2-Tetrachloroethane	43.2700	5.0	0.63	50.0000	ND	86.5	45 - 124	3.17	20	
1,1,1-Trichloroethane	42.1700	5.0	0.63	50.0000	ND	84.3	53 - 125	0.473	20	
1,1,2,2-Tetrachloroethane	2.72000	5.0	0.92	50.0000	ND	5.44	42 - 117	158	20	M2, R
1,1,2-Trichloroethane	43.2600	5.0	1.4	50.0000	ND	86.5	48 - 120	9.67	20	
1,1-Dichloroethane	37.5400	5.0	1.5	50.0000	ND	75.1	54 - 116	0.0266	20	
1,1-Dichloroethene	40.5100	5.0	0.69	50.0000	ND	81.0	47 - 123	4.46	20	
1,1-Dichloropropene	49.3100	5.0	2.4	50.0000	ND	98.6	48 - 126	5.80	20	
1,2,3-Trichloropropane	37.7500	5.0	1.2	50.0000	ND	75.5	46 - 118	6.45	20	
1,2,3-Trichlorobenzene	26.5700	5.0	1.1	50.0000	ND	53.1	1 - 132	7.90	20	
1,2,4-Trichlorobenzene	24.4800	5.0	0.96	50.0000	ND	49.0	2 - 138	7.81	20	
1,2,4-Trimethylbenzene	34.5400	5.0	0.53	50.0000	ND	69.1	32 - 129	6.58	20	
1,2-Dibromo-3-chloropropane	33.2300	10	1.1	50.0000	ND	66.5	34 - 130	6.13	20	
1,2-Dibromoethane	46.5800	5.0	0.80	50.0000	ND	93.2	45 - 125	15.0	20	
1,2-Dichlorobenzene	36.9900	5.0	0.51	50.0000	ND	74.0	25 - 130	6.82	20	
1,2-Dichloroethane	37.1200	5.0	0.53	50.0000	ND	74.2	51 - 119	6.97	20	
1,2-Dichloropropane	38.2200	5.0	0.76	50.0000	ND	76.4	54 - 113	6.09	20	
1,3,5-Trimethylbenzene	34.8200	5.0	0.58	50.0000	ND	69.6	34 - 128	9.19	20	
1,3-Dichlorobenzene	37.1200	5.0	0.63	50.0000	ND	74.2	26 - 130	4.18	20	
1,3-Dichloropropane	40.3900	5.0	0.59	50.0000	ND	80.8	53 - 117	7.77	20	
1,4-Dichlorobenzene	37.0700	5.0	0.73	50.0000	ND	74.1	26 - 130	4.98	20	
2,2-Dichloropropane	34.6100	5.0	0.68	50.0000	ND	69.2	52 - 128	3.16	20	



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0479 - MSVOA_S (continued)

Matrix Spike Dup (B7F0479-MSD1) - Continued

Source: 1702387-01

Prepared: 6/23/2017 Analyzed: 6/23/2017

2-Chlorotoluene	34.8300	5.0	0.68	50.0000	ND	69.7	34 - 126	3.45	20	
4-Chlorotoluene	34.3800	5.0	0.62	50.0000	ND	68.8	32 - 128	2.95	20	
4-Isopropyltoluene	32.8900	5.0	0.63	50.0000	ND	65.8	28 - 133	10.8	20	
Benzene	86.1600	5.0	0.59	100.0000	ND	86.2	55 - 113	6.06	20	
Bromobenzene	40.9800	5.0	1.9	50.0000	ND	82.0	36 - 122	4.93	20	
Bromochloromethane	43.3700	5.0	3.1	50.0000	ND	86.7	50 - 118	7.29	20	
Bromodichloromethane	39.9100	5.0	1.0	50.0000	ND	79.8	51 - 117	10.9	20	
Bromoform	47.7100	5.0	0.70	50.0000	ND	95.4	39 - 130	7.75	20	
Bromomethane	44.0700	5.0	4.2	50.0000	ND	88.1	38 - 151	7.09	20	
Carbon disulfide	39.8600	5.0	1.2	50.0000	ND	79.7	38 - 126	2.97	20	
Carbon tetrachloride	50.3700	5.0	1.1	50.0000	ND	101	43 - 141	5.86	20	
Chlorobenzene	41.0000	5.0	0.64	50.0000	ND	82.0	42 - 122	5.57	20	
Chloroethane	39.7100	5.0	1.9	50.0000	ND	79.4	42 - 129	8.97	20	
Chloroform	38.9800	5.0	1.4	50.0000	ND	78.0	56 - 117	0.231	20	
Chloromethane	36.6600	5.0	1.9	50.0000	ND	73.3	35 - 127	3.04	20	
cis-1,2-Dichloroethene	42.7700	5.0	0.87	50.0000	ND	85.5	50 - 118	2.99	20	
cis-1,3-Dichloropropene	39.5600	5.0	0.79	50.0000	ND	79.1	45 - 118	4.60	20	
Di-isopropyl ether	32.9200	5.0	0.51	50.0000	ND	65.8	51 - 119	0.967	20	
Dibromochloromethane	42.9700	5.0	1.0	50.0000	ND	85.9	47 - 120	3.05	20	
Dibromomethane	42.8800	5.0	0.99	50.0000	ND	85.8	48 - 118	9.15	20	
Dichlorodifluoromethane	43.9700	5.0	2.2	50.0000	ND	87.9	43 - 126	2.09	20	
Ethyl Acetate	229.330	50	9.7	500.0000	ND	45.9	22 - 145	38.2	20	R
Ethyl Ether	321.830	50	7.3	500.0000	ND	64.4	49 - 114	0.217	20	
Ethyl tert-butyl ether	37.9500	5.0	1.4	50.0000	ND	75.9	54 - 120	1.51	20	
Ethylbenzene	75.8800	5.0	0.65	100.0000	ND	75.9	42 - 123	4.27	20	
Freon-113	43.0400	5.0	1.0	50.0000	ND	86.1	45 - 132	1.52	20	
Hexachlorobutadiene	19.4400	5.0	0.78	50.0000	ND	38.9	4 - 135	20.0	20	R
Isopropylbenzene	36.8300	5.0	0.59	50.0000	ND	73.7	40 - 127	5.64	20	
m,p-Xylene	73.3600	10	1.2	100.0000	ND	73.4	39 - 127	4.79	20	
Methylene chloride	34.3400	5.0	1.4	50.0000	ND	68.7	51 - 140	3.10	20	
MTBE	36.5500	5.0	0.50	50.0000	ND	73.1	52 - 120	1.07	20	
n-Butylbenzene	29.3700	5.0	0.75	50.0000	ND	58.7	19 - 141	14.0	20	
n-Propylbenzene	35.2600	5.0	0.55	50.0000	ND	70.5	34 - 131	6.14	20	
Naphthalene	31.7500	5.0	1.2	50.0000	ND	63.5	11 - 136	9.57	20	
o-Xylene	72.2200	5.0	0.86	100.0000	ND	72.2	40 - 124	4.60	20	
sec-Butylbenzene	33.1300	5.0	0.79	50.0000	ND	66.3	29 - 132	11.1	20	
Styrene	39.6900	5.0	0.82	50.0000	ND	79.4	36 - 130	5.22	20	
tert-Amyl methyl ether	33.6600	5.0	1.5	50.0000	ND	67.3	49 - 119	0.626	20	
tert-Butanol	236.690	100	5.9	250.0000	ND	94.7	29 - 138	12.0	20	
tert-Butylbenzene	34.4400	5.0	0.57	50.0000	ND	68.9	34 - 129	8.60	20	
Tetrachloroethene	44.9200	5.0	0.65	50.0000	ND	89.8	37 - 132	3.97	20	
Toluene	88.6400	5.0	0.80	100.0000	ND	88.6	48 - 122	5.23	20	



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0479 - MSVOA_S (continued)

Matrix Spike Dup (B7F0479-MSD1) - Continued

Source: 1702387-01

Prepared: 6/23/2017 Analyzed: 6/23/2017

trans-1,2-Dichloroethene	44.0000	5.0	1.5	50.0000	ND	88.0	51 - 123	2.67	20	
trans-1,3-Dichloropropene	36.3600	5.0	0.63	50.0000	ND	72.7	38 - 125	5.57	20	
Trichloroethene	87.2500	5.0	1.1	50.0000	ND	174	41 - 136	33.6	20	M1, R
Trichlorofluoromethane	40.4000	5.0	0.89	50.0000	ND	80.8	44 - 126	6.70	20	
Vinyl acetate	ND	50	5.7	500.000	ND	NR	0 - 154	NR	20	
Vinyl chloride	37.7100	5.0	2.0	50.0000	ND	75.4	47 - 122	5.22	20	
<hr/>										
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>37.45</i>			<i>50.0000</i>		<i>74.9</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>43.85</i>			<i>50.0000</i>		<i>87.7</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethan</i>	<i>44.65</i>			<i>50.0000</i>		<i>89.3</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>50.48</i>			<i>50.0000</i>		<i>101</i>	<i>26 - 164</i>			



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Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S

Blank (B7F0506-BLK1)

Prepared: 6/26/2017 Analyzed: 6/26/2017

1,1,1,2-Tetrachloroethane	ND	5.0	0.63
1,1,1-Trichloroethane	ND	5.0	0.63
1,1,2,2-Tetrachloroethane	ND	5.0	0.92
1,1,2-Trichloroethane	ND	5.0	1.4
1,1-Dichloroethane	ND	5.0	1.5
1,1-Dichloroethene	ND	5.0	0.69
1,1-Dichloropropene	ND	5.0	2.4
1,2,3-Trichloropropane	ND	5.0	1.2
1,2,3-Trichlorobenzene	ND	5.0	1.1
1,2,4-Trichlorobenzene	ND	5.0	0.96
1,2,4-Trimethylbenzene	ND	5.0	0.53
1,2-Dibromo-3-chloropropane	ND	10	1.1
1,2-Dibromoethane	ND	5.0	0.80
1,2-Dichlorobenzene	ND	5.0	0.51
1,2-Dichloroethane	ND	5.0	0.53
1,2-Dichloropropane	ND	5.0	0.76
1,3,5-Trimethylbenzene	ND	5.0	0.58
1,3-Dichlorobenzene	ND	5.0	0.63
1,3-Dichloropropane	ND	5.0	0.59
1,4-Dichlorobenzene	ND	5.0	0.73
2,2-Dichloropropane	ND	5.0	0.68
2-Chlorotoluene	ND	5.0	0.68
4-Chlorotoluene	ND	5.0	0.62
4-Isopropyltoluene	ND	5.0	0.63
Benzene	ND	5.0	0.59
Bromobenzene	ND	5.0	1.9
Bromochloromethane	ND	5.0	3.1
Bromodichloromethane	ND	5.0	1.0
Bromoform	ND	5.0	0.70
Bromomethane	ND	5.0	4.2
Carbon disulfide	ND	5.0	1.2
Carbon tetrachloride	ND	5.0	1.1
Chlorobenzene	ND	5.0	0.64
Chloroethane	ND	5.0	1.9
Chloroform	ND	5.0	1.4
Chloromethane	ND	5.0	1.9
cis-1,2-Dichloroethene	ND	5.0	0.87
cis-1,3-Dichloropropene	ND	5.0	0.79
Di-isopropyl ether	ND	5.0	0.51
Dibromochloromethane	ND	5.0	1.0
Dibromomethane	ND	5.0	0.99



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S (continued)

Blank (B7F0506-BLK1) - Continued

Prepared: 6/26/2017 Analyzed: 6/26/2017

Dichlorodifluoromethane	ND	5.0	2.2
Ethyl Acetate	ND	50	9.7
Ethyl Ether	ND	50	7.3
Ethyl tert-butyl ether	ND	5.0	1.4
Ethylbenzene	ND	5.0	0.65
Freon-113	ND	5.0	1.0
Hexachlorobutadiene	ND	5.0	0.78
Isopropylbenzene	ND	5.0	0.59
m,p-Xylene	ND	10	1.2
Methylene chloride	ND	5.0	1.4
MTBE	ND	5.0	0.50
n-Butylbenzene	ND	5.0	0.75
n-Propylbenzene	ND	5.0	0.55
Naphthalene	ND	5.0	1.2
o-Xylene	ND	5.0	0.86
sec-Butylbenzene	ND	5.0	0.79
Styrene	ND	5.0	0.82
tert-Amyl methyl ether	ND	5.0	1.5
tert-Butanol	ND	100	5.9
tert-Butylbenzene	ND	5.0	0.57
Tetrachloroethene	ND	5.0	0.65
Toluene	ND	5.0	0.80
trans-1,2-Dichloroethene	ND	5.0	1.5
trans-1,3-Dichloropropene	ND	5.0	0.63
Trichloroethene	ND	5.0	1.1
Trichlorofluoromethane	ND	5.0	0.89
Vinyl acetate	ND	50	5.7
Vinyl chloride	ND	5.0	2.0

<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>36.81</i>		<i>50.0000</i>	<i>73.6</i>	<i>12 - 186</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>43.41</i>		<i>50.0000</i>	<i>86.8</i>	<i>23 - 162</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>43.66</i>		<i>50.0000</i>	<i>87.3</i>	<i>23 - 179</i>
<i>Surrogate: Toluene-d8</i>	<i>48.29</i>		<i>50.0000</i>	<i>96.6</i>	<i>26 - 164</i>

LCS (B7F0506-BS1)

Prepared: 6/26/2017 Analyzed: 6/26/2017

1,1,1,2-Tetrachloroethane	56.0500	5.0	0.63	50.0000	112	78 - 119
1,1,1-Trichloroethane	57.8500	5.0	0.63	50.0000	116	75 - 123
1,1,1,2,2-Tetrachloroethane	43.7200	5.0	0.92	50.0000	87.4	65 - 117
1,1,2-Trichloroethane	52.4500	5.0	1.4	50.0000	105	79 - 108
1,1-Dichloroethane	49.6000	5.0	1.5	50.0000	99.2	69 - 120
1,1-Dichloroethene	55.1100	5.0	0.69	50.0000	110	59 - 126
1,1-Dichloropropene	60.3200	5.0	2.4	50.0000	121	76 - 121



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S (continued)

LCS (B7F0506-BS1) - Continued

Prepared: 6/26/2017 Analyzed: 6/26/2017

1,2,3-Trichloropropane	42.6100	5.0	1.2	50.0000		85.2	66 - 118		
1,2,3-Trichlorobenzene	54.7200	5.0	1.1	50.0000		109	75 - 116		
1,2,4-Trichlorobenzene	57.3500	5.0	0.96	50.0000		115	79 - 121		
1,2,4-Trimethylbenzene	50.2900	5.0	0.53	50.0000		101	80 - 118		
1,2-Dibromo-3-chloropropane	43.0100	10	1.1	50.0000		86.0	65 - 122		
1,2-Dibromoethane	52.7800	5.0	0.80	50.0000		106	77 - 115		
1,2-Dichlorobenzene	53.1100	5.0	0.51	50.0000		106	81 - 115		
1,2-Dichloroethane	49.0300	5.0	0.53	50.0000		98.1	70 - 122		
1,2-Dichloropropane	48.9400	5.0	0.76	50.0000		97.9	77 - 110		
1,3,5-Trimethylbenzene	50.5600	5.0	0.58	50.0000		101	79 - 119		
1,3-Dichlorobenzene	54.5900	5.0	0.63	50.0000		109	81 - 116		
1,3-Dichloropropane	48.3800	5.0	0.59	50.0000		96.8	79 - 113		
1,4-Dichlorobenzene	54.1300	5.0	0.73	50.0000		108	80 - 117		
2,2-Dichloropropane	49.7400	5.0	0.68	50.0000		99.5	70 - 129		
2-Chlorotoluene	49.0000	5.0	0.68	50.0000		98.0	76 - 119		
4-Chlorotoluene	48.8000	5.0	0.62	50.0000		97.6	79 - 119		
4-Isopropyltoluene	53.1200	5.0	0.63	50.0000		106	80 - 122		
Benzene	107.890	5.0	0.59	100.000		108	79 - 111		
Bromobenzene	51.1700	5.0	1.9	50.0000		102	77 - 114		
Bromochloromethane	57.4800	5.0	3.1	50.0000		115	69 - 117		
Bromodichloromethane	52.3200	5.0	1.0	50.0000		105	79 - 114		
Bromoform	57.2200	5.0	0.70	50.0000		114	72 - 122		
Bromomethane	60.7900	5.0	4.2	50.0000		122	47 - 176		
Carbon disulfide	55.0400	5.0	1.2	50.0000		110	50 - 133		
Carbon tetrachloride	63.3400	5.0	1.1	50.0000		127	68 - 143		
Chlorobenzene	52.8500	5.0	0.64	50.0000		106	81 - 113		
Chloroethane	55.8400	5.0	1.9	50.0000		112	47 - 148		
Chloroform	53.4500	5.0	1.4	50.0000		107	77 - 116		
Chloromethane	50.3700	5.0	1.9	50.0000		101	39 - 141		
cis-1,2-Dichloroethene	57.2600	5.0	0.87	50.0000		115	68 - 120		
cis-1,3-Dichloropropene	51.7700	5.0	0.79	50.0000		104	74 - 113		
Di-isopropyl ether	44.7400	5.0	0.51	50.0000		89.5	62 - 124		
Dibromochloromethane	53.8300	5.0	1.0	50.0000		108	78 - 114		
Dibromomethane	50.6300	5.0	0.99	50.0000		101	74 - 112		
Dichlorodifluoromethane	57.8500	5.0	2.2	50.0000		116	49 - 138		
Ethyl Acetate	453.120	50	9.7	500.000		90.6	63 - 131		
Ethyl Ether	441.100	50	7.3	500.000		88.2	56 - 123		
Ethyl tert-butyl ether	52.6600	5.0	1.4	50.0000		105	68 - 121		
Ethylbenzene	105.920	5.0	0.65	100.000		106	82 - 112		
Freon-113	61.7500	5.0	1.0	50.0000		124	65 - 133		
Hexachlorobutadiene	61.5600	5.0	0.78	50.0000		123	76 - 131		
Isopropylbenzene	51.1800	5.0	0.59	50.0000		102	77 - 122		



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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S (continued)

LCS (B7F0506-BS1) - Continued

Prepared: 6/26/2017 Analyzed: 6/26/2017

m,p-Xylene	103.580	10	1.2	100.000		104	80 - 116			
Methylene chloride	49.9900	5.0	1.4	50.0000		100	67 - 144			
MTBE	47.6700	5.0	0.50	50.0000		95.3	62 - 120			
n-Butylbenzene	53.1400	5.0	0.75	50.0000		106	78 - 134			
n-Propylbenzene	51.2000	5.0	0.55	50.0000		102	77 - 125			
Naphthalene	49.2600	5.0	1.2	50.0000		98.5	66 - 125			
o-Xylene	100.810	5.0	0.86	100.000		101	80 - 113			
sec-Butylbenzene	53.3300	5.0	0.79	50.0000		107	79 - 124			
Styrene	53.6500	5.0	0.82	50.0000		107	82 - 117			
tert-Amyl methyl ether	45.8200	5.0	1.5	50.0000		91.6	62 - 118			
tert-Butanol	214.410	100	5.9	250.000		85.8	35 - 127			
tert-Butylbenzene	52.3200	5.0	0.57	50.0000		105	78 - 121			
Tetrachloroethene	59.4200	5.0	0.65	50.0000		119	75 - 124			
Toluene	113.800	5.0	0.80	100.000		114	79 - 115			
trans-1,2-Dichloroethene	56.8200	5.0	1.5	50.0000		114	65 - 127			
trans-1,3-Dichloropropene	47.9600	5.0	0.63	50.0000		95.9	73 - 115			
Trichloroethene	59.8500	5.0	1.1	50.0000		120	77 - 119			
Trichlorofluoromethane	56.5500	5.0	0.89	50.0000		113	57 - 134			L4
Vinyl acetate	484.640	50	5.7	500.000		96.9	62 - 147			
Vinyl chloride	50.1400	5.0	2.0	50.0000		100	53 - 133			

<i>Surrogate: 1,2-Dichloroethane-d4</i>	42.19			50.0000		84.4	12 - 186			
<i>Surrogate: 4-Bromofluorobenzene</i>	44.49			50.0000		89.0	23 - 162			
<i>Surrogate: Dibromofluoromethane</i>	49.25			50.0000		98.5	23 - 179			
<i>Surrogate: Toluene-d8</i>	49.22			50.0000		98.4	26 - 164			

Matrix Spike (B7F0506-MS1)

Source: 1702416-01

Prepared: 6/26/2017 Analyzed: 6/26/2017

1,1,1,2-Tetrachloroethane	55.3000	5.0	0.63	50.0000	ND	111	45 - 124			
1,1,1-Trichloroethane	53.3700	5.0	0.63	50.0000	ND	107	53 - 125			
1,1,2,2-Tetrachloroethane	45.0300	5.0	0.92	50.0000	ND	90.1	42 - 117			
1,1,2-Trichloroethane	52.3200	5.0	1.4	50.0000	ND	105	48 - 120			
1,1-Dichloroethane	47.0300	5.0	1.5	50.0000	ND	94.1	54 - 116			
1,1-Dichloroethene	49.3900	5.0	0.69	50.0000	ND	98.8	47 - 123			
1,1-Dichloropropene	58.5100	5.0	2.4	50.0000	ND	117	48 - 126			
1,2,3-Trichloropropane	43.4100	5.0	1.2	50.0000	ND	86.8	46 - 118			
1,2,3-Trichlorobenzene	50.3400	5.0	1.1	50.0000	ND	101	1 - 132			
1,2,4-Trichlorobenzene	51.5200	5.0	0.96	50.0000	ND	103	2 - 138			
1,2,4-Trimethylbenzene	48.1300	5.0	0.53	50.0000	ND	96.3	32 - 129			
1,2-Dibromo-3-chloropropane	46.2300	10	1.1	50.0000	ND	92.5	34 - 130			
1,2-Dibromoethane	53.3800	5.0	0.80	50.0000	ND	107	45 - 125			
1,2-Dichlorobenzene	51.4900	5.0	0.51	50.0000	ND	103	25 - 130			
1,2-Dichloroethane	47.0200	5.0	0.53	50.0000	ND	94.0	51 - 119			



Certificate of Analysis

GSA Engineering
 16950 Avenida De Santa Ynez
 Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S (continued)

Matrix Spike (B7F0506-MS1) - Continued

Source: 1702416-01

Prepared: 6/26/2017 Analyzed: 6/26/2017

1,2-Dichloropropane	48.3600	5.0	0.76	50.0000	ND	96.7	54 - 113			
1,3,5-Trimethylbenzene	49.6100	5.0	0.58	50.0000	ND	99.2	34 - 128			
1,3-Dichlorobenzene	52.4000	5.0	0.63	50.0000	ND	105	26 - 130			
1,3-Dichloropropane	49.5000	5.0	0.59	50.0000	ND	99.0	53 - 117			
1,4-Dichlorobenzene	51.6600	5.0	0.73	50.0000	ND	103	26 - 130			
2,2-Dichloropropane	48.4900	5.0	0.68	50.0000	ND	97.0	52 - 128			
2-Chlorotoluene	47.5900	5.0	0.68	50.0000	ND	95.2	34 - 126			
4-Chlorotoluene	47.4900	5.0	0.62	50.0000	ND	95.0	32 - 128			
4-Isopropyltoluene	51.0000	5.0	0.63	50.0000	ND	102	28 - 133			
Benzene	104.120	5.0	0.59	100.000	ND	104	55 - 113			
Bromobenzene	51.5400	5.0	1.9	50.0000	ND	103	36 - 122			
Bromochloromethane	54.6400	5.0	3.1	50.0000	ND	109	50 - 118			
Bromodichloromethane	50.9900	5.0	1.0	50.0000	ND	102	51 - 117			
Bromoform	57.1600	5.0	0.70	50.0000	ND	114	39 - 130			
Bromomethane	54.5200	5.0	4.2	50.0000	ND	109	38 - 151			
Carbon disulfide	54.1000	5.0	1.2	50.0000	ND	108	38 - 126			
Carbon tetrachloride	61.0600	5.0	1.1	50.0000	ND	122	43 - 141			
Chlorobenzene	52.2000	5.0	0.64	50.0000	ND	104	42 - 122			
Chloroethane	46.6300	5.0	1.9	50.0000	ND	93.3	42 - 129			
Chloroform	50.6700	5.0	1.4	50.0000	ND	101	56 - 117			
Chloromethane	46.2100	5.0	1.9	50.0000	ND	92.4	35 - 127			
cis-1,2-Dichloroethene	51.4300	5.0	0.87	50.0000	ND	103	50 - 118			
cis-1,3-Dichloropropene	51.8300	5.0	0.79	50.0000	ND	104	45 - 118			
Di-isopropyl ether	43.2400	5.0	0.51	50.0000	ND	86.5	51 - 119			
Dibromochloromethane	53.2400	5.0	1.0	50.0000	ND	106	47 - 120			
Dibromomethane	52.7000	5.0	0.99	50.0000	ND	105	48 - 118			
Dichlorodifluoromethane	52.9800	5.0	2.2	50.0000	ND	106	43 - 126			
Ethyl Acetate	456.010	50	9.7	500.000	ND	91.2	22 - 145			
Ethyl Ether	401.830	50	7.3	500.000	ND	80.4	49 - 114			
Ethyl tert-butyl ether	50.9400	5.0	1.4	50.0000	ND	102	54 - 120			
Ethylbenzene	102.680	5.0	0.65	100.000	ND	103	42 - 123			
Freon-113	55.2100	5.0	1.0	50.0000	ND	110	45 - 132			
Hexachlorobutadiene	52.5600	5.0	0.78	50.0000	ND	105	4 - 135			
Isopropylbenzene	50.4200	5.0	0.59	50.0000	ND	101	40 - 127			
m,p-Xylene	100.450	10	1.2	100.000	ND	100	39 - 127			
Methylene chloride	46.9900	5.0	1.4	50.0000	ND	94.0	51 - 140			
MTBE	47.5900	5.0	0.50	50.0000	ND	95.2	52 - 120			
n-Butylbenzene	49.0200	5.0	0.75	50.0000	ND	98.0	19 - 141			
n-Propylbenzene	49.9500	5.0	0.55	50.0000	ND	99.9	34 - 131			
Naphthalene	47.9600	5.0	1.2	50.0000	ND	95.9	11 - 136			
o-Xylene	98.8600	5.0	0.86	100.000	ND	98.9	40 - 124			
sec-Butylbenzene	50.5900	5.0	0.79	50.0000	ND	101	29 - 132			



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Project Number : Former Crown Cleaners
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Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S (continued)

Matrix Spike (B7F0506-MS1) - Continued

Source: 1702416-01

Prepared: 6/26/2017 Analyzed: 6/26/2017

Styrene	53.9100	5.0	0.82	50.0000	ND	108	36 - 130			
tert-Amyl methyl ether	46.2400	5.0	1.5	50.0000	ND	92.5	49 - 119			
tert-Butanol	214.230	100	5.9	250.000	ND	85.7	29 - 138			
tert-Butylbenzene	50.5700	5.0	0.57	50.0000	ND	101	34 - 129			
Tetrachloroethene	58.0900	5.0	0.65	50.0000	ND	116	37 - 132			
Toluene	109.800	5.0	0.80	100.000	ND	110	48 - 122			
trans-1,2-Dichloroethene	54.5100	5.0	1.5	50.0000	ND	109	51 - 123			
trans-1,3-Dichloropropene	47.2200	5.0	0.63	50.0000	ND	94.4	38 - 125			
Trichloroethene	57.1500	5.0	1.1	50.0000	ND	114	41 - 136			
Trichlorofluoromethane	51.5500	5.0	0.89	50.0000	ND	103	44 - 126			
Vinyl acetate	456.300	50	5.7	500.000	ND	91.3	0 - 154			
Vinyl chloride	45.8600	5.0	2.0	50.0000	ND	91.7	47 - 122			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>40.73</i>			<i>50.0000</i>		<i>81.5</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>44.96</i>			<i>50.0000</i>		<i>89.9</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethan</i>	<i>48.21</i>			<i>50.0000</i>		<i>96.4</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>49.17</i>			<i>50.0000</i>		<i>98.3</i>	<i>26 - 164</i>			

Matrix Spike Dup (B7F0506-MSD1)

Source: 1702416-01

Prepared: 6/26/2017 Analyzed: 6/26/2017

1,1,1,2-Tetrachloroethane	51.5500	5.0	0.63	50.0000	ND	103	45 - 124	7.02	20	
1,1,1-Trichloroethane	48.8400	5.0	0.63	50.0000	ND	97.7	53 - 125	8.86	20	
1,1,2,2-Tetrachloroethane	44.4300	5.0	0.92	50.0000	ND	88.9	42 - 117	1.34	20	
1,1,2-Trichloroethane	51.5100	5.0	1.4	50.0000	ND	103	48 - 120	1.56	20	
1,1-Dichloroethane	43.5900	5.0	1.5	50.0000	ND	87.2	54 - 116	7.59	20	
1,1-Dichloroethene	43.8300	5.0	0.69	50.0000	ND	87.7	47 - 123	11.9	20	
1,1-Dichloropropene	53.3300	5.0	2.4	50.0000	ND	107	48 - 126	9.26	20	
1,2,3-Trichloropropane	42.7600	5.0	1.2	50.0000	ND	85.5	46 - 118	1.51	20	
1,2,3-Trichlorobenzene	49.7900	5.0	1.1	50.0000	ND	99.6	1 - 132	1.10	20	
1,2,4-Trichlorobenzene	50.3500	5.0	0.96	50.0000	ND	101	2 - 138	2.30	20	
1,2,4-Trimethylbenzene	42.6000	5.0	0.53	50.0000	ND	85.2	32 - 129	12.2	20	
1,2-Dibromo-3-chloropropane	45.3500	10	1.1	50.0000	ND	90.7	34 - 130	1.92	20	
1,2-Dibromoethane	53.5700	5.0	0.80	50.0000	ND	107	45 - 125	0.355	20	
1,2-Dichlorobenzene	47.9700	5.0	0.51	50.0000	ND	95.9	25 - 130	7.08	20	
1,2-Dichloroethane	45.1300	5.0	0.53	50.0000	ND	90.3	51 - 119	4.10	20	
1,2-Dichloropropane	44.0100	5.0	0.76	50.0000	ND	88.0	54 - 113	9.42	20	
1,3,5-Trimethylbenzene	43.6500	5.0	0.58	50.0000	ND	87.3	34 - 128	12.8	20	
1,3-Dichlorobenzene	47.4600	5.0	0.63	50.0000	ND	94.9	26 - 130	9.89	20	
1,3-Dichloropropane	46.0500	5.0	0.59	50.0000	ND	92.1	53 - 117	7.22	20	
1,4-Dichlorobenzene	47.2200	5.0	0.73	50.0000	ND	94.4	26 - 130	8.98	20	
2,2-Dichloropropane	43.1600	5.0	0.68	50.0000	ND	86.3	52 - 128	11.6	20	
2-Chlorotoluene	42.3500	5.0	0.68	50.0000	ND	84.7	34 - 126	11.7	20	
4-Chlorotoluene	42.2800	5.0	0.62	50.0000	ND	84.6	32 - 128	11.6	20	



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Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S (continued)

Matrix Spike Dup (B7F0506-MSD1) - Continued

Source: 1702416-01

Prepared: 6/26/2017 Analyzed: 6/26/2017

4-Isopropyltoluene	44.3900	5.0	0.63	50.0000	ND	88.8	28 - 133	13.9	20	
Benzene	94.9400	5.0	0.59	100.0000	ND	94.9	55 - 113	9.22	20	
Bromobenzene	47.1200	5.0	1.9	50.0000	ND	94.2	36 - 122	8.96	20	
Bromochloromethane	51.3500	5.0	3.1	50.0000	ND	103	50 - 118	6.21	20	
Bromodichloromethane	47.2800	5.0	1.0	50.0000	ND	94.6	51 - 117	7.55	20	
Bromoform	56.9500	5.0	0.70	50.0000	ND	114	39 - 130	0.368	20	
Bromomethane	46.0200	5.0	4.2	50.0000	ND	92.0	38 - 151	16.9	20	
Carbon disulfide	47.3900	5.0	1.2	50.0000	ND	94.8	38 - 126	13.2	20	
Carbon tetrachloride	55.0200	5.0	1.1	50.0000	ND	110	43 - 141	10.4	20	
Chlorobenzene	47.1900	5.0	0.64	50.0000	ND	94.4	42 - 122	10.1	20	
Chloroethane	40.7500	5.0	1.9	50.0000	ND	81.5	42 - 129	13.5	20	
Chloroform	45.4700	5.0	1.4	50.0000	ND	90.9	56 - 117	10.8	20	
Chloromethane	41.3300	5.0	1.9	50.0000	ND	82.7	35 - 127	11.1	20	
cis-1,2-Dichloroethene	49.5600	5.0	0.87	50.0000	ND	99.1	50 - 118	3.70	20	
cis-1,3-Dichloropropene	49.8300	5.0	0.79	50.0000	ND	99.7	45 - 118	3.93	20	
Di-isopropyl ether	40.1300	5.0	0.51	50.0000	ND	80.3	51 - 119	7.46	20	
Dibromochloromethane	51.1800	5.0	1.0	50.0000	ND	102	47 - 120	3.95	20	
Dibromomethane	47.6400	5.0	0.99	50.0000	ND	95.3	48 - 118	10.1	20	
Dichlorodifluoromethane	47.5000	5.0	2.2	50.0000	ND	95.0	43 - 126	10.9	20	
Ethyl Acetate	449.800	50	9.7	500.000	ND	90.0	22 - 145	1.37	20	
Ethyl Ether	384.720	50	7.3	500.000	ND	76.9	49 - 114	4.35	20	
Ethyl tert-butyl ether	49.2700	5.0	1.4	50.0000	ND	98.5	54 - 120	3.33	20	
Ethylbenzene	91.2200	5.0	0.65	100.000	ND	91.2	42 - 123	11.8	20	
Freon-113	50.6400	5.0	1.0	50.0000	ND	101	45 - 132	8.63	20	
Hexachlorobutadiene	44.8400	5.0	0.78	50.0000	ND	89.7	4 - 135	15.9	20	
Isopropylbenzene	43.9800	5.0	0.59	50.0000	ND	88.0	40 - 127	13.6	20	
m,p-Xylene	88.7900	10	1.2	100.000	ND	88.8	39 - 127	12.3	20	
Methylene chloride	41.7600	5.0	1.4	50.0000	ND	83.5	51 - 140	11.8	20	
MTBE	46.0500	5.0	0.50	50.0000	ND	92.1	52 - 120	3.29	20	
n-Butylbenzene	42.1400	5.0	0.75	50.0000	ND	84.3	19 - 141	15.1	20	
n-Propylbenzene	43.5800	5.0	0.55	50.0000	ND	87.2	34 - 131	13.6	20	
Naphthalene	50.4100	5.0	1.2	50.0000	ND	101	11 - 136	4.98	20	
o-Xylene	88.4600	5.0	0.86	100.000	ND	88.5	40 - 124	11.1	20	
sec-Butylbenzene	44.5200	5.0	0.79	50.0000	ND	89.0	29 - 132	12.8	20	
Styrene	48.5400	5.0	0.82	50.0000	ND	97.1	36 - 130	10.5	20	
tert-Amyl methyl ether	44.2700	5.0	1.5	50.0000	ND	88.5	49 - 119	4.35	20	
tert-Butanol	224.830	100	5.9	250.000	ND	89.9	29 - 138	4.83	20	
tert-Butylbenzene	44.5900	5.0	0.57	50.0000	ND	89.2	34 - 129	12.6	20	
Tetrachloroethene	51.5600	5.0	0.65	50.0000	ND	103	37 - 132	11.9	20	
Toluene	101.170	5.0	0.80	100.000	ND	101	48 - 122	8.18	20	
trans-1,2-Dichloroethene	48.6600	5.0	1.5	50.0000	ND	97.3	51 - 123	11.3	20	
trans-1,3-Dichloropropene	44.6000	5.0	0.63	50.0000	ND	89.2	38 - 125	5.71	20	



Certificate of Analysis

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Volatile Organic Compounds by EPA 5035/EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
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Batch B7F0506 - MSVOA_S (continued)

Matrix Spike Dup (B7F0506-MSD1) - Continued

Source: 1702416-01

Prepared: 6/26/2017 Analyzed: 6/26/2017

Trichloroethene	53.6100	5.0	1.1	50.0000	ND	107	41 - 136	6.39	20	
Trichlorofluoromethane	47.0400	5.0	0.89	50.0000	ND	94.1	44 - 126	9.15	20	
Vinyl acetate	403.950	50	5.7	500.000	ND	80.8	0 - 154	12.2	20	
Vinyl chloride	41.7400	5.0	2.0	50.0000	ND	83.5	47 - 122	9.41	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>40.07</i>			<i>50.0000</i>		<i>80.1</i>	<i>12 - 186</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>44.61</i>			<i>50.0000</i>		<i>89.2</i>	<i>23 - 162</i>			
<i>Surrogate: Dibromofluoromethan</i>	<i>48.82</i>			<i>50.0000</i>		<i>97.6</i>	<i>23 - 179</i>			
<i>Surrogate: Toluene-d8</i>	<i>48.24</i>			<i>50.0000</i>		<i>96.5</i>	<i>26 - 164</i>			



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Pacific Palisades , CA 90272

Project Number : Former Crown Cleaners

Report To : Dan Louks

Reported : 06/28/2017

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

Page 1 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only
ATLCOG Ver: 20130715

Method of Transport <input type="checkbox"/> Client <input type="checkbox"/> FedEx <input type="checkbox"/> GSO <input type="checkbox"/> Other:	Condition		Condition	
	<input type="checkbox"/> ATL	<input type="checkbox"/> OnTrac	<input type="checkbox"/> Y	<input type="checkbox"/> N
	<input type="checkbox"/> 1. CHILLED	<input type="checkbox"/> 5. # OF SAMPLES MATCH COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> 2. HEADSPACE (VOA)	<input type="checkbox"/> 6. PRESERVED	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 3. CONTAINER INTACT	<input type="checkbox"/> 7. COOLER TEMP, deg C:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> 4. SEALED	<input type="checkbox"/> 8. OTHER:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Company: GSA ENGINEERING, INC	Address:	Tel:
Attn: DAN LOUKS	City:	Fax:
Company: GSA ENGINEERING, INC	Address:	SEND INVOICE TO:
Address: 16950 AVENIDA DE SANTA YNEB	City:	<input type="checkbox"/> same as SEND REPORT TO
City: PACIFIC PALISADES	State: CA	Zip: 90272
Project Name: FORMER CROWN CLOONEY	Quote No:	Attn: MICHAEL ANSELMO
Project No.:	PO #:	Company: L JOSEPH & ASS
Sampler: DAN LOUKS	Special Instructions/Comments:	Address: P.O. BOX 4832
		City: OCEANSIDE, CA
		State: CA
		Zip: 92052

ITEM	Lab No.	Sample ID / Location	Sample Description	Special Instructions/Comments:		Encircle or Write Requested Analysis	Encircle Sample Matrix					Container	QA/QC	REMARKS	
				Date	Time		SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL				TAT
1	1702387-1	V14-5		6/21/17	7:55	X								3	
2	-2	V14-10			8:10	X									
3	-3	V14-15			8:30	X									
4	-4	V15-5			12:00	X									
5	-5	V15-10			12:10	X									
6	-6	V15-15			12:25	X									
7	-7	V110-5			9:05	X									
8	-8	V110-10			9:20	X									
9	-9	V110-15			9:35	X									
10															

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Submitter Print Name: _____ Signature: _____

Date: 6/21/17 Time: 14:15

Received by: (Signature and Printed Name) DAN R. LOUKS Date: 6/21/17 Time: 14:15

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____

- Sample receiving hours: 9:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
- Site visit hours: 8:00 AM to 4:00 PM.
- The following turnaround time conditions apply:
TAT = 0 - 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
TAT = 1 - 100% Surcharge NEXT BUSINESS DAY if received by 9:00 AM
TAT = 2 - 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
TAT = 3 - 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
TAT = 4 - 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
TAT = 5 - 10% Surcharge 5TH BUSINESS DAY (COB 5:00 PM)
- Weekend, holiday, after-hours work - ask for quote.
- Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab - ask for quote.
- Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
- Electronic records maintained for five (5) years from report date.
- Hard copy reports will be disposed of after 45 calendar days from report date.
- Storage & disposal:
- 30 days complimentary storage for forty-five (45) calendar days from receipt of samples; \$2/sample/month if extended storage or hold is requested.
- Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; \$20/sample/week if extended storage is requested.
- Hard copy and regenerated reports/EDDs; \$17.50 per hard copy report requested; \$50.00 per regenerated/reforms ed report; \$35 per reprocessed EDD.
10. Rich TCLP/STC samples; add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of \$7 per sample.

CHAIN OF CUSTODY RECORD

Page 2 of 2

Instruction: Complete all shaded areas.

For Laboratory Use Only ATLCOG Ver: 20130715

Method of Transport	Condition	Y	N
<input checked="" type="checkbox"/> Client	<input checked="" type="checkbox"/> CHILLED		
<input type="checkbox"/> FedEx	<input type="checkbox"/> 5. # OF SAMPLES MATCH COC		
<input type="checkbox"/> GSO	<input type="checkbox"/> 6. PRESERVED		
<input type="checkbox"/> Other:	<input type="checkbox"/> 7. COOLER TEMP. REG. C.		
	<input type="checkbox"/> 8. SEALED		

Company: GSA ENGINEERING **Address:** _____ **Tel:** _____
City: _____ **State:** _____ **Zip:** _____
SEND REPORT TO: _____ **SEND INVOICE TO:** _____ same as SEND REPORT TO
Attn: DAN LOUKS **Email:** _____
Company: dane.ssaengineering.net **Attn:** MICHAEL ANSELMO **Email:** _____
Address: 16950 AVENIDA DE SANTA YNEB **Company:** LJOSEPH + ASSJ **Address:** _____
City: PACIFIC PALISADES **State:** CA **City:** OCEANSIDE **State:** CA **Zip:** 92072

ITEM	Lab No.	Sample ID / Location	Date	Time	Special Instructions/Comments:	Encircle or Write Requested Analysis							Container	REMARKS				
						SOIL / SEDIMENT / SLUDGE	SOLIDS / WIPE / FILTER	WATER - DRINKING / GROUND	WATER - STORM / WASTE	AQUEOUS / LAYERED - OIL	TAT	QA/QC						
1	1702387-10	VP11-5	6/21/17	11:00														
2	-11	VP11-10		11:10														
3	-11	VP11-15		11:25														
4	-13	VP12-5		9:55														
5	-14	VP12-10		10:05														
6	-15	VP12-15		10:15														
7																		
8																		
9																		
10																		

Project Name: FORMER CROWN CLEANERS **Quote No:** _____
Project No.: _____ **PC #:** _____
Sampler: DAN LOUKS

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.
DAN LOUKS **Signature**
Submitter Print Name

Received by: (Signature and Printed Name) _____ **Date:** 6/21/17 **Time:** 14:15
Relinquished by: (Signature and Printed Name) _____ **Date:** _____ **Time:** _____
Relinquished by: (Signature and Printed Name) _____ **Date:** _____ **Time:** _____

APPENDIX D



A & R Laboratories

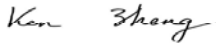
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 951-779-0310
 www.arlaboratories.com

FAX 951-779-0344
 office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	 Ken Zheng, President 07/03/2017 15:57:37
Laboratory Job No. (Certificate of Analysis No.)	1706-00245
Project Name / No.	24601 Raymond Way, Lake Forest, CA
Dates Sampled (from/to)	06/28/17 To 06/28/17
Dates Received (from/to)	06/28/17 To 06/28/17
Dates Reported (from/to)	07/03/17 To 7/3/2017
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Sample	Analyte	Result	Qual	Units	RL
VP12-5	Toluene	0.12		µg/L	0.10	VP12-10	Tetrachloroethene	0.15		µg/L	0.10
VP12-10	Toluene	0.36		µg/L	0.10	VP12-15	Tetrachloroethene	0.21		µg/L	0.10
VP1-5	Tetrachloroethene	0.16		µg/L	0.10	VP1-5DUP	Tetrachloroethene	0.11		µg/L	0.10
VP1-10	Toluene	0.050	J	µg/L	0.10	VP1-15	Tetrachloroethene	0.13		µg/L	0.10
VP5-5	Tetrachloroethene	0.86		µg/L	0.10	VP5-10	Toluene	0.28		µg/L	0.10
VP5-15	Tetrachloroethene	3.7		µg/L	0.10	VP3-15	Tetrachloroethene	0.51		µg/L	0.10
VP2-5	Tetrachloroethene	0.090	J	µg/L	0.10	VP9-5	Tetrachloroethene	1.1		µg/L	0.10
VP9-5	Toluene	0.15		µg/L	0.10	VP9-10	Tetrachloroethene	0.12		µg/L	0.10
VP9-10	Toluene	0.20		µg/L	0.10	VP9-15	Tetrachloroethene	0.10		µg/L	0.10
VP6-10	Tetrachloroethene	16		µg/L	0.10	VP6-15	Tetrachloroethene	35		µg/L	0.10



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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 VP12-5								Date & Time Sampled:	06/28/17	@ 10:00
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	10:17	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:17	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:17	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:17	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ

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LA City#	10261
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	2790
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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 VP12-5							Date & Time Sampled: 06/28/17 @ 10:00			
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	10:17	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	10:17	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Toluene	0.12		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 VP12-5 Date & Time Sampled: 06/28/17 @ 10:00										
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:17	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:17	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	10:17	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:17	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:17	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	10:17	KZ
Toluene-D8	98		%REC	EPA 8260B			70-130	06/28/17	10:17	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	10:17	KZ
Sample: 002 VP12-10 Date & Time Sampled: 06/28/17 @ 10:25										
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	10:40	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
 MICHAEL ANSELMO
 441 CALLE CORAZON
 OCEANSIDE, CA 92052

Date Reported 07/03/17
 Date Received 06/28/17
 Invoice No. 79759
 Cust # L092
 Permit Number
 Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 VP12-10						Date & Time Sampled:		06/28/17	@	10:25
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:40	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:40	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:40	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 VP12-10						Date & Time Sampled: 06/28/17 @ 10:25				
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	10:40	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	10:40	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Tetrachloroethane	0.15		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Toluene	0.36		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	10:40	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	10:40	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	10:40	KZ

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 VP12-10						Date & Time Sampled:		06/28/17	@	10:25
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	10:40	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	10:40	KZ
[VOC Surrogates]										
Dibromofluoromethane	113		%REC	EPA 8260B			70-130	06/28/17	10:40	KZ
Toluene-D8	102		%REC	EPA 8260B			70-130	06/28/17	10:40	KZ
Bromofluorobenzene	89		%REC	EPA 8260B			70-130	06/28/17	10:40	KZ
Sample: 003 VP12-15						Date & Time Sampled:		06/28/17	@	10:58
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	11:08	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:08	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 VP12-15								Date & Time Sampled: 06/28/17	@ 10:58	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:08	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:08	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	11:08	KZ

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USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research



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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 VP12-15								Date & Time Sampled: 06/28/17	@ 10:58	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	11:08	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Tetrachloroethane	0.21		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:08	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:08	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	11:08	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:08	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:08	KZ
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/28/17	11:08	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	11:08	KZ
Bromofluorobenzene	91		%REC	EPA 8260B			70-130	06/28/17	11:08	KZ



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OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 VP1-5								Date & Time Sampled: 06/28/17	@ 11:16	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	11:31	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:31	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:31	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:31	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 VP1-5								Date & Time Sampled: 06/28/17	@ 11:16	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	11:31	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	11:31	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Tetrachloroethene	0.16		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ

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Date Reported 07/03/17
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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 VP1-5 Date & Time Sampled: 06/28/17 @ 11:16 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:31	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:31	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	11:31	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:31	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:31	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	11:31	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	11:31	KZ
Bromofluorobenzene	89		%REC	EPA 8260B			70-130	06/28/17	11:31	KZ
Sample: 005 VP1-5DUP Date & Time Sampled: 06/28/17 @ 11:16 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	11:55	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 VP1-5DUP								Date & Time Sampled: 06/28/17	@ 11:16	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:55	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:55	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:55	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 VP1-5DUP								Date & Time Sampled: 06/28/17 @ 11:16		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	11:55	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	11:55	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Tetrachloroethane	0.11		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	11:55	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	11:55	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	11:55	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 VP1-5DUP Date & Time Sampled: 06/28/17 @ 11:16 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	11:55	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	11:55	KZ
[VOC Surrogates]										
Dibromofluoromethane	110		%REC	EPA 8260B			70-130	06/28/17	11:55	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	11:55	KZ
Bromofluorobenzene	93		%REC	EPA 8260B			70-130	06/28/17	11:55	KZ
Sample: 006 VP1-10 Date & Time Sampled: 06/28/17 @ 11:55 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	12:18	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:18	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 VP1-10						Date & Time Sampled: 06/28/17 @ 11:55				
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:18	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:18	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	12:18	KZ

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Date Reported 07/03/17
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Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 VP1-10								Date & Time Sampled:	06/28/17	@ 11:55
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	12:18	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Toluene	0.050	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:18	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:18	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	12:18	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:18	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:18	KZ
[VOC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B			70-130	06/28/17	12:18	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	12:18	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	12:18	KZ



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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 VP1-15								Date & Time Sampled: 06/28/17 @ 12:20		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	12:41	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:41	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:41	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:41	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ

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OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 VP1-15						Date & Time Sampled: 06/28/17 @ 12:20				
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	12:41	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	12:41	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Tetrachloroethene	0.13		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 VP1-15 Date & Time Sampled: 06/28/17 @ 12:20 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	12:41	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	12:41	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	12:41	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	12:41	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	12:41	KZ
[VOC Surrogates]										
Dibromofluoromethane	113		%REC	EPA 8260B			70-130	06/28/17	12:41	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	12:41	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	12:41	KZ
Sample: 008 VP5-5 Date & Time Sampled: 06/28/17 @ 12:55 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	1:05	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ

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Cust # L092
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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 VP5-5								Date & Time Sampled: 06/28/17	@ 12:55	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:05	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:05	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:05	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ

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Formerly Microbac Southern California

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CERTIFICATE OF ANALYSIS

1706-00245

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 VP5-5								Date & Time Sampled:	06/28/17	@ 12:55
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	1:05	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	1:05	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Tetrachloroethane	0.86		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:05	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:05	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	1:05	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 VP5-5						Date & Time Sampled:		06/28/17	@	12:55
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:05	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:05	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	1:05	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	1:05	KZ
Bromofluorobenzene	93		%REC	EPA 8260B			70-130	06/28/17	1:05	KZ
Sample: 009 VP5-10						Date & Time Sampled:		06/28/17	@	13:18
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	1:29	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:29	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 VP5-10								Date & Time Sampled: 06/28/17	@ 13:18	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:29	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:29	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	1:29	KZ

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 Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 VP5-10								Date & Time Sampled: 06/28/17	@ 13:18	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	1:29	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Toluene	0.28		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:29	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:29	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	1:29	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:29	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:29	KZ
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/28/17	1:29	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	1:29	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	1:29	KZ



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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 VP5-15								Date & Time Sampled: 06/28/17 @ 13:47		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	1:56	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:56	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:56	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:56	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 VP5-15								Date & Time Sampled: 06/28/17	@ 13:47	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	1:56	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	1:56	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Tetrachloroethene	3.7		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
 MICHAEL ANSELMO
 441 CALLE CORAZON
 OCEANSIDE, CA 92052

Date Reported 07/03/17
 Date Received 06/28/17
 Invoice No. 79759
 Cust # L092
 Permit Number
 Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 VP5-15 Date & Time Sampled: 06/28/17 @ 13:47 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	1:56	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	1:56	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	1:56	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	1:56	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	1:56	KZ
[VOC Surrogates]										
Dibromofluoromethane	117		%REC	EPA 8260B			70-130	06/28/17	1:56	KZ
Toluene-D8	106		%REC	EPA 8260B			70-130	06/28/17	1:56	KZ
Bromofluorobenzene	92		%REC	EPA 8260B			70-130	06/28/17	1:56	KZ
Sample: 011 VP3-5 Date & Time Sampled: 06/28/17 @ 14:09 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	2:19	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 VP3-5								Date & Time Sampled: 06/28/17	@ 14:09	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:19	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:19	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:19	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 VP3-5								Date & Time Sampled: 06/28/17	@ 14:09	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	2:19	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	2:19	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:19	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:19	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	2:19	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 VP3-5 Date & Time Sampled: 06/28/17 @ 14:09 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:19	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:19	KZ
[VOC Surrogates]										
Dibromofluoromethane	111		%REC	EPA 8260B			70-130	06/28/17	2:19	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	2:19	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	2:19	KZ
Sample: 012 VP3-10 Date & Time Sampled: 06/28/17 @ 14:36 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	2:42	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:42	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ

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1706-00245

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 VP3-10								Date & Time Sampled: 06/28/17	@ 14:36	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:42	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:42	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	2:42	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
 MICHAEL ANSELMO
 441 CALLE CORAZON
 OCEANSIDE, CA 92052

Date Reported 07/03/17
 Date Received 06/28/17
 Invoice No. 79759
 Cust # L092
 Permit Number
 Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 VP3-10								Date & Time Sampled: 06/28/17	@ 14:36	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	2:42	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	2:42	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	2:42	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	2:42	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	2:42	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	2:42	KZ
[VOC Surrogates]										
Dibromofluoromethane	109		%REC	EPA 8260B			70-130	06/28/17	2:42	KZ
Toluene-D8	101		%REC	EPA 8260B			70-130	06/28/17	2:42	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	2:42	KZ

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 VP3-15								Date & Time Sampled: 06/28/17	@ 14:59	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	3:09	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:09	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:09	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:09	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 VP3-15								Date & Time Sampled: 06/28/17	@ 14:59	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	3:09	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	3:09	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Tetrachloroethene	0.51		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 VP3-15 Date & Time Sampled: 06/28/17 @ 14:59 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:09	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:09	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	3:09	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:09	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:09	KZ
[VOC Surrogates]										
Dibromofluoromethane	118		%REC	EPA 8260B			70-130	06/28/17	3:09	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	3:09	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	3:09	KZ
Sample: 014 VP2-5 Date & Time Sampled: 06/28/17 @ 15:21 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	3:32	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ

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OCEANSIDE, CA 92052

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Cust # L092
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Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 VP2-5						Date & Time Sampled:		06/28/17	@	15:21
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:32	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:32	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:32	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ

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Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 VP2-5								Date & Time Sampled:	06/28/17	@ 15:21
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	3:32	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	3:32	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Tetrachloroethane	0.090	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:32	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:32	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	3:32	KZ

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Sample: 014 VP2-5						Date & Time Sampled:		06/28/17	@	15:21
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:32	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:32	KZ
[VOC Surrogates]										
Dibromofluoromethane	119		%REC	EPA 8260B			70-130	06/28/17	3:32	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	3:32	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	3:32	KZ
Sample: 015 VP2-10						Date & Time Sampled:		06/28/17	@	15:50
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	3:58	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:58	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 VP2-10								Date & Time Sampled: 06/28/17	@ 15:50	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:58	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:58	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	3:58	KZ

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1706-00245

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 VP2-10								Date & Time Sampled: 06/28/17	@ 15:50	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	3:58	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	3:58	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	3:58	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	3:58	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	3:58	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	3:58	KZ
[VOC Surrogates]										
Dibromofluoromethane	114		%REC	EPA 8260B			70-130	06/28/17	3:58	KZ
Toluene-D8	103		%REC	EPA 8260B			70-130	06/28/17	3:58	KZ
Bromofluorobenzene	91		%REC	EPA 8260B			70-130	06/28/17	3:58	KZ



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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 VP2-15								Date & Time Sampled: 06/28/17	@ 16:10	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	4:20	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:20	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:20	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:20	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ

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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 VP2-15								Date & Time Sampled: 06/28/17	@ 16:10	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	4:20	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	4:20	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 VP2-15						Date & Time Sampled:		06/28/17	@	16:10
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:20	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:20	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	4:20	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:20	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:20	KZ
[VOC Surrogates]										
Dibromofluoromethane	118		%REC	EPA 8260B			70-130	06/28/17	4:20	KZ
Toluene-D8	106		%REC	EPA 8260B			70-130	06/28/17	4:20	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	4:20	KZ
Sample: 017 VP9-5						Date & Time Sampled:		06/28/17	@	16:40
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	4:50	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ

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1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 017 VP9-5								Date & Time Sampled: 06/28/17	@ 16:40	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:50	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:50	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:50	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 017 VP9-5								Date & Time Sampled: 06/28/17	@ 16:40	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	4:50	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	4:50	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Tetrachloroethane	1.1		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Toluene	0.15		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	4:50	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	4:50	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	4:50	KZ

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Cust # L092
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Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 017 VP9-5 Date & Time Sampled: 06/28/17 @ 16:40 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	4:50	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	4:50	KZ
[VOC Surrogates]										
Dibromofluoromethane	118		%REC	EPA 8260B			70-130	06/28/17	4:50	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	4:50	KZ
Bromofluorobenzene	90		%REC	EPA 8260B			70-130	06/28/17	4:50	KZ
Sample: 018 VP9-10 Date & Time Sampled: 06/28/17 @ 17:00 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	5:12	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:12	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 018 VP9-10								Date & Time Sampled: 06/28/17	@ 17:00	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:12	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:12	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	5:12	KZ

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Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 018 VP9-10								Date & Time Sampled: 06/28/17	@ 17:00	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	5:12	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Tetrachloroethane	0.12		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Toluene	0.20		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:12	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:12	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	5:12	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:12	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:12	KZ
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/28/17	5:12	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	5:12	KZ
Bromofluorobenzene	86		%REC	EPA 8260B			70-130	06/28/17	5:12	KZ



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Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 019 VP9-15								Date & Time Sampled: 06/28/17	@ 17:25	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	5:35	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:35	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:35	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:35	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ

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Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 019 VP9-15						Date & Time Sampled: 06/28/17 @ 17:25				
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	5:35	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	5:35	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Tetrachloroethene	0.10		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ

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Sample: 019 VP9-15 Date & Time Sampled: 06/28/17 @ 17:25 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:35	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:35	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	5:35	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:35	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:35	KZ
[VOC Surrogates]										
Dibromofluoromethane	111		%REC	EPA 8260B			70-130	06/28/17	5:35	KZ
Toluene-D8	105		%REC	EPA 8260B			70-130	06/28/17	5:35	KZ
Bromofluorobenzene	89		%REC	EPA 8260B			70-130	06/28/17	5:35	KZ
Sample: 020 VP6-10 Date & Time Sampled: 06/28/17 @ 17:50 Sample Matrix: Soil Vapor Purge Volume Sampled: 3 [VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	5:57	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 020 VP6-10								Date & Time Sampled: 06/28/17	@ 17:50	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:57	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:57	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:57	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ

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Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 020 VP6-10								Date & Time Sampled: 06/28/17	@ 17:50	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	5:57	KZ
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	5:57	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Tetrachloroethene	16		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	5:57	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	5:57	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	5:57	KZ

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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/28/17
Invoice No. 79759
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 020 VP6-10 Date & Time Sampled: 06/28/17 @ 17:50 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	5:57	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	5:57	KZ
[VOC Surrogates]										
Dibromofluoromethane	114		%REC	EPA 8260B			70-130	06/28/17	5:57	KZ
Toluene-D8	104		%REC	EPA 8260B			70-130	06/28/17	5:57	KZ
Bromofluorobenzene	88		%REC	EPA 8260B			70-130	06/28/17	5:57	KZ
Sample: 021 VP6-15 Date & Time Sampled: 06/28/17 @ 18:10 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/28/17	6:20	KZ
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	6:20	KZ
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ

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Date Reported 07/03/17
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Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 021 VP6-15								Date & Time Sampled: 06/28/17	@ 18:10	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	6:20	KZ
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	6:20	KZ
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/28/17	6:20	KZ

The data and information on this, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon condition that it is not to be reproduced, wholly or in part, for advertising or other purposes without approval from the laboratory.

USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research



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CERTIFICATE OF ANALYSIS

1706-00245

L. JOSEPH ASSOCIATES, LLC
 MICHAEL ANSELMO
 441 CALLE CORAZON
 OCEANSIDE, CA 92052

Date Reported 07/03/17
 Date Received 06/28/17
 Invoice No. 79759
 Cust # L092
 Permit Number
 Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 021 VP6-15								Date & Time Sampled: 06/28/17	@ 18:10	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/28/17	6:20	KZ
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Tetrachloroethane	35		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/28/17	6:20	KZ
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/28/17	6:20	KZ
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/28/17	6:20	KZ
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/28/17	6:20	KZ
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/28/17	6:20	KZ
[VOC Surrogates]										
Dibromofluoromethane	114		%REC	EPA 8260B			70-130	06/28/17	6:20	KZ
Toluene-D8	107		%REC	EPA 8260B			70-130	06/28/17	6:20	KZ
Bromofluorobenzene	94		%REC	EPA 8260B			70-130	06/28/17	6:20	KZ



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Respectfully Submitted:

Ken Zheng - President

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
 B1 = BOD dilution water is over specifications . The reported result may be biased high.
 D = Surrogate recoveries are not calculated due to sample dilution.
 E = Estimated value; Value exceeds calibration level of instrument.
 H = Analyte was prepared and/or analyzed outside of the analytical method holding time
 I = Matrix Interference.
 J = Analyte concentration detected between RL and MDL.
 Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
 S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
 RL = Reporting Limit, Adjusted by DF
 MDL = Method Detection Limit, Adjusted by DF
 Qual = Qualifier
 Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



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QUALITY CONTROL DATA REPORT

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

1706-00245

Date Reported 07/03/2017
Date Received 06/28/2017
Date Sampled 06/28/2017
Invoice No. 79759
Customer # L092
Customer P.O.

Project: 24601 Raymond Way, Lake Forest, CA

Method #	EPA 8260B																						
QC Reference #	65660						Date Analyzed: 6/28/2017						Technician: KZ										
Samples	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021		
Results	LCS %REC				LCS %DUP				LCS %RPD				BLKSRR% REC				Control Ranges						
																	LCS %REC	LCS %RPD	BLKSRR%REC				
1,1-Dichloroethene	128				120				8												70 - 130	0 - 25	
Benzene	124				124				0												70 - 130	0 - 25	
Bromofluorobenzene												93											70 - 130
Chlorobenzene	125				113				12												70 - 130	0 - 25	
Dibromofluoromethan												121											70 - 130
Toluene	120				120				0												70 - 130	0 - 25	
Toluene-D8												103											70 - 130
Trichloroethene	127				110				17												70 - 130	0 - 25	



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QUALITY CONTROL DATA REPORT

1706-00245

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO

Date Reported 07/03/2017
Date Received 06/28/2017
Date Sampled 06/28/2017

Project: 24601 Raymond Way, Lake Forest, CA

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
65660	Acetone	<0.0000		µg/L	5.0000		Isopropylbenzene	<0.5000		µg/L	0.5000
	t-Amyl Methyl Ether (TAME)	<0.5000		µg/L	0.5000		4-Isopropyltoluene	<0.5000		µg/L	0.5000
	Benzene	<0.3600		µg/L	0.3600		Methylene Chloride	<0.5000		µg/L	0.5000
	Bromobenzene	<0.5000		µg/L	0.5000		4-Methyl-2-Pentanone (MIBK)	<0.5000		µg/L	5.0000
	Bromochloromethane	<0.5000		µg/L	0.5000		Methyl-t-butyl Ether (MtBE)	<0.5000		µg/L	0.5000
	Bromodichloromethane	<0.5000		µg/L	0.5000		Naphthalene	<0.3200		µg/L	0.3200
	Bromoform	<0.5000		µg/L	0.5000		n-Propylbenzene	<0.5000		µg/L	0.5000
	Bromomethane	<0.5000		µg/L	0.5000		Styrene	<0.5000		µg/L	0.5000
	t-Butanol (TBA)	<5.0000		µg/L	5.0000		1,1,1,2-Tetrachloroethane	<0.5000		µg/L	0.5000
	2-Butanone (MEK)	<5.0000		µg/L	5.0000		1,1,2,2-Tetrachloroethane	<0.5000		µg/L	0.5000
	n-Butylbenzene	<0.5000		µg/L	0.5000		Tetrachloroethene	<0.5000		µg/L	0.5000
	sec-Butylbenzene	<0.5000		µg/L	0.5000		Toluene	<0.5000		µg/L	0.5000
	tert-Butylbenzene	<0.5000		µg/L	0.5000		1,2,3-Trichlorobenzene	<0.5000		µg/L	0.5000
	Carbon Disulfide	<5.0000		µg/L	5.0000		1,2,4-Trichlorobenzene	<0.5000		µg/L	0.5000
	Carbon Tetrachloride	<0.2500		µg/L	0.2500		1,1,1-Trichloroethane	<0.5000		µg/L	0.5000
	Chlorobenzene	<0.5000		µg/L	0.5000		1,1,2-Trichloroethane	<0.5000		µg/L	0.5000
	Chloroethane	<0.5000		µg/L	0.5000		Trichloroethene	<0.5000		µg/L	0.5000
	Chloroform	<0.5000		µg/L	0.5000		1,2,3-Trichloropropane	<0.2000		µg/L	0.2000
	Chloromethane	<0.5000		µg/L	0.5000		Trichlorofluoromethane	<0.5000		µg/L	0.5000
	2-Chlorotoluene	<0.5000		µg/L	0.5000		Trichlorotrifluoroethane	<0.5000		µg/L	0.5000
	4-Chlorotoluene	<0.5000		µg/L	0.5000		1,2,4-Trimethylbenzene	<0.5000		µg/L	0.5000
	Dibromochloromethane	<0.5000		µg/L	0.5000		1,3,5-Trimethylbenzene	<0.5000		µg/L	0.5000
	1,2-Dibromoethane (EDB)	<0.2000		µg/L	0.2000		Vinyl Chloride	<0.2500		µg/L	0.2500
	1,2-Dibromo-3-Chloropropane	<0.2000		µg/L	0.2000		m,p-Xylenes	<1.0000		µg/L	1.0000
	Dibromomethane	<0.5000		µg/L	0.5000		o-Xylene	<0.5000		µg/L	0.5000
	1,2-Dichlorobenzene	<0.5000		µg/L	0.5000		Isopropanol (IPA)	<5.0000		µg/L	5.0000
	1,3-Dichlorobenzene	<0.5000		µg/L	0.5000						
	1,4-Dichlorobenzene	<0.5000		µg/L	0.5000						
	Dichlorodifluoromethane	<0.5000		µg/L	0.5000						
	1,1-Dichloroethane	<0.5000		µg/L	0.5000						
	1,2-Dichloroethane	<0.5000		µg/L	0.5000						
	1,1-Dichloroethene	<0.5000		µg/L	0.5000						
	cis-1,2-Dichloroethene	<0.5000		µg/L	0.5000						
	trans-1,2-Dichloroethene	<0.5000		µg/L	0.5000						
	1,2-Dichloropropane	<0.5000		µg/L	0.5000						
	1,3-Dichloropropane	<0.5000		µg/L	0.5000						
	2,2-Dichloropropane	<0.5000		µg/L	0.5000						
	1,1-Dichloropropene	<0.5000		µg/L	0.5000						
	cis-1,3-Dichloropropene	<0.5000		µg/L	0.5000						
	trans-1,3-Dichloropropene	<0.5000		µg/L	0.5000						
	Diisopropyl Ether (DIPE)	<0.5000		µg/L	0.5000						
	Ethylbenzene	<0.5000		µg/L	0.5000						
	Ethyl-t-Butyl Ether (EtBE)	<0.5000		µg/L	0.5000						
	Hexachlorobutadiene	<0.5000		µg/L	0.5000						
	2-Hexanone	<5.0000		µg/L	5.0000						



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QUALITY CONTROL DATA REPORT

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO

1706-00245

Date Reported 07/03/2017
Date Received 06/28/2017
Date Sampled 06/28/2017

Project: 24601 Raymond Way, Lake Forest, CA

Respectfully Submitted:

Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



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CHAIN OF CUSTODY

Bill to **LISA-MICHAEL ANSELMO**

A & R Work Order #: **1706-245**

Page **1** of **2**

Client Name: **GSA - Lake Forest / L. Joseph & Assoc**

E-mail: **josephl@amail.com**

Address: **16950 Ave. De SANTA FE 3, PP CA 90272**

Report Attention: **Dan Low** Phone #: **(310) 575-5703** Sampled By: **DL**

Project No./Name: **Rover Lower CL** Project Site: **24601 Raymond Way, Lake Forest**

Lab # (Lab use): **VP12-5** Client: **VP12-10** Date: **6/28/17** Time: **10:00** Matrix Type: **Any** Sample Preserve: **250ml G** No., type & size of container: **X**

-2 **VP12-10** **10:25** **Any** **250ml G** **X**

-3 **VP12-15** **10:58** **Any** **250ml G** **X**

-4 **VP1-5** **11:16** **Any** **250ml G** **X**

-5 **VP1-5 dup** **11:16** **Any** **250ml G** **X**

-6 **VP1-10** **11:55** **Any** **250ml G** **X**

-7 **VP1-15** **12:20** **Any** **250ml G** **X**

-8 **VP5-5** **12:55** **Any** **250ml G** **X**

-9 **VP5-10** **13:18** **Any** **250ml G** **X**

-10 **VP5-15** **13:42** **Any** **250ml G** **X**

-11 **VP3-5** **14:09** **Any** **250ml G** **X**

-12 **VP3-10** **14:36** **Any** **250ml G** **X**

-13 **VP3-15** **14:59** **Any** **250ml G** **X**

-14 **VP2-5** **15:21** **Any** **250ml G** **X**

-15 **VP2-10** **15:50** **Any** **250ml G** **X**

Relinquished By: **D. R. D.** Company: **GSF** Date: **6/28/17** Time: **16:00**

Received By: **[Signature]** Company: **GSF** Date: **6/28/17** Time: **18:00**

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Turn Around Time Requested

Rush 8 12 24 48 Hours
 Normal

Remarks

Legs & Mike Some Water 3PV

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste, SL=Sludge, SS=Soil/Sediment, AR=Air, PP=Pure Product, IC=Ice, HC=HCl, HN=HNO3, SH=NaOH, ST=Na2SO3, HS=H2SO4, * Sample Container Types: T=Tedlar Air Bag, G=Glass Container, ST=Steel Tube, B=Brass Tube, P=Plastic Bottle, V=VOA Vial, E=Encore



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 E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #:
1706-245

Client Name: **GSA - Lake Forest / L. Joseph** Assoc
 E-mail: **josephllc@gmail.com** Shuffled

Address: **1650 AVE. 02 Santa Ana St # 100 CA 92704** Airtight

Report Attention: **Don Lewis** Phone # **301562-5749** Seal

Fax: #
 Project No./ Name: **Estimate Cost C** Project Site: **24601 Raymond Way, Lake Forest**

Lab # <small>(Lab use)</small>	Client Sample ID	Sample Collection		Matrix Type	Sample Preserve	No., type & size of container	Analyses Requested						Remarks									
		Date	Time				EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)		EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli						
-16	VP2-15	6/28/17	16:10	Air		250ml G X															3 PV	
-17	VP9-5		16:40																			
-18	VP9-10		17:00																			
-19	VP9-15		17:25																			
-20	VP6-10		17:50																			
-21	VP6-15		18:10																			

Relinquished By: **[Signature]** Company: **GSA** Date: **6/28/17** Time: **18:00**

Relinquished By: **[Signature]** Company: **GSA** Date: **6/28/17** Time: **18:00**

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste
 SL=Sludge, SS=Soil/Sediment, AR=Air, PP=Pure Product
 Preservative Code: IO=Ice, HC=HCl, HN=HNO3, SH=NaOH, ST=Na2S2O3, HS=H2SO4
 * Sample Container Types: T=Teardrop Air Bag, G=Glass Container, ST=Steel Tube
 B=Brass Tube, P=Plastic Bottle, V=VOA Vial, E=Encore

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.



A & R Laboratories

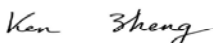
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CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	 Ken Zheng, President 07/03/2017 17:11:57
Laboratory Job No. (Certificate of Analysis No.)	1706-00278
Project Name / No.	24601 Raymond Way, Lake Forest CA
Dates Sampled (from/to)	06/30/17 To 06/30/17
Dates Received (from/to)	06/30/17 To 06/30/17
Dates Reported (from/to)	07/03/17 To 7/3/2017
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Sample	Analyte	Result	Qual	Units	RL
VP10-5	Tetrachloroethene	0.050	J	µg/L	0.10	VP10-15	Tetrachloroethene	0.050	J	µg/L	0.10
VP4-5	Tetrachloroethene	0.47		µg/L	0.10	VP4-10	Tetrachloroethene	0.15		µg/L	0.10
VP4-15	Tetrachloroethene	7.9		µg/L	0.10	VP8-5	Tetrachloroethene	6.2		µg/L	0.10
VP8-5	Trichloroethene	0.090	J	µg/L	0.10	VP8-10	Tetrachloroethene	0.090	J	µg/L	0.10
VP8-15	Tetrachloroethene	0.12		µg/L	0.10	VP7-5	Tetrachloroethene	13		µg/L	0.10
VP7-5	Trichloroethene	0.60		µg/L	0.10	VP7-5	cis-1,2-Dichloroethene	0.33		µg/L	0.10
VP7-10	Tetrachloroethene	0.57		µg/L	0.10	VP7-10	Trichloroethene	0.23		µg/L	0.10
VP7-10	cis-1,2-Dichloroethene	0.10		µg/L	0.10	VP7-15	Tetrachloroethene	4.1		µg/L	0.10
VP7-15	Trichloroethene	0.080	J	µg/L	0.10	VP7-15	cis-1,2-Dichloroethene	0.090	J	µg/L	0.10
VP11-5	Tetrachloroethene	0.13		µg/L	0.10	VP11-10	Tetrachloroethene	0.15		µg/L	0.10
VP11-15	Tetrachloroethene	0.090	J	µg/L	0.10	VP11-15DUP	Tetrachloroethene	0.070	J	µg/L	0.10



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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 VP10-5								Date & Time Sampled: 06/30/17 @ 13:20		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	1:35	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	1:35	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	1:35	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	1:35	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR

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OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 VP10-5								Date & Time Sampled: 06/30/17 @ 13:20		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	1:35	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	1:35	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Tetrachloroethene	0.050	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech	
Sample: 001 VP10-5								Date & Time Sampled:		06/30/17 @ 13:20	
Sample Matrix: Soil Vapor											
Purge Volume Sampled: 3											
.....continued											
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	1:35	AR	
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	1:35	AR	
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	1:35	AR	
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	1:35	AR	
[VOC Vapor Sampling Tracer]											
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	1:35	AR	
[VOC Surrogates]											
Dibromofluoromethane	104		%REC	EPA 8260B			70-130	06/30/17	1:35	AR	
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	1:35	AR	
Bromofluorobenzene	118		%REC	EPA 8260B			70-130	06/30/17	1:35	AR	
Sample: 002 VP10-10								Date & Time Sampled:		06/30/17 @ 13:48	
Sample Matrix: Soil Vapor											
Purge Volume Sampled: 3											
[VOCs by GCMS]											
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR	
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR	
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	2:19	AR	
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR	
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR	
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR	
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR	

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441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 VP10-10								Date & Time Sampled: 06/30/17 @ 13:48		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:19	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:19	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:19	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 VP10-10								Date & Time Sampled: 06/30/17 @ 13:48		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	2:19	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	2:19	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Tetrachloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:19	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 VP10-10								Date & Time Sampled:		06/30/17 @ 13:48
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:19	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	2:19	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:19	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:19	AR
[VOC Surrogates]										
Dibromofluoromethane	108		%REC	EPA 8260B			70-130	06/30/17	2:19	AR
Toluene-D8	96		%REC	EPA 8260B			70-130	06/30/17	2:19	AR
Bromofluorobenzene	121		%REC	EPA 8260B			70-130	06/30/17	2:19	AR
Sample: 003 VP10-15								Date & Time Sampled:		06/30/17 @ 14:31
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	2:43	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 VP10-15								Date & Time Sampled: 06/30/17 @ 14:31		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:43	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:43	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:43	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 VP10-15								Date & Time Sampled: 06/30/17 @ 14:31		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	2:43	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	2:43	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Tetrachloroethene	0.050	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	2:43	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	2:43	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	2:43	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	2:43	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	2:43	AR

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 VP10-15 Date & Time Sampled: 06/30/17 @ 14:31 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	06/30/17	2:43	AR
Toluene-D8	96		%REC	EPA 8260B			70-130	06/30/17	2:43	AR
Bromofluorobenzene	107		%REC	EPA 8260B			70-130	06/30/17	2:43	AR
Sample: 004 VP4-5 Date & Time Sampled: 06/30/17 @ 15:21 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	3:31	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:31	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 VP4-5								Date & Time Sampled: 06/30/17 @ 15:21		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:31	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:31	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	3:31	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR

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Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 VP4-5								Date & Time Sampled: 06/30/17 @ 15:21		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	3:31	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Tetrachloroethene	0.47		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:31	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:31	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	3:31	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:31	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:31	AR
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	3:31	AR
Toluene-D8	78		%REC	EPA 8260B			70-130	06/30/17	3:31	AR
Bromofluorobenzene	112		%REC	EPA 8260B			70-130	06/30/17	3:31	AR

Sample: 005 **VP4-10**
Sample Matrix: **Soil Vapor**

Date & Time Sampled: 06/30/17 @ 15:39

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441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 VP4-10								Date & Time Sampled: 06/30/17 @ 15:39		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	3:56	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:56	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:56	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:56	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR

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OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 VP4-10							Date & Time Sampled:		06/30/17 @ 15:39	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	3:56	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	3:56	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Tetrachloroethene	0.15		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR

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Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 VP4-10								Date & Time Sampled:		06/30/17 @ 15:39
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	3:56	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	3:56	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	3:56	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	3:56	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	3:56	AR
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B			70-130	06/30/17	3:56	AR
Toluene-D8	91		%REC	EPA 8260B			70-130	06/30/17	3:56	AR
Bromofluorobenzene	109		%REC	EPA 8260B			70-130	06/30/17	3:56	AR
Sample: 006 VP4-15								Date & Time Sampled:		06/30/17 @ 16:03
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	4:21	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 VP4-15								Date & Time Sampled: 06/30/17 @ 16:03		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:21	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:21	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:21	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR

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OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 VP4-15								Date & Time Sampled: 06/30/17 @ 16:03		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	4:21	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	4:21	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Tetrachloroethene	7.9		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:21	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR

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Invoice No. 79771
Cust # L092
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Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 VP4-15 Date & Time Sampled: 06/30/17 @ 16:03 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:21	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	4:21	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:21	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:21	AR
[VOC Surrogates]										
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	06/30/17	4:21	AR
Toluene-D8	93		%REC	EPA 8260B			70-130	06/30/17	4:21	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	4:21	AR
Sample: 007 VP8-5 Date & Time Sampled: 06/30/17 @ 16:29 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	4:47	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR

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Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 VP8-5								Date & Time Sampled: 06/30/17	@ 16:29	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:47	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:47	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:47	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech	
Sample: 007 VP8-5									Date & Time Sampled:	06/30/17 @ 16:29	
Sample Matrix: Soil Vapor											
Purge Volume Sampled: 3											
.....continued											
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR	
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	4:47	AR	
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR	
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	4:47	AR	
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Tetrachloroethene	6.2		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Trichloroethene	0.090	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	4:47	AR	
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	4:47	AR	
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	4:47	AR	
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	4:47	AR	
[VOC Vapor Sampling Tracer]											
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	4:47	AR	

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Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 VP8-5 Date & Time Sampled: 06/30/17 @ 16:29 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	4:47	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	4:47	AR
Bromofluorobenzene	122		%REC	EPA 8260B			70-130	06/30/17	4:47	AR
Sample: 008 VP8-10 Date & Time Sampled: 06/30/17 @ 16:55 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	5:12	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:12	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR

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1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 VP8-10								Date & Time Sampled: 06/30/17 @ 16:55		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:12	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:12	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	5:12	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR

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CERTIFICATE OF ANALYSIS

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OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech	
Sample: 008 VP8-10							Date & Time Sampled:	06/30/17	@	16:55	
Sample Matrix: Soil Vapor											
Purge Volume Sampled: 3											
.....continued											
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	5:12	AR	
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
Tetrachloroethene	0.090	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:12	AR	
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:12	AR	
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	5:12	AR	
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:12	AR	
[VOC Vapor Sampling Tracer]											
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:12	AR	
[VOC Surrogates]											
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	06/30/17	5:12	AR	
Toluene-D8	95		%REC	EPA 8260B			70-130	06/30/17	5:12	AR	
Bromofluorobenzene	98		%REC	EPA 8260B			70-130	06/30/17	5:12	AR	

Sample: 009 **VP8-15**
Sample Matrix: **Soil Vapor**

Date & Time Sampled: 06/30/17 @ 17:21

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 VP8-15								Date & Time Sampled: 06/30/17 @ 17:21		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	5:36	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:36	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:36	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:36	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 VP8-15								Date & Time Sampled: 06/30/17	@	17:21
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	5:36	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	5:36	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Tetrachloroethene	0.12		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR

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Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 VP8-15								Date & Time Sampled:		06/30/17 @ 17:21
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	5:36	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	5:36	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	5:36	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	5:36	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	5:36	AR
[VOC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B			70-130	06/30/17	5:36	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	5:36	AR
Bromofluorobenzene	123		%REC	EPA 8260B			70-130	06/30/17	5:36	AR
Sample: 010 VP7-5								Date & Time Sampled:		06/30/17 @ 17:44
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	6:00	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 VP7-5								Date & Time Sampled: 06/30/17	@	17:44
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:00	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:00	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:00	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
cis-1,2-Dichloroethene	0.33		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR

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Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 VP7-5								Date & Time Sampled:	06/30/17	@ 17:44
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	6:00	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	6:00	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Tetrachloroethene	13		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Trichloroethene	0.60		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:00	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 VP7-5 Date & Time Sampled: 06/30/17 @ 17:44 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:00	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	6:00	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:00	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:00	AR
[VOC Surrogates]										
Dibromofluoromethane	101		%REC	EPA 8260B			70-130	06/30/17	6:00	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	6:00	AR
Bromofluorobenzene	106		%REC	EPA 8260B			70-130	06/30/17	6:00	AR
Sample: 011 VP7-10 Date & Time Sampled: 06/30/17 @ 18:08 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	6:24	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:24	AR

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1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 VP7-10								Date & Time Sampled:	06/30/17	@ 18:08
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:24	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:24	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:24	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
cis-1,2-Dichloroethene	0.10		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:24	AR

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Table with 2 columns: Field (FDA#, LA City#, ELAP#s) and Value (2030513, 10261, 2789, 2790, 2122)

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OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Main analysis table with columns: Analysis, Result, Qual, Units, Method, DF, MDL, RL, Date, Time, Tech. Includes sample details like 'Sample: 011 VP7-10' and 'Soil Vapor'.

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 VP7-10 Date & Time Sampled: 06/30/17 @ 18:08 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B			70-130	06/30/17	6:24	AR
Toluene-D8	92		%REC	EPA 8260B			70-130	06/30/17	6:24	AR
Bromofluorobenzene	107		%REC	EPA 8260B			70-130	06/30/17	6:24	AR
Sample: 012 VP7-15 Date & Time Sampled: 06/30/17 @ 18:32 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	6:47	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:47	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 VP7-15								Date & Time Sampled: 06/30/17 @ 18:32		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:47	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:47	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
cis-1,2-Dichloroethene	0.090	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	6:47	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 VP7-15						Date & Time Sampled:		06/30/17	@	18:32
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	6:47	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Tetrachloroethene	4.1		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Trichloroethene	0.080	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	6:47	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	6:47	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	6:47	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	6:47	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	6:47	AR
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	06/30/17	6:47	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	6:47	AR
Bromofluorobenzene	108		%REC	EPA 8260B			70-130	06/30/17	6:47	AR

Sample: 013 **VP11-5**
Sample Matrix: **Soil Vapor**

Date & Time Sampled: 06/30/17 @ 18:52

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 VP11-5								Date & Time Sampled: 06/30/17 @ 18:52		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	7:12	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:12	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:12	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:12	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR

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CERTIFICATE OF ANALYSIS

1706-00278

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MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 VP11-5								Date & Time Sampled: 06/30/17 @ 18:52		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	7:12	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	7:12	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Tetrachloroethene	0.13		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR

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Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 VP11-5						Date & Time Sampled:		06/30/17	@	18:52
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:12	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:12	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	7:12	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:12	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:12	AR
[VOC Surrogates]										
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	06/30/17	7:12	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	7:12	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	7:12	AR
Sample: 014 VP11-10						Date & Time Sampled:		06/30/17	@	19:21
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	7:38	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR

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Cust # L092
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Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 VP11-10								Date & Time Sampled: 06/30/17 @ 19:21		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:38	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:38	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:38	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 VP11-10								Date & Time Sampled: 06/30/17 @ 19:21		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	7:38	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	7:38	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Tetrachloroethene	0.15		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	7:38	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR

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CERTIFICATE OF ANALYSIS

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L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 014 VP11-10 Date & Time Sampled: 06/30/17 @ 19:21 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	7:38	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	7:38	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	7:38	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	7:38	AR
[VOC Surrogates]										
Dibromofluoromethane	115		%REC	EPA 8260B			70-130	06/30/17	7:38	AR
Toluene-D8	95		%REC	EPA 8260B			70-130	06/30/17	7:38	AR
Bromofluorobenzene	105		%REC	EPA 8260B			70-130	06/30/17	7:38	AR
Sample: 015 VP11-15 Date & Time Sampled: 06/30/17 @ 19:46 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	8:04	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 VP11-15								Date & Time Sampled: 06/30/17 @ 19:46		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:04	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:04	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:04	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR

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Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 VP11-15								Date & Time Sampled: 06/30/17 @ 19:46		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	8:04	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	8:04	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Tetrachloroethene	0.090	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:04	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:04	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	8:04	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:04	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:04	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 015 VP11-15 Date & Time Sampled: 06/30/17 @ 19:46 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	8:04	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	8:04	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	8:04	AR
Sample: 016 VP11-15DUP Date & Time Sampled: 06/30/17 @ 19:46 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
t-Amyl Methyl Ether (TAME)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Benzene	<0.036		µg/L	EPA 8260B	1.0	0.0360	0.050	06/30/17	8:31	AR
Bromobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromodichloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromoform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Bromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
t-Butanol (TBA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
2-Butanone (MEK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
n-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
sec-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
tert-Butylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Carbon Disulfide	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
Carbon Tetrachloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:31	AR
Chlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Chloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Chloroform	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Chloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
2-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
4-Chlorotoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 VP11-15DUP								Date & Time Sampled: 06/30/17 @ 19:46		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Dibromochloromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dibromoethane (EDB)	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:31	AR
1,2-Dibromo-3-Chloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:31	AR
Dibromomethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,3-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,4-Dichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Dichlorodifluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
cis-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
trans-1,2-Dichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,3-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
2,2-Dichloropropane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
cis-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
trans-1,3-Dichloropropene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Diisopropyl Ether (DiPE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Ethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Hexachlorobutadiene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
2-Hexanone	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
Isopropylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
4-Isopropyltoluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Methylene Chloride	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.1	06/30/17	8:31	AR
4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR

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CERTIFICATE OF ANALYSIS

1706-00278

L. JOSEPH ASSOCIATES, LLC
MICHAEL ANSELMO
441 CALLE CORAZON
OCEANSIDE, CA 92052

Date Reported 07/03/17
Date Received 06/30/17
Invoice No. 79771
Cust # L092
Permit Number
Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 016 VP11-15DUP								Date & Time Sampled: 06/30/17 @ 19:46		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Naphthalene	<0.032		µg/L	EPA 8260B	1.0	0.0320	0.050	06/30/17	8:31	AR
n-Propylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Styrene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,1,2-Tetrachloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,2,2-Tetrachloroethane	<0.05		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Tetrachloroethene	0.070	J	µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Toluene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,3-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,4-Trichlorobenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,1-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,1,2-Trichloroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Trichloroethene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,3-Trichloropropane	<0.020		µg/L	EPA 8260B	1.0	0.0200	0.10	06/30/17	8:31	AR
Trichlorofluoromethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Trichlorotrifluoroethane	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,2,4-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
1,3,5-Trimethylbenzene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
Vinyl Chloride	<0.025		µg/L	EPA 8260B	1.0	0.0250	0.050	06/30/17	8:31	AR
m,p-Xylenes	<0.10		µg/L	EPA 8260B	1.0	0.1000	0.20	06/30/17	8:31	AR
o-Xylene	<0.050		µg/L	EPA 8260B	1.0	0.0500	0.10	06/30/17	8:31	AR
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.50		µg/L	EPA 8260B	1.0	0.5000	1.0	06/30/17	8:31	AR
[VOC Surrogates]										
Dibromofluoromethane	103		%REC	EPA 8260B			70-130	06/30/17	8:31	AR
Toluene-D8	94		%REC	EPA 8260B			70-130	06/30/17	8:31	AR
Bromofluorobenzene	104		%REC	EPA 8260B			70-130	06/30/17	8:31	AR

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Respectfully Submitted:

Ken Zheng

Ken Zheng - President

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.

B1 = BOD dilution water is over specifications . The reported result may be biased high.

D = Surrogate recoveries are not calculated due to sample dilution.

E = Estimated value; Value exceeds calibration level of instrument.

H = Analyte was prepared and/or analyzed outside of the analytical method holding time

I = Matrix Interference.

J = Analyte concentration detected between RL and MDL.

Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.

S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor

RL = Reporting Limit, Adjusted by DF

MDL = Method Detection Limit, Adjusted by DF

Qual = Qualifier

Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



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QUALITY CONTROL DATA REPORT

L. JOSEPH ASSOCIATES, LLC

1706-00278

MICHAEL ANSELMO
 441 CALLE CORAZON
 OCEANSIDE, CA 92052

Date Reported 07/03/2017
 Date Received 06/30/2017
 Date Sampled 06/30/2017
 Invoice No. 79771
 Customer # L092
 Customer P.O.

Project: 24601 Raymond Way, Lake Forest CA

Method # EPA 8260B

QC Reference # 65700 Date Analyzed: 6/30/2017 Technician: AR

Samples 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016

Results

LCS %REC LCS %DUP LCS %RPD

1,1-Dichloroethene	90	96	6
Benzene	92	95	3
Chlorobenzene	95	91	4
Toluene	89	93	4
Trichloroethene	92	98	6

Control Ranges

LCS %REC LCS %RPD

70 - 130	0 - 25
70 - 130	0 - 25
70 - 130	0 - 25
70 - 130	0 - 25
70 - 130	0 - 25



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QUALITY CONTROL DATA REPORT

L. JOSEPH ASSOCIATES, LLC
 MICHAEL ANSELMO

1706-00278

Date Reported 07/03/2017
 Date Received 06/30/2017
 Date Sampled 06/30/2017

Project: 24601 Raymond Way, Lake Forest CA

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
65700	Acetone	<0.50		µg/L	0.50		Isopropylbenzene	<0.050		µg/L	0.050
	t-Amyl Methyl Ether (TAME)	<0.050		µg/L	0.050		4-Isopropyltoluene	<0.050		µg/L	0.050
	Benzene	<0.036		µg/L	0.036		Methylene Chloride	<0.05		µg/L	0.05
	Bromobenzene	<0.050		µg/L	0.050		4-Methyl-2-Pentanone (MIBK)	<0.50		µg/L	0.50
	Bromochloromethane	<0.050		µg/L	0.050		Methyl-t-butyl Ether (MtBE)	<0.050		µg/L	0.050
	Bromodichloromethane	<0.050		µg/L	0.050		Naphthalene	<0.032		µg/L	0.032
	Bromoform	<0.050		µg/L	0.050		n-Propylbenzene	<0.050		µg/L	0.050
	Bromomethane	<0.050		µg/L	0.050		Styrene	<0.050		µg/L	0.050
	t-Butanol (TBA)	<0.50		µg/L	0.50		1,1,1,2-Tetrachloroethane	<0.050		µg/L	0.050
	2-Butanone (MEK)	<0.50		µg/L	0.50		1,1,2,2-Tetrachloroethane	<0.05		µg/L	0.05
	n-Butylbenzene	<0.050		µg/L	0.050		Tetrachloroethene	<0.050		µg/L	0.050
	sec-Butylbenzene	<0.050		µg/L	0.050		Toluene	<0.050		µg/L	0.050
	tert-Butylbenzene	<0.050		µg/L	0.050		1,2,3-Trichlorobenzene	<0.050		µg/L	0.050
	Carbon Disulfide	<0.50		µg/L	0.50		1,2,4-Trichlorobenzene	<0.050		µg/L	0.050
	Carbon Tetrachloride	<0.025		µg/L	0.025		1,1,1-Trichloroethane	<0.050		µg/L	0.050
	Chlorobenzene	<0.050		µg/L	0.050		1,1,2-Trichloroethane	<0.050		µg/L	0.050
	Chloroethane	<0.050		µg/L	0.050		Trichloroethene	<0.050		µg/L	0.050
	Chloroform	<0.050		µg/L	0.050		1,2,3-Trichloropropane	<0.020		µg/L	0.020
	Chloromethane	<0.050		µg/L	0.050		Trichlorofluoromethane	<0.050		µg/L	0.050
	2-Chlorotoluene	<0.050		µg/L	0.050		Trichlorotrifluoroethane	<0.050		µg/L	0.050
	4-Chlorotoluene	<0.050		µg/L	0.050		1,2,4-Trimethylbenzene	<0.050		µg/L	0.050
	Dibromochloromethane	<0.050		µg/L	0.050		1,3,5-Trimethylbenzene	<0.050		µg/L	0.050
	1,2-Dibromoethane (EDB)	<0.020		µg/L	0.020		Vinyl Chloride	<0.025		µg/L	0.025
	1,2-Dibromo-3-Chloropropane	<0.020		µg/L	0.020		m,p-Xylenes	<0.10		µg/L	0.10
	Dibromomethane	<0.050		µg/L	0.050		o-Xylene	<0.050		µg/L	0.050
	1,2-Dichlorobenzene	<0.050		µg/L	0.050		Isopropanol (IPA)	<0.50		µg/L	0.50
	1,3-Dichlorobenzene	<0.050		µg/L	0.050						
	1,4-Dichlorobenzene	<0.050		µg/L	0.050						
	Dichlorodifluoromethane	<0.050		µg/L	0.050						
	1,1-Dichloroethane	<0.050		µg/L	0.050						
	1,2-Dichloroethane	<0.050		µg/L	0.050						
	1,1-Dichloroethene	<0.050		µg/L	0.050						
	cis-1,2-Dichloroethene	<0.050		µg/L	0.050						
	trans-1,2-Dichloroethene	<0.050		µg/L	0.050						
	1,2-Dichloropropane	<0.050		µg/L	0.050						
	1,3-Dichloropropane	<0.050		µg/L	0.050						
	2,2-Dichloropropane	<0.050		µg/L	0.050						
	1,1-Dichloropropene	<0.050		µg/L	0.050						
	cis-1,3-Dichloropropene	<0.050		µg/L	0.050						
	trans-1,3-Dichloropropene	<0.050		µg/L	0.050						
	Diisopropyl Ether (DiPE)	<0.050		µg/L	0.050						
	Ethylbenzene	<0.050		µg/L	0.050						
	Ethyl-t-Butyl Ether (EtBE)	<0.050		µg/L	0.050						
	Hexachlorobutadiene	<0.050		µg/L	0.050						
	2-Hexanone	<0.50		µg/L	0.50						



A & R Laboratories

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FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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QUALITY CONTROL DATA REPORT

L. JOSEPH ASSOCIATES, LLC
 MICHAEL ANSELMO

1706-00278

Date Reported 07/03/2017
Date Received 06/30/2017
Date Sampled 06/30/2017

Project: 24601 Raymond Way, Lake Forest CA

Respectfully Submitted:

Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



A & R Laboratories
 1650 S. Grove Ave., Ste C, Ontario, CA 91761
 Tel: 951-779-0310 / 909-781-6335 Fax: 951-779-0344
 E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: 1706-278

Page 1 of 1

BLU M LDR - M. Shubert, Arslano

Analyses Requested

- Chilled
- Intact
- Seal
- EPA8260B (VOCs & Oxygenates)
- EPA8260B(BTEX & Oxygenates)
- LUFT / 8015 (Gasoline)
- LUFT / 8015 (Diesel)
- EPA8081A (Organochlorine Pesticides)
- EPA 8082 (PCBs)
- EPA 8015M (Carbon Chain C4-C40)
- EPA 6010B/7000 (CAM 17 Metals)
- Micro: Plate Cnt., Coliform, E-Coli

Turn Around Time Requested
 Rush 8 12 24 48 Hours
 Normal

Mobile

Remarks

Lab # (Lab use)	Client Sample ID	Sample Collection		Matrix Type	Sample Preserve	No., type* & size of container	Analyses Requested		Remarks
		Date	Time						
1	VP10 - 5	4/30/17	13:20	Air	NA	250 ml GAS	X		low flow SPV Subst
2	VP10 - 10		13:48						
3	VP10 - 15		14:31						
4	VP4 - 5		15:21						
5	VP4 - 10		15:39						low flow
6	VP4 - 15		16:03						
7	VP8 - 5		16:29						
8	VP8 - 10		16:55						low flow
9	VP8 - 15		17:21						low flow
10	VP7 - 5		17:44						
11	VP7 - 10		18:08						low flow
12	VP7 - 15		18:32						
13	VP11 - 5		18:52						
14	VP11 - 10		19:21						
15	VP11 - 15		19:46						
16	VP11 - 15 DUF		19:46						

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Client Name: GSA EWG. / L. JOSEPH + ASSOC.
 E-mail: ljoseph@amail.com
 Address: 16950 Ave. DE SAGES RUEZ PO CA 90272
 Report Attention: DAN LADD Phone #: 310557-570
 Project No./ Name: Fuma-Crop/Water Z VEGOL Raymond Way, Lake Forest
 Project Site: Raymond Way, Lake Forest
 Sampled By: Alondra
 Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste
 SL=Sludge, SS=Soil/Sediment, AR=Air, PP=Pure Product
 Preservative Code: IC=Ice, HC=HCl, HN=HNO3
 SH=NaOH, ST=Na2S2O3, HS=H2SO4
 * Sample Container Types: B=Brass Tube, P=Plastic Bottle, V=VOA Vial, E=EndCore

Relinquished By: GSA Date: 6/30/17 Time: 19:30
 Received By: A. M. M. Date: 4/30/17 Time: 19:30
 Company: GSA Company: A&R

APPENDIX E

Department of Toxic Substances Control Vapor Intrusion Screening Model - Soil Gas

Scenario: **Commercial**
Chemical: **Tetrachloroethylene**

DATA ENTRY SHEET

Results Summary			
Soil Gas Conc. ($\mu\text{g}/\text{m}^3$)	Attenuation Factor (unitless)	Indoor Air Conc. ($\mu\text{g}/\text{m}^3$)	Noncancer Hazard
1.30E+04	4.7E-04	6.1E+00	2.9E-06 4.0E-02
Cancer Risk	2.9E-06		

ENTER Chemical CAS No. (numbers only, no dashes)	OR	ENTER Soil gas conc., C_g ($\mu\text{g}/\text{m}^3$)	ENTER Soil gas conc., C_g (ppmv)
127184		1.30E+04	
			Chemical Tetrachloroethylene

Reset to Defaults

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	OR	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s ($^{\circ}\text{C}$)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15		152.5	24	LS	

MORE
↓

ENTER Vadose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate)
LS	1.62	0.39	0.076	5

MORE
↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Exposure Time ET (hrs/day)	ENTER Air Exchange Rate ACH (hour^{-1})
70	25	25	250	8	1

MORE
↓

Lookup Receptor Parameters

NEW=>	Commercial	END
-----------------	------------	------------

Department of Toxic Substances Control Vapor Intrusion Screening Model - Soil Gas

Scenario: **Commercial**
Chemical: **Tetrachloroethylene**

DATA ENTRY SHEET

Results Summary			
Soil Gas Conc. ($\mu\text{g}/\text{m}^3$)	Attenuation Factor (unitless)	Indoor Air Conc. ($\mu\text{g}/\text{m}^3$)	Noncancer Hazard Risk
1.60E+04	2.8E-04	4.4E+00	2.1E-06 2.9E-02

ENTER Chemical CAS No. (numbers only, no dashes)	OR	ENTER Soil gas conc., C_g ($\mu\text{g}/\text{m}^3$)	ENTER Soil gas conc., C_g (ppmv)
127184		1.60E+04	
			Chemical Tetrachloroethylene

Reset to Defaults

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s ($^{\circ}\text{C}$)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	305	24	LS	

MORE
↓

ENTER Vadose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate)
LS	1.62	0.39	0.076	5

MORE
↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Air Exchange Rate ACH (hour^{-1})
70	25	25	250	1

MORE
↓

Lookup Receptor Parameters

NEW=>	Commercial	8	250	1
		(NEW)	(NEW)	(NEW)

END

Department of Toxic Substances Control Vapor Intrusion Screening Model - Soil Gas

Scenario: **Commercial**
Chemical: **Tetrachloroethylene**

DATA ENTRY SHEET

Results Summary			
Soil Gas Conc. ($\mu\text{g}/\text{m}^3$)	Attenuation Factor (unitless)	Indoor Air Conc. ($\mu\text{g}/\text{m}^3$)	Noncancer Hazard
3.50E+04	2.0E-04	6.9E+00	3.3E-06 4.5E-02

ENTER Chemical CAS No. (numbers only, no dashes)	OR	ENTER Soil gas conc., C_g ($\mu\text{g}/\text{m}^3$)	ENTER Soil gas conc., C_g (ppmv)
127184		3.50E+04	
			Chemical
			Tetrachloroethylene

Reset to Defaults

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s ($^{\circ}\text{C}$)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	457.5	24	LS	

MORE
↓

ENTER Vadose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate)
LS	1.62	0.39	0.076	5

MORE
↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Air Exchange Rate ACH (hour) ⁻¹
70	25	25	250	8 1

MORE
↓

Lookup Receptor Parameters

NEW=> Commercial
END

APPENDIX E – PHASE II ENVIRONMENTAL SITE ASSESSMENT





Phase II Environmental Site Assessment Report

**23591 El Toro Road and 24551 Raymond Way
Lake Forest, California**

**Converse Project No. 19-42-162-02
August 6, 2019
Revised April 21, 2020**

Prepared For:

**National Community Renaissance of California
9421 Haven Avenue
Rancho Cucamonga, California 91730**

Prepared By:

**Converse Consultants
3176 Pullman Street, Suite 108
Costa Mesa, California 92626**



Converse Consultants

Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

August 6, 2019
Revised April 21, 2020

National Community Renaissance of California
9421 Haven Avenue
Rancho Cucamonga, California 91730

Attention: Ms. Lorna Contreras
lcontreras@nationalcore.org

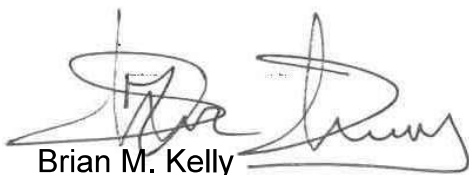
Subject: PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT
23591 El Toro Road and 24551 Raymond Way
Lake Forest, California
Converse Project No. 19-42-162-02

Ms. Contreras:

Converse Consultants (Converse) is pleased to submit the attached report that summarizes the activities and the results of a *Phase II Environmental Site Assessment (Phase II ESA)* that was conducted at the referenced property.

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact Michael Van Fleet or Norman Eke at (626) 930-1267 or (626) 930-1260, respectively.

CONVERSE CONSULTANTS



Brian M. Kelly
Senior Engineer



Michael Van Fleet, PG
Senior Geologist



Norman Eke
Managing Officer

Dist.: 1/Addressee via Electronic Mail

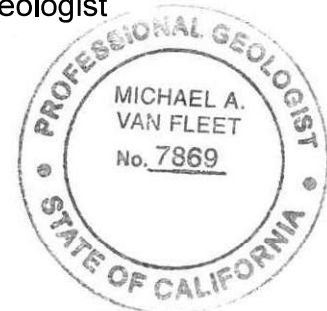


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FIGURES

Figure 1 – Site Location Map

Figure 2 – Sample Locations

TABLES

Table 1 – Soil Vapor Analytical Results

Table 2 – Indoor/Outdoor Air Analytical Results

APPENDICES

Appendix A – Laboratory Analytical Reports



1.0 Introduction

This report presents the results of the Converse Phase II Environmental Site Assessment (ESA) performed at 23591 El Toro Road and 24551 Raymond Way in the City of Lake Forest, Orange County, California, referred to as the Site in this report. Converse was retained by National Community Renaissance of California (National CORE) to conduct this Phase II ESA.

Converse performed a Phase I ESA at the Site and summarized the findings in a Phase I ESA dated July 5, 2019, revised April 21, 2020. The assessment revealed no evidence of recognized environmental conditions (RECs) in connection with the Site except for the following:

- The ongoing open site investigation of tetrachloroethylene (PCE) contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way).

Based on the findings of that Phase I ESA, Converse recommended further assessment to evaluate if the unauthorized release of PCE on the southern/southwestern adjoining property has impacted the Site.



2.0 Background

2.1 *Site Description and Features*

Details in the following sections regarding the Site and surrounding areas were obtained from the Converse Phase I ESA dated April 21, 2020.

2.1.1 *Current Uses of the Site*

The Site is owned by Kircher Family Partners, and is developed with two (2) commercial office buildings.

2.1.2 *Location and Legal Description*

The Site is located at 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California. The Site is located north of the intersection of El Toro Road and Raymond Way. The Site is located approximately 0.56-miles northeast of Interstate 5 (San Diego Freeway). The Site consists of one (1) parcel of land and is approximately 3.76-acres in area. The Orange County Assessor's Parcel Number (APN) for the Site is 617-441-02. The location of the Site is indicated on **Figure 1**.

2.1.3 *Site and Vicinity General Characteristics*

The Site consists of one (1) single L-shaped parcel (APN 617-441-02) totaling 3.76 acres. The Site is generally level with asphalt-paved parking and is developed with two (2) two-story commercial office buildings. The Site fronts onto El Toro Road to the southeast, and Raymond Way to the northwest, with the proposed development project fronting onto Raymond Way. Properties in the general area are used for commercial and residential purposes.

2.2 *Physical Setting*

2.2.1 *Topography*

The Site is located approximately 400 feet above mean sea level with surface topography sloping towards the north/northeast (United States Geological Survey [USGS] Topographic Map, Lake Forest, CA).

2.2.2 *Geology*

The Site is underlain by unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits (Division of Mines and Geology, geologic Map of California, 2010).



2.2.3 Hydrogeology

According to data obtained from the State Water Resources Control Board's Geotracker database, results of groundwater monitoring on the southwestern/western adjoining property indicate that groundwater levels in March of 2019 were measured to be between 19 and 26 feet beneath ground surface (bgs). Groundwater flow direction was measured to be to the northeast.

2.3 Site History and Land Use

From as early as 1931 to 1974, the majority of the Site was undeveloped land. During that time period, a strip of land located along the southeastern property boundary was developed for agricultural use. The Site was developed with the two (2) existing commercial office buildings and associated parking lots in 1977.

2.4 Adjacent Property Land Use

North:	Residential
Northeast:	Residential
Northwest:	Raymond Way followed by residential.
South:	Commercial shopping center (24601 Raymond Way).
Southeast:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
Southwest:	Commercial shopping center (24601 Raymond Way).
East:	El Toro Road followed by commercial shopping center (23512-23532 El Toro Road).
West:	Raymond Way followed by US Post Office (24552 Raymond Way).



2.5 Summary of Previous Assessment Reports

Converse performed a Phase I ESA at the Site and summarized the results in a Phase I ESA Report dated April 21, 2020. The assessment revealed no evidence of RECs in connection with the Site except for the following:

- The ongoing open site investigation of PCE contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way).

Based on the findings of Phase I ESA, Converse recommended further assessment to evaluate if the unauthorized release of PCE on the southern/southwestern adjoining property has impacted the Site.



3.0 Work Performed and Rationale

3.1 Scope of Assessment

A conceptual model was developed based on data obtained from the prior assessment reports.

3.1.1 Target Analytes

Information gathered from the Phase I ESA completed by Converse indicated presence of elevated concentrations of PCE in soil, soil-vapor, and groundwater at locations approximately 20 to 25 feet from the boundary of the Site.

3.1.2 Target Analytes First Entered the Environment

The target analytes would have first entered the environment by surface spills, equipment leaks or releases to the surface soil.

3.1.3 Environmental Media and Locations Most Likely to Have the Highest Concentrations of Target Analytes

The environmental media most likely to have the highest concentrations of the target analytes are soil and soil vapor.

This *Phase II* ESA consisted of the following primary elements:

- Evaluate the potential for volatile organic compounds (VOCs) in the shallow subsurface soil vapor and indoor air due to known contamination originating from the adjoining property related to historic uses of that property.
- Identify if potential target analytes are present at concentrations greater than threshold criteria.

3.2 Soil Vapor Sample Collection

Five (5) borings were advanced to 15 feet bgs, and two (2) additional borings were advanced to 5 feet bgs. All borings were completed using direct push technology. Four (4) of the 15-foot borings were located in the courtyard (SV1) and around the perimeter (SV2, SV3, and SV4) of the Site building located at 23591 El Toro Road. One (1) 15-foot boring (SV5) was located around the perimeter of the Site building located at 24551 Raymond Way. The two (2) 5-foot borings (SV6 and SV7) were



installed in the parking area between the two onsite buildings. Sample locations are indicated on **Figure 2**.

Soil vapor probes were installed in each of the borings at depths of 5 and/or 15 feet bgs (12 probes total). Soil vapor sampling was conducted in general accordance with CalEPA Active Soil Gas Advisory dated July 2015. Soil vapor samples were collected no sooner than 2 hours after the probes were installed to allow subsurface conditions to equilibrate. Vapor samples were collected in glass syringes and analyzed in an onsite mobile laboratory.

3.3 Indoor/Outdoor Air Sample Collection

Indoor Air Samples were collected from four (4) locations in ground-floor units of the Site buildings (3 at 23591 El Toro Road (IA-1, IA-2, and IA-3), and 1 at 24551 Raymond Way (IA-4)). Samples of the outdoor air were also collected from the courtyard area of each of the two (2) Site buildings (OA-1 and OA-2) to evaluate background concentrations. Sample locations are indicated on **Figure 2**. All indoor/outdoor ambient air samples were collected in 6-liter summa canisters over an approximate 24-hour period.

3.4 Field Quality Assurance/Quality Control

The following are some of the quality assurance and quality control measures that were taken to evaluate the quality of the data generated:

- Standard EPA sample handling protocol including chain-of-custody control were followed.
- New dedicated sampling equipment (Teflon tubing) were used for the collection of samples.

3.5 Chemical Analytical Methods

The soil vapor samples were analyzed onsite for VOCs in accordance with EPA Method 8260B by A&R Laboratories, Inc. (A&L) using a mobile laboratory. A&L is certified by the State of California Department Health Services for the analyses conducted.

The indoor/outdoor air samples were submitted under chain of custody documentation to Pace Analytical in Mount Juliet, Tennessee for analysis for VOCs in accordance with EPA Method TO-15. The laboratory is certified by the State of California Department Health Services for the analyses conducted.



4.0 Presentation and Evaluation of Results

4.1 Subsurface Conditions

Groundwater was not encountered in any of the borings completed to a maximum depth of 15 feet bgs during this assessment.

4.2 Analytical Results

A summary of the results is provided below. Soil vapor and indoor/outdoor air sample results are summarized on **Tables 1 and 2**, respectively. Copies of the laboratory analytical reports are included in **Appendix A**.

Indoor air screening levels presented in the department of Toxic Substances Control (DTSC) Human Health Risk Assessment (HHRA) Notes #3 and #5, and/or EPA Regional Screening Levels (RSLs) were used for the evaluation of reported concentrations. Screening levels for the compounds reported in the soil vapors were calculated using an attenuation factor of 500 (DTSC Vapor Intrusion Guidance, October 2011) applied to Indoor Air screening levels.

4.2.1 Soil Vapor Samples

Benzene, Toluene, Ethylbenzene, and m,p-Xylenes (BTEX) were the only analytes detected in soil vapor samples. These analytes were detected in both of the shallow borings SV6-5' and SV7-5' completed within the parking lot. No VOCs were reported in any of the soil vapor samples collected from locations adjacent to the onsite structures.

With the exception of benzene, all reported concentrations of BTEX were less than their respective screening level. Benzene was reported in samples SV6-5 and SV7-5 at concentrations of 160 and 150 micrograms per cubic meter (ug/m^3), respectively. These concentrations are greater than the screening level for residential land use of $48.5 \text{ ug}/\text{m}^3$, but are less than the screening level for commercial land use of $210 \text{ ug}/\text{m}^3$.

4.2.2 Indoor/Outdoor Air Samples

The following seven (7) VOCs were reported in one or more of the four (4) indoor/outdoor air samples and two (2) outdoor air sample: Chloromethane, Ethanol, Trichlorofluoromethane (Freon 11), Dichlorodifluoromethane (Freon 12), methylene chloride, toluene, and styrene.

The maximum concentrations of all reported compounds in indoor and outdoor air samples are significantly less than their respective screening



levels for residential and commercial land use. It is noted that no screening levels are published for ethanol.

4.3 Data Quality Assurance/Quality Control

4.3.1 Hold Times

All soil vapor and indoor/outdoor air samples were transported to the laboratories under chain-of-custody documentation and were analyzed within appropriate hold times.

4.3.2 Laboratory Quality Assurance

The laboratories provided data to estimate precision, accuracy, and bias. The laboratory reports indicated that the method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives for soil and soil vapor.

4.3.3 Practical Quantitation Limits

Practical quantitation limits (PQL) and method detection limits (MDL) for soil vapor and indoor/outdoor air samples were provided by the laboratories and are included on the reports in **Appendix A**.



5.0 Interpretation and Conclusions

5.1 RECs and Potential Release Area(s)

Converse performed a Phase I ESA at the Site and summarized the findings in a Phase I ESA dated April 21, 2020. The assessment revealed no evidence of recognized environmental conditions (RECs) in connection with the Site except for the following:

- The ongoing open site investigation of PCE contaminated soil, soil-vapor, and groundwater on the southern/southwestern adjoining property (24601 Raymond Way).

5.2 Conceptual Model Validation/Adequacy of Investigations

It is our opinion that the field and analytical data validated the conceptual model, and the investigation adequately evaluated the identified objectives of this *Phase II ESA Report*.

5.3 Absence, Presence, Degree, Extent of Target Analytes

Based upon the results of the *Phase II ESA*, there appear to be no significant impacts to the Site with regard to VOCs originating from the adjoining property related to historic uses of that property.

PCE, a compound associated with historic dry cleaning operations, and known to be present on the adjoining property from historic releases, was not detected in any of the soil vapor or ambient air samples collected from the Site.

Several of the VOCs detected in indoor air samples are commonly associated with refrigerants. These compounds are not of concern at the concentrations reported.

BTEX, which were reported in soil vapor samples from borings SV6 and SV7, located within the parking lot, are likely related to the asphalt cover of the lot, or from minor fuel leaks from cars parked in the lot. Benzene does not pose a vapor intrusion risk to the Site in its current configuration since the detections of it were limited to the parking lot where there are not currently any occupied structures. Benzene was not detected in any of the samples around current structures.



It is our opinion that these reported benzene detections will also not pose a significant vapor intrusion risk to potential future redevelopment of the Site based on the following:

- The screening levels used in this report were calculated based on current development of the Site. The screening level for benzene would change from 48.5 to 97 ug/m³ if we assume future redevelopment of the Site, which would bring the reported concentrations (150 and 160 ug/m³) much closer to the revised screening level of 97 ug/m³. An exceedance of a screening level is not an automatic indicator that there is an unacceptable risk, instead, it may simply indicate that the condition requires further evaluation.
- Further evaluation of exceedances may include looking at the potential effects of redevelopment. If there is a plan to redevelop the site and place structures in the area of the current parking lot, it is presumed that redevelopment activities (over excavation and recompacting) will result in at least a minor reduction in concentrations, likely to below the current screening level. Also, the potential sources of the benzene will be removed (asphalt and/or vehicles), preventing future impacts.

5.4 Other Concerns

5.4.1 Significant Assumptions

No significant assumptions were made during this assessment.

5.4.2 Limitations and Exceptions

No limitations or exceptions were encountered during the course of this *Phase II ESA*.

5.4.3 Special Terms and Conditions

No special terms or conditions need to be noted in this *Phase II ESA* report.

5.5 Conclusions/Objectives Met

Converse has performed a *Phase II ESA* at 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California in conformance with the scope and limitations of ASTM, E1903-11 and the following objectives:

- Evaluate the potential for volatile organic compounds (VOCs) in the shallow subsurface soil vapor and indoor air due to known contamination originating from the adjoining property related to historic uses of that property.



- Identify if potential target analytes are present at concentrations greater than threshold criteria.

Converse presents the following finds from this assessment:

- The maximum concentrations of all reported VOCs in the indoor and outdoor air samples were less than their respective screening levels for residential and commercial land use.
- No VOCs were reported in any of the soil vapor samples collected from locations adjacent to the onsite structures (SV1 through SV5).
- Concentrations of BTEX were reported in both of the soil vapor samples from borings located in the parking lot (SV6 and SV7). With the exception of benzene, all reported BTEX concentrations were less than their respective screening level. The benzene concentrations of 160 and 150 ug/m³ are greater than the screening level for residential land use of 48.5 ug/m³, but are less than the screening level for commercial land use of 210 ug/m³.

Based on these findings Converse concludes the following:

- The Site does not appear to be impacted from known PCE contamination originating from the adjoining property.
- Several of the VOCs detected in indoor and outdoor air samples are commonly associated with refrigerants. All reported VOC concentrations in the indoor air samples are less than their respective screening levels for residential land use.
- There are no environmental concern related to the potential use of current Site building for residential purposes.
- The maximum reported concentrations of BTEX in soil vapor samples are relatively typical of conditions beneath an asphalt paved parking lot, and are not considered to be a significant concern. The concentrations are less than the commercial screening level, which is acceptable for the current, and reported planned continued future, use as a parking lot. If the proposed development plans change and the areas where borings SV6 and SV7 were located are intended to be developed for use as something other than parking lots, it is expected that concentrations would be reduced by activities such as grading, over excavation, and recompaction. Additionally, it is noted that the potential health risk to future Site occupants posed by the current concentrations is well within discretionary risk management levels.
- It is our opinion that the objectives of the Phase II ESA were met, and no additional assessment is necessary to assess the objectives of the Phase II ESA.



6.0 6.0 Recommendations

It is our opinion that no additional assessment is necessary to address the objectives of the Phase II ESA



7.0 Reliance

This report is for the sole benefit and exclusive use of National CORE accordance with the terms and conditions under which these services have been provided. The preparation of this report has been in accordance with generally accepted environmental practices. No other warranty, either express or implied, is made. This report should not be regarded as a guarantee that no further contamination beyond that which could be detected within the scope of this assessment is present at the Site.

This report should not be regarded as a guarantee that no further contamination, beyond that which could be detected within the scope of this assessment, is present at the Site. Converse makes no warranties or guarantees as to the accuracy or completeness of information provided or compiled by others. It is possible that information exists beyond the scope of this assessment. It is not possible to absolutely confirm that no hazardous materials and/or substances exist at the Site. If none are identified as part of a limited scope of work, such a conclusion should not be construed as a guaranteed absence of such materials, but merely the results of the evaluation of the Site at the time of the assessment. Also, events may occur after the Site visit, which may result in contamination of the Site. Additional information, which was not found or available to Converse at the time of report preparation, may result in a modification of the conclusions and recommendations presented.

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Converse Consultants

Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

Application for Authorization to Use

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Costa Mesa, California 92626

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Project Address: _____

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Applicant wishes or needs to use the referenced report because:

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Applicant Signature: _____

Applicant Name (print): _____

Title: _____

Date: _____



8.0 References and Sources of Information

California State Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (RWQCB), Los Angeles Region, Advisory-Active Soil Gas Investigations, July 2015.

Converse Consultants, Phase I Environmental Site Assessment Report, 23591 El Toro Road and 24551 Raymond Way, Lake Forest, California, July 5, 2019, revised April 21, 2020.

DTSC, Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), October 2011.

DTSC, Human Health Risk Assessment (HHRA) Note Number 3, DTSC Modified Screening, April 2019.

DTSC, Human Health Risk Assessment (HHRA) Note Number 5, Health-based Indoor Air Screening Criteria for Trichloroethylene (TCE), August 2014.

USEPA, Regional Screening Levels, May 2019.



Figures

Figures



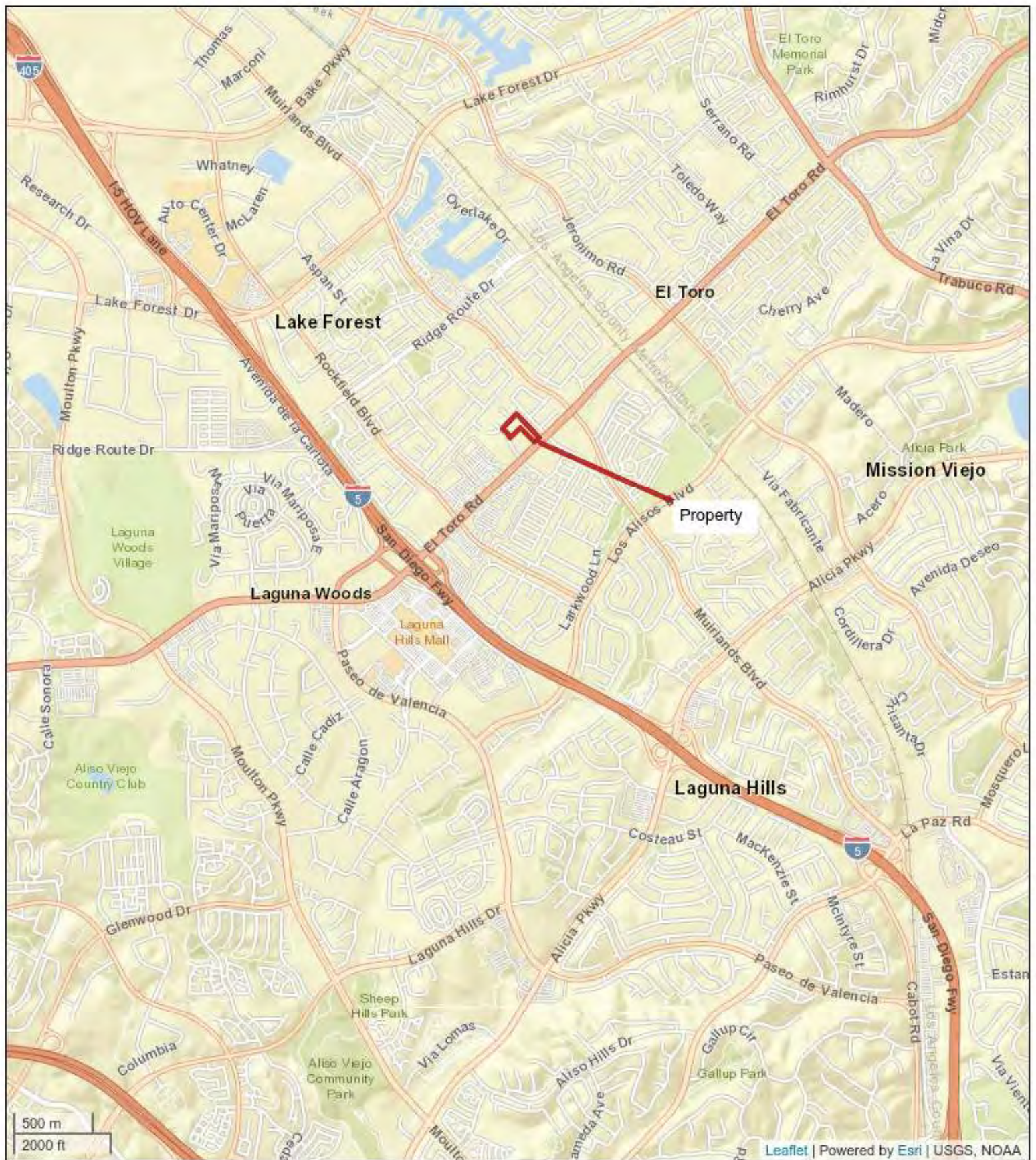


Figure 1 - Property Location Map

National Core
 23591 El Toro Road and 24551 Raymond Way
 Lake Forest, California





- Indoor Air Sample Locations
- Soil Boring Locations

- Outdoor Air Sample Locations



Samples Locations

23591 El Toro Road and 24551 Raymond Way
Lake Forest, California

Project No:
19-42-162-02



Converse Consultants

FIGURE 2

Tables

Tables



Table 1

Soil Vapor Sample Analytical Results

2391 El Toro Road and 24551 Raymond Way
Lake Forest, California

Sample	Sample Date	Benzene (ug/m ³)	Ethylbenzene (ug/m ³)	Toluene (ug/m ³)	m,p- <u>xylenes</u> (ug/m ³)	All Other VOCs
SV1-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV1-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV2-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV2-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV3-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV3-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV4-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV4-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV5-5'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV5-15'	7/19/2019	<0.0250	<0.050	<0.050	<0.10	ND
SV6-5'	7/19/2019	160	60	80	120	ND
SV7-5'	7/19/2019	150	60	70	100	ND
Maximum Concentration	ug/m ³	160	60.00	80.00	120	--
Indoor Air Screening Level ug/m ³	Residential	0.097	1,000	310	100	
	Commercial / Industrial	0.42	4,400	1,300	440	--
Attenuation Factor (existing residential construction)						
Soil Vapor Screening Level ug/m ³	Residential	48.5	500,000	155,000	50,000	--
	Commercial / Industrial	210	2,200,000	650,000	220,000	--

Screening levels for indoor air based on DTSC Human Health Risk Assessment (HHRA) Note 3, Table 3, or RSLs.

- ug/m³ micrograms per cubic meter
- ND Not detected
- RSL EPA Regional Screening Level
- VOCs Volatile Organic Compounds

Table 2
Indoor and Outdoor Air Analytical Results
 23591 El Toro Road and 24551 Raymond Way
 Lakeforest, California

Sample	Sample Date	IA-1	IA-2	IA-3	IA-4	OA-1	OA-2	Maximum Concentration (ug/m ³)	Indoor Air Screening Level (ug/m ³)	
		07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019	07/18/2019		Residential	Commercial / Industrial
CHLOROMETHANE		1.54	1.58	1.28	1.56	0.983	1.03	1.58	94	390
ETHANOL		618	313	326	617	10.2	17.1	618	--	--
TRICHLOROFLUOROMETHANE (FREON 11)		1.53	1.54	1.41	1.41	1.54	1.51	1.54	1,300	5,300
DICHLORODIFLUOROMETHANE (FREON 12)		2.86	2.37	2.70	2.74	1.68	1.76	2.86	100	4,400
METHYLENE CHLORIDE		<0.983	1.18	<0.694	<0.694	6.71	<0.694	6.71	420	1,800
STYRENE		<0.851	<0.851	2.95	<0.851	<0.851	<0.851	2.95	940	3,900
TOLUENE		1.30	1.74	1.84	1.41	1.53	<0.753	1.84	310	1300
ALL OTHER VOCs		ND	ND	ND	ND	ND	ND	--	--	--

Indoor air screening levels presented in DTSC Human Health Risk Assessment (HHRA) Notes #3 and #5, and/or EPA Regional Screening Levels (RSLs) were used

ug/m³ micrograms per cubic meter

ND Not detected

Appendix A



July 24, 2019

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Ds

⁶ Sr

⁷ Qc

⁸ Gl

⁹ Al

¹⁰ Sc

Converse Consultants - Monrovia, CA

Sample Delivery Group: L1120715
Samples Received: 07/20/2019
Project Number:
Description:

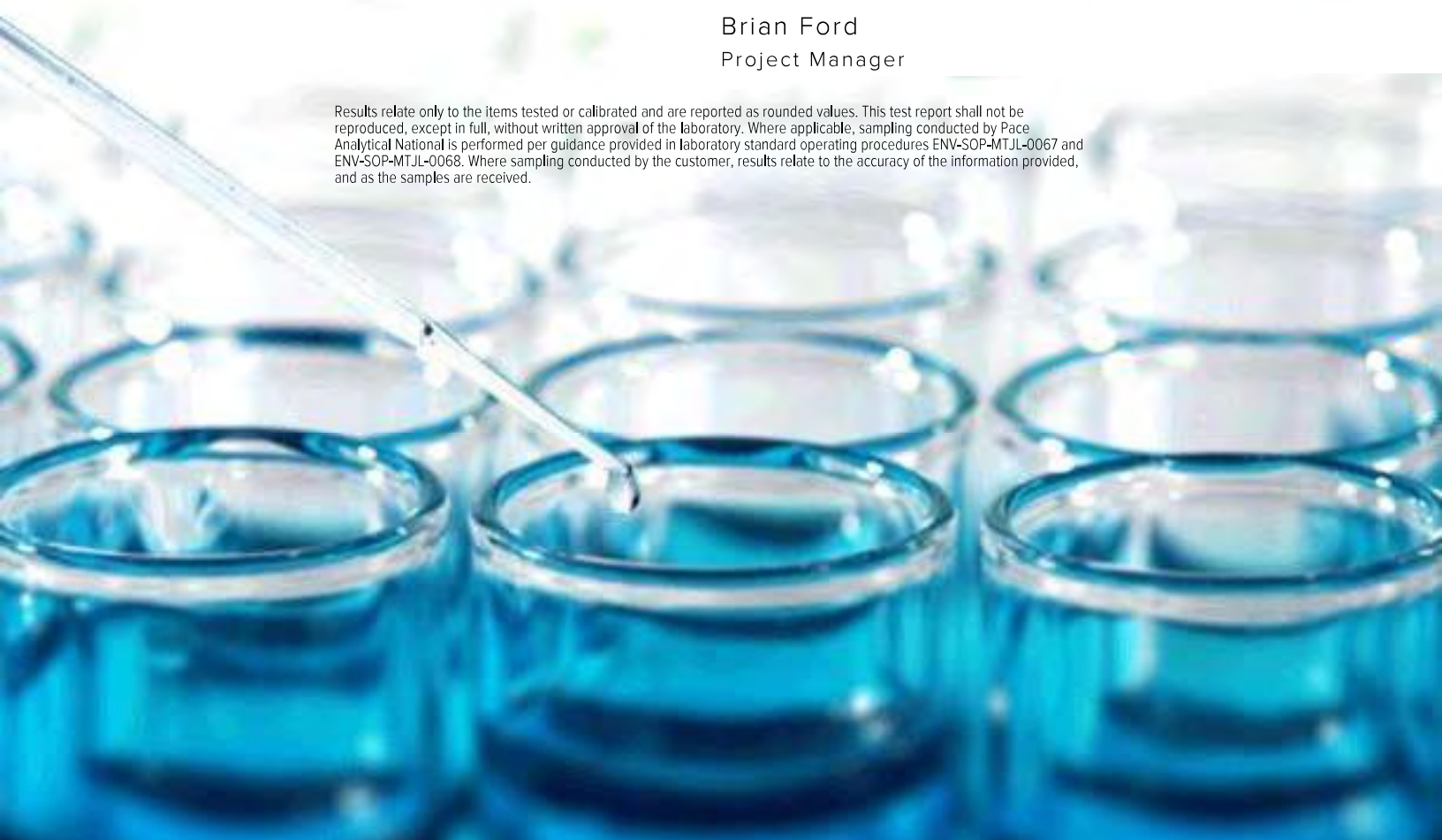
Report To: Michael Van Fleet
717 S. Myrtle Avenue
Monrovia, CA 91016

Entire Report Reviewed By:

Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	4	⁴Cn
Ds: Detection Summary	5	⁵Ds
Sr: Sample Results	6	⁶Sr
IA-1 L1120715-01	6	
IA-2 L1120715-02	7	
IA-4 L1120715-03	8	
OA-2 L1120715-04	9	
Qc: Quality Control Summary	10	⁷Qc
Volatile Organic Compounds (MS) by Method TO-15	10	
Gl: Glossary of Terms	16	⁸Gl
Al: Accreditations & Locations	17	⁹Al
Sc: Sample Chain of Custody	18	¹⁰Sc

SAMPLE SUMMARY

IA-1 L1120715-01 Air

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Collected by _____ Collected date/time 07/18/19 11:20 Received date/time 07/20/19 08:45						
Volatile Organic Compounds (MS) by Method TO-15	WG1315376	1	07/23/19 01:11	07/23/19 01:11	CAW	Mt. Juliet, TN

IA-2 L1120715-02 Air

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Collected by _____ Collected date/time 07/18/19 11:10 Received date/time 07/20/19 08:45						
Volatile Organic Compounds (MS) by Method TO-15	WG1315376	1	07/23/19 01:52	07/23/19 01:52	CAW	Mt. Juliet, TN

IA-4 L1120715-03 Air

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Collected by _____ Collected date/time 07/18/19 11:25 Received date/time 07/20/19 08:45						
Volatile Organic Compounds (MS) by Method TO-15	WG1315376	1	07/23/19 02:31	07/23/19 02:31	CAW	Mt. Juliet, TN

OA-2 L1120715-04 Air

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Collected by _____ Collected date/time 07/18/19 11:30 Received date/time 07/20/19 08:45						
Volatile Organic Compounds (MS) by Method TO-15	WG1315381	1	07/22/19 18:58	07/22/19 18:58	MBF	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Ds
- 6 Sr
- 7 Qc
- 8 Gl
- 9 Al
- 10 Sc

DETECTION SUMMARY

Volatile Organic Compounds (MS) by Method TO-15

Client ID	Lab Sample ID	Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
					ppbv	ug/m3	ppbv	ug/m3			
IA-1	L1120715-01	Chloromethane	74-87-3	50.50	0.200	0.413	0.744	1.54		1	WG1315376
IA-1	L1120715-01	Ethanol	64-17-5	46.10	0.630	1.19	328	618	E	1	WG1315376
IA-1	L1120715-01	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.273	1.53		1	WG1315376
IA-1	L1120715-01	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.579	2.86		1	WG1315376
IA-1	L1120715-01	Toluene	108-88-3	92.10	0.200	0.753	0.346	1.30		1	WG1315376
IA-2	L1120715-02	Chloromethane	74-87-3	50.50	0.200	0.413	0.764	1.58		1	WG1315376
IA-2	L1120715-02	Ethanol	64-17-5	46.10	0.630	1.19	166	313	E	1	WG1315376
IA-2	L1120715-02	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315376
IA-2	L1120715-02	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.479	2.37		1	WG1315376
IA-2	L1120715-02	Methylene Chloride	75-09-2	84.90	0.200	0.694	0.339	1.18	B	1	WG1315376
IA-2	L1120715-02	Toluene	108-88-3	92.10	0.200	0.753	0.462	1.74		1	WG1315376
IA-4	L1120715-03	Chloromethane	74-87-3	50.50	0.200	0.413	0.756	1.56		1	WG1315376
IA-4	L1120715-03	Ethanol	64-17-5	46.10	0.630	1.19	327	617	E	1	WG1315376
IA-4	L1120715-03	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315376
IA-4	L1120715-03	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.554	2.74		1	WG1315376
IA-4	L1120715-03	Toluene	108-88-3	92.10	0.200	0.753	0.374	1.41		1	WG1315376
OA-2	L1120715-04	Chloromethane	74-87-3	50.50	0.200	0.413	0.501	1.03		1	WG1315381
OA-2	L1120715-04	Ethanol	64-17-5	46.10	0.630	1.19	9.09	17.1		1	WG1315381
OA-2	L1120715-04	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.269	1.51		1	WG1315381
OA-2	L1120715-04	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.355	1.76		1	WG1315381
OA-2	L1120715-04	TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	73.5	304		1	WG1315381

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc



Collected date/time: 07/18/19 11:20

L1120715

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315376
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315376
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315376
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315376
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315376
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315376
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315376
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315376
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315376
Chloromethane	74-87-3	50.50	0.200	0.413	0.744	1.54		1	WG1315376
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315376
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315376
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315376
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315376
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315376
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315376
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315376
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315376
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315376
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315376
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315376
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315376
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315376
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315376
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315376
Ethanol	64-17-5	46.10	0.630	1.19	328	618	E	1	WG1315376
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315376
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.273	1.53		1	WG1315376
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.579	2.86		1	WG1315376
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315376
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315376
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315376
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315376
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315376
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315376
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315376
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315376
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315376
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315376
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315376
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315376
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315376
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315376
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315376
Toluene	108-88-3	92.10	0.200	0.753	0.346	1.30		1	WG1315376
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315376
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315376
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315376
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315376
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315376
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315376
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315376
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315376
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315376
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315376
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG1315376

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc



Collected date/time: 07/18/19 11:10

L1120715

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315376
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315376
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315376
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315376
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315376
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315376
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315376
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315376
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315376
Chloromethane	74-87-3	50.50	0.200	0.413	0.764	1.58		1	WG1315376
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315376
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315376
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315376
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315376
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315376
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315376
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315376
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315376
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315376
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315376
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315376
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315376
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315376
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315376
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315376
Ethanol	64-17-5	46.10	0.630	1.19	166	313	E	1	WG1315376
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315376
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315376
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.479	2.37		1	WG1315376
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315376
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315376
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315376
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315376
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315376
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.339	1.18	B	1	WG1315376
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315376
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315376
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315376
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315376
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315376
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315376
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315376
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315376
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315376
Toluene	108-88-3	92.10	0.200	0.753	0.462	1.74		1	WG1315376
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315376
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315376
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315376
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315376
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315376
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315376
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315376
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315376
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315376
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315376
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG1315376

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc



Collected date/time: 07/18/19 11:25

L1120715

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315376
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315376
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315376
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315376
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315376
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315376
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315376
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315376
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315376
Chloromethane	74-87-3	50.50	0.200	0.413	0.756	1.56		1	WG1315376
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315376
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315376
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315376
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315376
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315376
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315376
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315376
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315376
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315376
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315376
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315376
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315376
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315376
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315376
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315376
Ethanol	64-17-5	46.10	0.630	1.19	327	617	E	1	WG1315376
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315376
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315376
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.554	2.74		1	WG1315376
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315376
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315376
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315376
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315376
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315376
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315376
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315376
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315376
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315376
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315376
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315376
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315376
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315376
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315376
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315376
Toluene	108-88-3	92.10	0.200	0.753	0.374	1.41		1	WG1315376
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315376
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315376
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315376
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315376
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315376
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315376
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315376
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315376
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315376
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315376
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		104				WG1315376

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315381
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315381
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315381
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315381
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315381
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315381
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315381
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315381
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315381
Chloromethane	74-87-3	50.50	0.200	0.413	0.501	1.03		1	WG1315381
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315381
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315381
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315381
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315381
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315381
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315381
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315381
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315381
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315381
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315381
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315381
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315381
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315381
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315381
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315381
Ethanol	64-17-5	46.10	0.630	1.19	9.09	17.1		1	WG1315381
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315381
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.269	1.51		1	WG1315381
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.355	1.76		1	WG1315381
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315381
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315381
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315381
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315381
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315381
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315381
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315381
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315381
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315381
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315381
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315381
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315381
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315381
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315381
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315381
Toluene	108-88-3	92.10	0.200	0.753	ND	ND		1	WG1315381
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315381
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315381
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315381
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315381
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315381
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315381
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315381
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315381
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315381
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	73.5	304		1	WG1315381
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		86.1				WG1315381

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3433222-3 07/22/19 10:02

Analyte	MB Result ppbv	<u>MB Qualifier</u>	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	0.0660	J	0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

1 Cp
2 Tc
3 Ss
4 Cn
5 Ds
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

Method Blank (MB)

(MB) R3433222-3 07/22/19 10:02

Analyte	MB Result ppbv	<u>MB Qualifier</u>	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	12.0	↓	6.91	50.0
(S) 1,4-Bromofluorobenzene	98.0			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433222-1 07/22/19 08:46 • (LCSD) R3433222-2 07/22/19 09:23

Analyte	Spike Amount		LCS Result		LCSD Result		LCS Rec.		LCSD Rec.		Rec. Limits		<u>LCS Qualifier</u>		<u>LCSD Qualifier</u>		RPD Limits	
	ppbv	%	ppbv	%	ppbv	%	ppbv	%	ppbv	%	ppbv	%	ppbv	%	ppbv	%	ppbv	%
Ethanol	3.75	88.4	3.31	88.4	3.66	88.4	3.66	97.5	3.66	97.5	55.0-148	9.84	9.84	55.0-148	9.84	25	25	
Dichlorodifluoromethane	3.75	107	4.02	107	4.02	107	4.02	107	4.02	107	64.0-139	0.00311	0.00311	64.0-139	0.00311	25	25	
1,2-Dichlorotetrafluoroethane	3.75	104	3.91	104	4.00	104	4.00	107	4.00	107	70.0-130	2.10	2.10	70.0-130	2.10	25	25	
Chloromethane	3.75	109	4.09	109	4.08	109	4.08	109	4.08	109	70.0-130	0.332	0.332	70.0-130	0.332	25	25	
Vinyl chloride	3.75	106	3.96	106	4.10	106	4.10	109	4.10	109	70.0-130	3.50	3.50	70.0-130	3.50	25	25	
Bromomethane	3.75	101	3.78	101	4.10	101	4.10	109	4.10	109	70.0-130	8.13	8.13	70.0-130	8.13	25	25	
Chloroethane	3.75	103	3.88	103	4.21	103	4.21	112	4.21	112	70.0-130	8.17	8.17	70.0-130	8.17	25	25	
Trichlorofluoromethane	3.75	99.0	3.71	99.0	4.14	99.0	4.14	110	4.14	110	70.0-130	10.9	10.9	70.0-130	10.9	25	25	
1,1,2-Trichlorotrifluoroethane	3.75	105	3.92	105	3.95	105	3.95	105	3.95	105	70.0-130	0.592	0.592	70.0-130	0.592	25	25	
1,1-Dichloroethene	3.75	104	3.90	104	3.98	104	3.98	106	3.98	106	70.0-130	2.09	2.09	70.0-130	2.09	25	25	
1,1-Dichloroethane	3.75	107	4.01	107	4.02	107	4.02	107	4.02	107	70.0-130	0.0357	0.0357	70.0-130	0.0357	25	25	
Methylene Chloride	3.75	100	3.77	100	3.82	100	3.82	102	3.82	102	70.0-130	1.36	1.36	70.0-130	1.36	25	25	
MTBE	3.75	103	3.87	103	3.97	103	3.97	106	3.97	106	70.0-130	2.41	2.41	70.0-130	2.41	25	25	
trans-1,2-Dichloroethene	3.75	106	3.96	106	3.96	106	3.96	106	3.96	106	70.0-130	0.0354	0.0354	70.0-130	0.0354	25	25	
n-Hexane	3.75	108	4.07	108	4.17	108	4.17	111	4.17	111	70.0-130	2.56	2.56	70.0-130	2.56	25	25	
Methyl Ethyl Ketone	3.75	105	3.94	105	4.05	105	4.05	108	4.05	108	70.0-130	2.79	2.79	70.0-130	2.79	25	25	
cis-1,2-Dichloroethene	3.75	107	4.00	107	3.94	107	3.94	105	3.94	105	70.0-130	1.39	1.39	70.0-130	1.39	25	25	

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433222-1 07/22/19 08:46 • (LCSD) R3433222-2 07/22/19 09:23

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %	Element		
											1	2	
Chloroform	3.75	3.97	4.02	106	107	70.0-130		1.31	1.31	25	25	Cp	Tc
1,1,1-Trichloroethane	3.75	3.95	4.06	105	108	70.0-130		2.62	2.62	25	25	Ss	Cn
Carbon tetrachloride	3.75	3.98	3.97	106	106	70.0-130		0.291	0.291	25	25	Ds	Sr
Benzene	3.75	4.05	4.13	108	110	70.0-130		2.03	2.03	25	25	Qc	Gl
1,2-Dichloroethane	3.75	4.01	4.03	107	107	70.0-130		0.330	0.330	25	25	Al	Sc
Trichloroethylene	3.75	4.00	4.12	107	110	70.0-130		2.78	2.78	25	25		
1,2-Dichloropropane	3.75	4.14	4.24	110	113	70.0-130		2.44	2.44	25	25		
1,4-Dioxane	3.75	4.00	4.20	107	112	70.0-140		4.78	4.78	25	25		
Bromodichloromethane	3.75	4.00	4.06	107	108	70.0-130		1.57	1.57	25	25		
cis-1,3-Dichloropropene	3.75	4.08	4.20	109	112	70.0-130		2.76	2.76	25	25		
4-Methyl-2-pentanone (MIBK)	3.75	4.04	4.22	108	113	70.0-139		4.33	4.33	25	25		
Toluene	3.75	4.16	4.29	111	115	70.0-130		3.19	3.19	25	25		
trans-1,3-Dichloropropene	3.75	4.04	4.27	108	114	70.0-130		5.38	5.38	25	25		
1,1,2-Trichloroethane	3.75	4.00	4.14	107	111	70.0-130		3.58	3.58	25	25		
Tetrachloroethylene	3.75	4.08	4.19	109	112	70.0-130		2.72	2.72	25	25		
Methyl Butyl Ketone	3.75	4.24	4.47	113	119	70.0-149		5.24	5.24	25	25		
Dibromochloromethane	3.75	4.15	4.22	111	113	70.0-130		1.70	1.70	25	25		
1,2-Dibromoethane	3.75	4.11	4.25	110	113	70.0-130		3.51	3.51	25	25		
Chlorobenzene	3.75	4.14	4.29	111	114	70.0-130		3.50	3.50	25	25		
Ethylbenzene	3.75	4.06	4.23	108	113	70.0-130		4.15	4.15	25	25		
m&p-Xylene	7.50	8.19	8.59	109	115	70.0-130		4.81	4.81	25	25		
o-Xylene	3.75	4.11	4.24	110	113	70.0-130		3.12	3.12	25	25		
Styrene	3.75	4.22	4.34	112	116	70.0-130		2.83	2.83	25	25		
Bromoform	3.75	4.18	4.30	112	115	70.0-130		2.74	2.74	25	25		
1,1,2,2-Tetrachloroethane	3.75	4.05	4.29	108	114	70.0-130		5.75	5.75	25	25		
1,3,5-Trimethylbenzene	3.75	4.05	4.30	108	115	70.0-130		5.93	5.93	25	25		
1,2,4-Trimethylbenzene	3.75	4.12	4.32	110	115	70.0-130		4.70	4.70	25	25		
1,3-Dichlorobenzene	3.75	4.17	4.38	111	117	70.0-130		4.89	4.89	25	25		
1,4-Dichlorobenzene	3.75	4.24	4.46	113	119	70.0-130		5.04	5.04	25	25		
Benzyl Chloride	3.75	4.30	4.58	115	122	70.0-152		6.18	6.18	25	25		
1,2-Dichlorobenzene	3.75	4.15	4.42	111	118	70.0-130		6.26	6.26	25	25		
1,2,4-Trichlorobenzene	3.75	4.03	4.26	107	114	70.0-160		5.71	5.71	25	25		
Hexachloro-1,3-butadiene	3.75	4.07	4.21	108	112	70.0-151		3.43	3.43	25	25		
Naphthalene	3.75	4.11	4.27	110	114	70.0-159		3.69	3.69	25	25		
TPH (GC/MS) Low Fraction	203	209	216	103	107	70.0-130		3.39	3.39	25	25		
2-Chlorotoluene	3.75	4.12	4.37	110	116	70.0-130		5.93	5.93	25	25		
Tetrahydrofuran	3.75	3.87	3.98	103	106	70.0-137		2.66	2.66	25	25		
Isopropylbenzene	3.75	4.04	4.27	108	114	70.0-130		5.57	5.57	25	25		
(S) 1,4-Bromofluorobenzene				99.6	103	60.0-140							

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 GI

9 AI

10 Sc

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GCMS) Low Fraction	U		6.91	50.0
(S) 1,4-Bromofluorobenzene	86.9			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

Analyte	Spike Amount		LCS Result		LCSD Result		LCS Rec.		LCSD Rec.		LCS Qualifier		LCSD Qualifier		RPD Limits	
	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%	%	%	%	%	%	%	%	%	%
Ethanol	3.75	3.67	3.67	3.66	3.66	3.66	97.8	97.6	55.0-148	97.6	97.6	0.149	0.149	25	25	25
Dichlorodifluoromethane	3.75	3.45	3.45	3.33	3.33	3.33	92.0	88.7	64.0-139	88.7	88.7	3.68	3.68	25	25	25
1,2-Dichlorotetrafluoroethane	3.75	3.85	3.85	3.83	3.83	3.83	103	102	70.0-130	102	102	0.472	0.472	25	25	25
Chloromethane	3.75	3.87	3.87	3.89	3.89	3.89	103	104	70.0-130	104	104	0.695	0.695	25	25	25
Vinyl chloride	3.75	4.16	4.16	4.09	4.09	4.09	111	109	70.0-130	109	109	1.76	1.76	25	25	25
Bromomethane	3.75	4.39	4.39	4.45	4.45	4.45	117	119	70.0-130	119	119	1.46	1.46	25	25	25
Chloroethane	3.75	4.25	4.25	4.32	4.32	4.32	113	115	70.0-130	115	115	1.61	1.61	25	25	25
Trichlorofluoromethane	3.75	3.78	3.78	3.83	3.83	3.83	101	102	70.0-130	102	102	1.18	1.18	25	25	25
1,1,2-Trichlorotrifluoroethane	3.75	3.82	3.82	3.81	3.81	3.81	102	102	70.0-130	102	102	0.195	0.195	25	25	25
1,1-Dichloroethene	3.75	3.75	3.75	3.71	3.71	3.71	99.9	99.0	70.0-130	99.0	99.0	0.901	0.901	25	25	25
1,1-Dichloroethane	3.75	3.76	3.76	3.74	3.74	3.74	100	99.6	70.0-130	99.6	99.6	0.635	0.635	25	25	25
Methylene Chloride	3.75	3.74	3.74	3.73	3.73	3.73	99.7	99.4	70.0-130	99.4	99.4	0.283	0.283	25	25	25
MTBE	3.75	3.69	3.69	3.67	3.67	3.67	98.3	97.8	70.0-130	97.8	97.8	0.452	0.452	25	25	25
trans-1,2-Dichloroethene	3.75	3.72	3.72	3.71	3.71	3.71	99.1	98.8	70.0-130	98.8	98.8	0.271	0.271	25	25	25
n-Hexane	3.75	3.74	3.74	3.71	3.71	3.71	99.8	98.8	70.0-130	98.8	98.8	0.956	0.956	25	25	25
Methyl Ethyl Ketone	3.75	3.80	3.80	3.77	3.77	3.77	101	101	70.0-130	101	101	0.703	0.703	25	25	25
cis-1,2-Dichloroethene	3.75	3.78	3.78	3.75	3.75	3.75	101	100	70.0-130	100	100	0.741	0.741	25	25	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

Analyte	Spike Amount		LCS Result		LCSD Result		LCS Rec.		LCSD Rec.		Rec. Limits		LCS Qualifier		LCSD Qualifier		RPD		RPD Limits		
	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
Chloroform	3.75	3.81	3.81	3.80	3.80	102	101	70.0-130	70.0-130	0.427	0.427	25	25	0.0875	0.0875	25	25	0.0889	0.0889	25	25
1,1,1-Trichloroethane	3.75	3.87	3.87	3.87	3.87	103	103	70.0-130	70.0-130	0.454	0.454	25	25	0.829	0.829	25	25	0.0548	0.0548	25	25
Carbon tetrachloride	3.75	3.89	3.89	3.89	3.89	104	104	70.0-130	70.0-130	0.310	0.310	25	25	0.0707	0.0707	25	25	0.636	0.636	25	25
Benzene	3.75	3.78	3.77	3.77	3.77	101	100	70.0-130	70.0-130	1.40	1.40	25	25	0.327	0.327	25	25	0.168	0.168	25	25
1,2-Dichloroethane	3.75	3.92	3.92	3.89	3.89	105	104	70.0-130	70.0-130	0.872	0.872	25	25	0.677	0.677	25	25	0.752	0.752	25	25
Trichloroethylene	3.75	3.88	3.88	3.88	3.88	103	104	70.0-130	70.0-130	1.20	1.20	25	25	1.01	1.01	25	25	0.617	0.617	25	25
1,2-Dichloropropane	3.75	3.84	3.84	3.85	3.84	102	102	70.0-130	70.0-130	1.11	1.11	25	25	0.328	0.328	25	25	0.152	0.152	25	25
1,4-Dioxane	3.75	3.84	3.84	3.84	3.84	102	102	70.0-130	70.0-130	0.853	0.853	25	25	0.174	0.174	25	25	0.215	0.215	25	25
Bromodichloromethane	3.75	3.89	3.89	3.87	3.87	104	103	70.0-130	70.0-130	0.585	0.585	25	25	0.883	0.883	25	25	0.658	0.658	25	25
cis-1,3-Dichloropropene	3.75	3.82	3.82	3.77	3.77	102	101	70.0-130	70.0-130	0.399	0.399	25	25	0.148	0.148	25	25	0.276	0.276	25	25
4-Methyl-2-pentanone (MIBK)	3.75	4.10	4.10	4.09	4.09	109	109	70.0-130	70.0-130	0.0918	0.0918	25	25	11.5	11.5	25	25	13.8	13.8	25	25
Toluene	3.75	3.92	3.92	3.92	3.92	105	104	70.0-130	70.0-130	11.2	11.2	25	25	2.74	2.74	25	25	0.968	0.968	25	25
trans-1,3-Dichloropropene	3.75	3.89	3.89	3.86	3.86	104	103	70.0-130	70.0-130	0.968	0.968	25	25	0.150	0.150	25	25	0.0876	0.0876	25	25
1,1,2-Trichloroethane	3.75	3.92	3.92	3.95	3.95	105	105	70.0-130	70.0-130	90.6	90.6	60.0-140	60.0-140								
Tetrachloroethylene	3.75	4.20	4.20	4.23	4.23	112	113	70.0-130	70.0-130												
Methyl Butyl Ketone	3.75	4.36	4.36	4.31	4.31	116	115	70.0-130	70.0-130												
Dibromochloromethane	3.75	4.34	4.34	4.39	4.39	116	117	70.0-130	70.0-130												
1,2-Dibromoethane	3.75	4.39	4.39	4.41	4.41	117	118	70.0-130	70.0-130												
Chlorobenzene	3.75	4.44	4.44	4.49	4.49	118	120	70.0-130	70.0-130												
Ethylbenzene	3.75	3.90	3.90	3.88	3.88	104	104	70.0-130	70.0-130												
m&p-Xylene	7.50	7.60	7.60	7.59	7.59	101	101	70.0-130	70.0-130												
o-Xylene	3.75	3.84	3.84	3.81	3.81	102	102	70.0-130	70.0-130												
Styrene	3.75	3.92	3.92	3.91	3.91	104	104	70.0-130	70.0-130												
Bromoform	3.75	4.03	4.03	4.04	4.04	108	108	70.0-130	70.0-130												
1,1,2,2-Tetrachloroethane	3.75	3.92	3.92	3.90	3.90	105	104	70.0-130	70.0-130												
1,3,5-Trimethylbenzene	3.75	3.98	3.98	3.95	3.95	106	105	70.0-130	70.0-130												
1,2,4-Trimethylbenzene	3.75	3.94	3.94	3.91	3.91	105	104	70.0-130	70.0-130												
1,3-Dichlorobenzene	3.75	4.08	4.08	4.07	4.07	109	108	70.0-130	70.0-130												
1,4-Dichlorobenzene	3.75	4.23	4.23	4.22	4.22	113	113	70.0-130	70.0-130												
Benzyl Chloride	3.75	4.09	4.09	4.08	4.08	109	109	70.0-152	70.0-152												
1,2-Dichlorobenzene	3.75	4.01	4.01	4.02	4.02	107	107	70.0-130	70.0-130												
1,2,4-Trichlorobenzene	3.75	4.20	4.20	3.74	3.74	112	99.7	70.0-160	70.0-160												
Hexachloro-1,3-butadiene	3.75	4.04	4.04	3.52	3.52	108	93.9	70.0-151	70.0-151												
Naphthalene	3.75	3.93	3.93	3.51	3.51	105	93.6	70.0-159	70.0-159												
TPH (GC/MS) Low Fraction	203	200	200	195	195	99.0	96.3	70.0-130	70.0-130												
2-Chlorotoluene	3.75	3.95	3.95	3.92	3.92	105	104	70.0-130	70.0-130												
Tetrahydrofuran	3.75	3.94	3.94	3.93	3.93	105	105	70.0-137	70.0-137												
Isopropylbenzene	3.75	3.88	3.88	3.87	3.87	103	103	70.0-130	70.0-130												
(S) 1,4-Bromofluorobenzene						91.3	90.6	60.0-140	60.0-140												



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Ds
- 6 Sr
- 7 Qc
- 8 GI
- 9 AI
- 10 Sc

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L # **1120715**
Table #
Acctnum: **CONCONMCA**
Template: **T152932**
Prelogin: **P719380**
TSR: **110 - Brian Ford**
PB: **BF 7/12/19**
Shipped Via: **FedEX Saver**
CA Remps
Sample # (lab only)

Analysis / Container / Preservative

Pres Chk

Billing Information:

Converse Consultants - Monrovia, CA
Accounts Payable- Michael Van Fleet
717 S. Myrtle Avenue
Monrovia, CA 91016

Email To: mvanfleet@converseconsultants.com

Report to: **Michael Van Fleet**

Project Description: **CONCONMCA-LAKEFOREST**

Phone: **626-930-1267**

Fax:

Collected by (print):

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Client Project #

City/State Collected:

Lab Project #

P.O. #

Quote #

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
TA-1	G	Air	7/18/19	11:20	1	✓
TA-2	G	Air	7/18/19	11:10	1	✓
TA-4	G	Air	7/18/19	11:25	1	✓
TA CA-2	G	Air	7/18/19	11:30	1	✓
		Air				
		Air				
		Air				
		Air				
		Air				
		Air				
		Air				
		Air				

Remarks:

SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - Waste Water
 DW - Drinking Water
 OT - Other

Samples returned via:
 ___ UPS ___ FedEx ___ Courier

Relinquished by: (Signature) *[Signature]* Date: **7/19/19** Time: **10:00**

Relinquished by: (Signature) *[Signature]* Date: Time: **7/20/19** Time: **0845**

Relinquished by: (Signature) Date: Time: **7/20/19** Time: **0845**

Tracking # **4794 8846 1853**

Received by: (Signature) *[Signature]* Date: **7/20/19** Time: **0845**

Received by: (Signature) *[Signature]* Date: Time: **7/20/19** Time: **0845**

Received for lab by: (Signature) *[Signature]* Date: Time: **7/20/19** Time: **0845**

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N

COC Signed/Accurate: Y N

Bottles arrive intact: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

If Applicable

VOA Zero Headspace: Y N

Preservation Correct/Checked: Y N

If preservation required by Login: Date/Time

Hold: **11 OK**

Condition: **11 OK**

TO-15 Summa

Converse Consultants - Monrovia, CA

Sample Delivery Group: L1120740
Samples Received: 07/20/2019
Project Number: 1942-162-00(02)
Description:

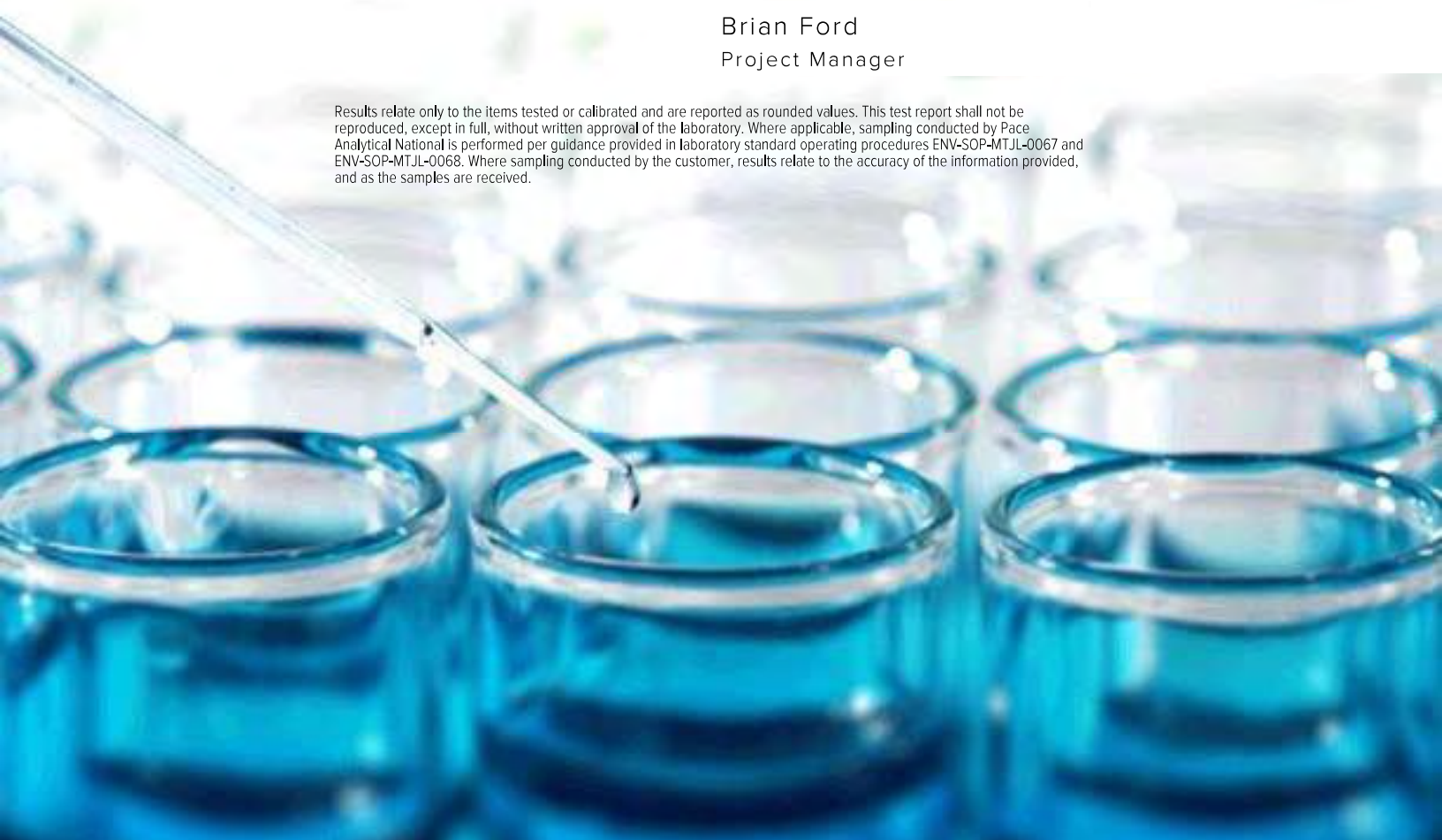
Report To: Michael Van Fleet
717 S. Myrtle Avenue
Monrovia, CA 91016

Entire Report Reviewed By:











Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





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Cn: Case Narrative	4	
Ds: Detection Summary	5	
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Qc: Quality Control Summary	8	
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SAMPLE SUMMARY

OA-1 L1120740-01 Air

Collected by: Brian Kelly
 Collected date/time: 07/18/19 11:40
 Received date/time: 07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315381	1	07/22/19 23:47	07/22/19 23:47	MBF	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Ds
- 6 Sr
- 7 Qc
- 8 Gl
- 9 Al
- 10 Sc

IA-3 L1120740-02 Air

Collected by: Brian Kelly
 Collected date/time: 07/18/19 11:15
 Received date/time: 07/20/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1315816	1	07/23/19 14:51	07/23/19 14:51	AMC	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Ds
- 6 Sr
- 7 Qc
- 8 Gl
- 9 Al
- 10 Sc

DETECTION SUMMARY



Volatile Organic Compounds (MS) by Method TO-15

Client ID	Lab Sample ID	Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilutio n	Batch
OA-1	L1120740-01	Chloromethane	74-87-3	50.50	0.200	0.413	0.476	0.983		1	WG1315381
OA-1	L1120740-01	Ethanol	64-17-5	46.10	0.630	1.19	5.42	10.2		1	WG1315381
OA-1	L1120740-01	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315381
OA-1	L1120740-01	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.339	1.68		1	WG1315381
OA-1	L1120740-01	Methylene Chloride	75-09-2	84.90	0.200	0.694	1.93	6.71		1	WG1315381
OA-1	L1120740-01	Toluene	108-88-3	92.10	0.200	0.753	0.407	1.53		1	WG1315381
IA-3	L1120740-02	Chloromethane	74-87-3	50.50	0.200	0.413	0.619	1.28		1	WG1315816
IA-3	L1120740-02	Ethanol	64-17-5	46.10	0.630	1.19	173	326	E	1	WG1315816
IA-3	L1120740-02	Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315816
IA-3	L1120740-02	Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.546	2.70		1	WG1315816
IA-3	L1120740-02	Styrene	100-42-5	104	0.200	0.851	0.692	2.95		1	WG1315816
IA-3	L1120740-02	Toluene	108-88-3	92.10	0.200	0.753	0.489	1.84		1	WG1315816

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Ds
- 6 Sr
- 7 Qc
- 8 Gl
- 9 Al
- 10 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315381
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315381
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315381
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315381
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315381
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315381
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315381
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315381
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315381
Chloromethane	74-87-3	50.50	0.200	0.413	0.476	0.983		1	WG1315381
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315381
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315381
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315381
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315381
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315381
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315381
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315381
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315381
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315381
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315381
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315381
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315381
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315381
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315381
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315381
Ethanol	64-17-5	46.10	0.630	1.19	5.42	10.2		1	WG1315381
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315381
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.274	1.54		1	WG1315381
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.339	1.68		1	WG1315381
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315381
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315381
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315381
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315381
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315381
Methylene Chloride	75-09-2	84.90	0.200	0.694	1.93	6.71		1	WG1315381
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315381
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315381
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315381
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315381
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315381
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1315381
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315381
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315381
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315381
Toluene	108-88-3	92.10	0.200	0.753	0.407	1.53		1	WG1315381
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315381
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315381
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315381
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315381
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315381
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315381
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315381
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315381
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315381
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315381
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		88.2				WG1315381

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc



Collected date/time: 07/18/19 11:15

L1120740

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1315816
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1315816
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1315816
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1315816
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1315816
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1315816
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1315816
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1315816
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1315816
Chloromethane	74-87-3	50.50	0.200	0.413	0.619	1.28		1	WG1315816
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1315816
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1315816
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1315816
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1315816
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1315816
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1315816
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1315816
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1315816
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1315816
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1315816
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1315816
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1315816
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1315816
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1315816
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1315816
Ethanol	64-17-5	46.10	0.630	1.19	173	326	E	1	WG1315816
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1315816
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.251	1.41		1	WG1315816
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.546	2.70		1	WG1315816
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1315816
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1315816
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1315816
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1315816
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1315816
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1315816
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1315816
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1315816
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1315816
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1315816
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1315816
Styrene	100-42-5	104	0.200	0.851	0.692	2.95		1	WG1315816
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1315816
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1315816
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1315816
Toluene	108-88-3	92.10	0.200	0.753	0.489	1.84		1	WG1315816
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1315816
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1315816
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1315816
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1315816
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1315816
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1315816
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1315816
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1315816
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1315816
TPH (GC/MS) Low Fraction	8006-61-9	101	50.0	207	ND	ND		1	WG1315816
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.6				WG1315816

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3433178-2 07/22/19 10:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GCMS) Low Fraction	U		6.91	50.0
(S) 1,4-Bromofluorobenzene	86.9			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

Analyte	Spike Amount		LCS Result		LCSD Result		LCS Rec.		LCSD Rec.		Rec. Limits		LCS Qualifier		LCSD Qualifier		RPD Limits	
	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%	%	%	%	%	%	%	%	%	%	%	%
Ethanol	3.75	3.67	3.67	3.66	3.66	3.66	97.8	97.6	55.0-148	55.0-148	0.149	0.149	25	25				
Dichlorodifluoromethane	3.75	3.45	3.45	3.33	3.33	3.33	92.0	88.7	64.0-139	64.0-139	3.68	3.68	25	25				
1,2-Dichlorotetrafluoroethane	3.75	3.85	3.85	3.83	3.83	3.83	103	102	70.0-130	70.0-130	0.472	0.472	25	25				
Chloromethane	3.75	3.87	3.87	3.89	3.89	3.89	103	104	70.0-130	70.0-130	0.695	0.695	25	25				
Vinyl chloride	3.75	4.16	4.16	4.09	4.09	4.09	111	109	70.0-130	70.0-130	1.76	1.76	25	25				
Bromomethane	3.75	4.39	4.39	4.45	4.45	4.45	117	119	70.0-130	70.0-130	1.46	1.46	25	25				
Chloroethane	3.75	4.25	4.25	4.32	4.32	4.32	113	115	70.0-130	70.0-130	1.61	1.61	25	25				
Trichlorofluoromethane	3.75	3.78	3.78	3.83	3.83	3.83	101	102	70.0-130	70.0-130	1.18	1.18	25	25				
1,1,2-Trichlorotrifluoroethane	3.75	3.82	3.82	3.81	3.81	3.81	102	102	70.0-130	70.0-130	0.195	0.195	25	25				
1,1-Dichloroethene	3.75	3.75	3.75	3.71	3.71	3.71	99.9	99.0	70.0-130	70.0-130	0.901	0.901	25	25				
1,1-Dichloroethane	3.75	3.76	3.76	3.74	3.74	3.74	100	99.6	70.0-130	70.0-130	0.635	0.635	25	25				
Methylene Chloride	3.75	3.74	3.74	3.73	3.73	3.73	99.7	99.4	70.0-130	70.0-130	0.283	0.283	25	25				
MTBE	3.75	3.69	3.69	3.67	3.67	3.67	98.3	97.8	70.0-130	70.0-130	0.452	0.452	25	25				
trans-1,2-Dichloroethene	3.75	3.72	3.72	3.71	3.71	3.71	99.1	98.8	70.0-130	70.0-130	0.271	0.271	25	25				
n-Hexane	3.75	3.74	3.74	3.71	3.71	3.71	99.8	98.8	70.0-130	70.0-130	0.956	0.956	25	25				
Methyl Ethyl Ketone	3.75	3.80	3.80	3.77	3.77	3.77	101	101	70.0-130	70.0-130	0.703	0.703	25	25				
cis-1,2-Dichloroethene	3.75	3.78	3.78	3.75	3.75	3.75	101	100	70.0-130	70.0-130	0.741	0.741	25	25				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433178-1 07/22/19 09:49 • (LCSD) R3433178-3 07/22/19 11:22

1 Cp
2 Tc
3 Ss
4 Cn
5 Ds
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloroform	3.75	3.81	3.80	102	101	70.0-130		0.427	0.427	25
1,1,1-Trichloroethane	3.75	3.87	3.87	103	103	70.0-130		0.0875	0.0875	25
Carbon tetrachloride	3.75	3.89	3.89	104	104	70.0-130		0.0889	0.0889	25
Benzene	3.75	3.78	3.77	101	100	70.0-130		0.454	0.454	25
1,2-Dichloroethane	3.75	3.92	3.89	105	104	70.0-130		0.829	0.829	25
Trichloroethylene	3.75	3.88	3.88	103	104	70.0-130		0.0548	0.0548	25
1,2-Dichloropropane	3.75	3.84	3.85	102	103	70.0-130		0.310	0.310	25
1,4-Dioxane	3.75	3.84	3.84	102	102	70.0-140		0.0707	0.0707	25
Bromodichloromethane	3.75	3.89	3.87	104	103	70.0-130		0.636	0.636	25
cis-1,3-Dichloropropene	3.75	3.82	3.77	102	101	70.0-130		1.40	1.40	25
4-Methyl-2-pentanone (MIBK)	3.75	4.10	4.09	109	109	70.0-139		0.327	0.327	25
Toluene	3.75	3.92	3.92	105	104	70.0-130		0.168	0.168	25
trans-1,3-Dichloropropene	3.75	3.89	3.86	104	103	70.0-130		0.872	0.872	25
1,1,2-Trichloroethane	3.75	3.92	3.95	105	105	70.0-130		0.677	0.677	25
Tetrachloroethylene	3.75	4.20	4.23	112	113	70.0-130		0.752	0.752	25
Methyl Butyl Ketone	3.75	4.36	4.31	116	115	70.0-149		1.20	1.20	25
Dibromochloromethane	3.75	4.34	4.39	116	117	70.0-130		1.01	1.01	25
1,2-Dibromoethane	3.75	4.39	4.41	117	118	70.0-130		0.617	0.617	25
Chlorobenzene	3.75	4.44	4.49	118	120	70.0-130		1.11	1.11	25
Ethylbenzene	3.75	3.90	3.88	104	104	70.0-130		0.328	0.328	25
m&p-Xylene	7.50	7.60	7.59	101	101	70.0-130		0.152	0.152	25
o-Xylene	3.75	3.84	3.81	102	102	70.0-130		0.853	0.853	25
Styrene	3.75	3.92	3.91	104	104	70.0-130		0.174	0.174	25
Bromoform	3.75	4.03	4.04	108	108	70.0-130		0.215	0.215	25
1,1,2,2-Tetrachloroethane	3.75	3.92	3.90	105	104	70.0-130		0.585	0.585	25
1,3,5-Trimethylbenzene	3.75	3.98	3.95	106	105	70.0-130		0.883	0.883	25
1,2,4-Trimethylbenzene	3.75	3.94	3.91	105	104	70.0-130		0.658	0.658	25
1,3-Dichlorobenzene	3.75	4.08	4.07	109	108	70.0-130		0.399	0.399	25
1,4-Dichlorobenzene	3.75	4.23	4.22	113	113	70.0-130		0.148	0.148	25
Benzyl Chloride	3.75	4.09	4.08	109	109	70.0-152		0.276	0.276	25
1,2-Dichlorobenzene	3.75	4.01	4.02	107	107	70.0-130		0.0918	0.0918	25
1,2,4-Trichlorobenzene	3.75	4.20	3.74	112	99.7	70.0-160		11.5	11.5	25
Hexachloro-1,3-butadiene	3.75	4.04	3.52	108	93.9	70.0-151		13.8	13.8	25
Naphthalene	3.75	3.93	3.51	105	93.6	70.0-159		11.2	11.2	25
TPH (GC/MS) Low Fraction	203	200	195	99.0	96.3	70.0-130		2.74	2.74	25
2-Chlorotoluene	3.75	3.95	3.92	105	104	70.0-130		0.968	0.968	25
Tetrahydrofuran	3.75	3.94	3.93	105	105	70.0-137		0.150	0.150	25
Isopropylbenzene	3.75	3.88	3.87	103	103	70.0-130		0.0876	0.0876	25
(S) 1,4-Bromofluorobenzene				91.3	90.6	60.0-140				

Method Blank (MB)

(MB) R3433600-3 07/23/19 09:51

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Benzyl Chloride	0.127	J	0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	0.0829	J	0.0603	0.200
1,3-Dichlorobenzene	0.122	J	0.0597	0.200
1,4-Dichlorobenzene	0.159	J	0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
Isopropylbenzene	U		0.0563	0.200
n-Hexane	U		0.0457	0.200
Methylene Chloride	0.0661	J	0.0465	0.200
Methyl Butyl Ketone	0.0814	J	0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
Styrene	U		0.0465	0.200

1 Cp

2 Tc

3 Ss

4 Cn

5 Ds

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3433600-3 07/23/19 09:51

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
1,2,4-Trichlorobenzene	0.217	J	0.148	0.630
Toluene	U		0.0499	0.200
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
Vinyl chloride	U		0.0457	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	0.343	J	0.0832	0.630
TPH (GC/MS) Low Fraction	24.9	J	6.91	50.0
(S) 1,4-Bromofluorobenzene	95.6			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433600-1 07/23/19 08:22 • (LCSD) R3433600-2 07/23/19 09:05

Analyte	Spike Amount		LCS Result		LCSD Result		LCS Rec.		LCSD Rec.		LCS Qualifier		LCSD Qualifier		RPD Limits	
	ppbv	%	ppbv	%	ppbv	%	ppbv	%	ppbv	%	%	%	%	%	%	%
Ethanol	3.75	4.08	4.08	109	4.06	108	108	55.0-148	108	55.0-148	0.540	25	0.540	25	25	25
Dichlorodifluoromethane	3.75	4.33	4.33	116	4.41	118	118	64.0-139	118	64.0-139	1.82	25	1.82	25	25	25
1,2-Dichlorotetrafluoroethane	3.75	4.35	4.35	116	4.44	118	118	70.0-130	118	70.0-130	2.20	25	2.20	25	25	25
Chloromethane	3.75	4.39	4.39	117	4.50	120	120	70.0-130	120	70.0-130	2.55	25	2.55	25	25	25
Vinyl chloride	3.75	4.36	4.36	116	4.41	118	118	70.0-130	118	70.0-130	1.11	25	1.11	25	25	25
Bromomethane	3.75	4.34	4.34	116	4.49	120	120	70.0-130	120	70.0-130	3.46	25	3.46	25	25	25
Chloroethane	3.75	4.28	4.28	114	4.44	118	118	70.0-130	118	70.0-130	3.54	25	3.54	25	25	25
Trichlorofluoromethane	3.75	4.37	4.37	117	4.40	117	117	70.0-130	117	70.0-130	0.661	25	0.661	25	25	25
1,1,2-Trichlorotrifluoroethane	3.75	4.35	4.35	116	4.48	119	119	70.0-130	119	70.0-130	3.03	25	3.03	25	25	25
1,1-Dichloroethene	3.75	4.28	4.28	114	4.37	117	117	70.0-130	117	70.0-130	2.10	25	2.10	25	25	25
MTBE	3.75	4.27	4.27	114	4.36	116	116	70.0-130	116	70.0-130	2.10	25	2.10	25	25	25
1,1-Dichloroethane	3.75	4.31	4.31	115	4.41	118	118	70.0-130	118	70.0-130	2.32	25	2.32	25	25	25
n-Hexane	3.75	4.36	4.36	116	4.43	118	118	70.0-130	118	70.0-130	1.65	25	1.65	25	25	25
Methylene Chloride	3.75	4.05	4.05	108	4.23	113	113	70.0-130	113	70.0-130	4.27	25	4.27	25	25	25
trans-1,2-Dichloroethene	3.75	4.31	4.31	115	4.42	118	118	70.0-130	118	70.0-130	2.57	25	2.57	25	25	25
Methyl Ethyl Ketone	3.75	4.45	4.45	119	4.46	119	119	70.0-130	119	70.0-130	0.0443	25	0.0443	25	25	25
Benzene	3.75	4.35	4.35	116	4.47	119	119	70.0-130	119	70.0-130	2.67	25	2.67	25	25	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3433600-1 07/23/19 08:22 • (LCSD) R3433600-2 07/23/19 09:05

Analyte	Spike Amount		LCS Result		LCSD Result		LCS Rec.		LCSD Rec.		Rec. Limits		LCS Qualifier		LCSD Qualifier		RPD		RPD Limits	
	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%	%	%	%	%	%	%	%	%	%	%	%	%	%
cis-1,2-Dichloroethene	3.75	4.34	4.42	4.42	116	118	70.0-130	180	25	25										
Chloroform	3.75	4.36	4.41	4.41	116	118	70.0-130	1.16	25	25										
1,1,1-Trichloroethane	3.75	4.38	4.48	4.48	117	119	70.0-130	2.13	25	25										
Carbon tetrachloride	3.75	4.30	4.42	4.42	115	118	70.0-130	2.61	25	25										
1,2-Dichloroethane	3.75	4.35	4.42	4.42	116	118	70.0-130	1.54	25	25										
Toluene	3.75	4.29	4.37	4.37	114	117	70.0-130	2.05	25	25										
Trichloroethylene	3.75	4.61	4.62	4.62	123	123	70.0-130	0.290	25	25										
1,2-Dichloropropane	3.75	4.44	4.48	4.48	118	120	70.0-130	1.03	25	25										
1,4-Dioxane	3.75	4.31	4.40	4.40	115	117	70.0-140	2.02	25	25										
Bromodichloromethane	3.75	4.41	4.46	4.46	118	119	70.0-130	1.10	25	25										
cis-1,3-Dichloropropene	3.75	4.37	4.41	4.41	116	118	70.0-130	0.977	25	25										
4-Methyl-2-pentanone (MIBK)	3.75	4.47	4.43	4.43	119	118	70.0-139	0.733	25	25										
trans-1,3-Dichloropropene	3.75	4.32	4.36	4.36	115	116	70.0-130	0.870	25	25										
1,1,2-Trichloroethane	3.75	4.49	4.50	4.50	120	120	70.0-130	0.156	25	25										
Ethylbenzene	3.75	4.39	4.43	4.43	117	118	70.0-130	0.855	25	25										
m&p-Xylene	7.50	8.86	8.86	8.86	118	118	70.0-130	0.104	25	25										
Tetrachloroethylene	3.75	4.27	4.34	4.34	114	116	70.0-130	1.54	25	25										
Methyl Butyl Ketone	3.75	4.49	4.52	4.52	120	120	70.0-149	0.608	25	25										
o-Xylene	3.75	4.36	4.38	4.38	116	117	70.0-130	0.360	25	25										
Dibromochloromethane	3.75	4.41	4.44	4.44	118	118	70.0-130	0.604	25	25										
1,2-Dibromoethane	3.75	4.45	4.50	4.50	119	120	70.0-130	1.19	25	25										
Chlorobenzene	3.75	4.42	4.48	4.48	118	119	70.0-130	1.23	25	25										
Styrene	3.75	4.50	4.49	4.49	120	120	70.0-130	0.0843	25	25										
Bromoform	3.75	4.47	4.50	4.50	119	120	70.0-130	0.660	25	25										
1,1,2,2-Tetrachloroethane	3.75	4.18	4.17	4.17	111	111	70.0-130	0.248	25	25										
1,3,5-Trimethylbenzene	3.75	4.34	4.40	4.40	116	117	70.0-130	1.28	25	25										
1,2,4-Trimethylbenzene	3.75	4.35	4.37	4.37	116	117	70.0-130	0.465	25	25										
1,3-Dichlorobenzene	3.75	4.46	4.48	4.48	119	119	70.0-130	0.360	25	25										
TPH (GC/MS) Low Fraction	203	235	232	232	116	115	70.0-130	1.33	25	25										
1,4-Dichlorobenzene	3.75	4.54	4.63	4.63	121	124	70.0-130	1.97	25	25										
Benzyl Chloride	3.75	4.63	4.66	4.66	124	124	70.0-152	0.546	25	25										
1,2-Dichlorobenzene	3.75	4.39	4.40	4.40	117	117	70.0-130	0.222	25	25										
1,2,4-Trichlorobenzene	3.75	5.05	5.10	5.10	135	136	70.0-160	0.980	25	25										
Hexachloro-1,3-butadiene	3.75	4.61	4.57	4.57	123	122	70.0-151	0.782	25	25										
Naphthalene	3.75	4.95	4.96	4.96	132	132	70.0-159	0.238	25	25										
2-Chlorotoluene	3.75	4.35	4.38	4.38	116	117	70.0-130	0.802	25	25										
Tetrahydrofuran	3.75	4.34	4.35	4.35	116	116	70.0-137	0.273	25	25										
Isopropylbenzene	3.75	4.39	4.37	4.37	117	117	70.0-130	0.554	25	25										
(S) 1,4-Bromofluorobenzene					100	98.3	60.0-140													



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Ds
- 6 Sr
- 7 Qc
- 8 GI
- 9 AI
- 10 Sc

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Analysis / Container / Preservative

Converse Consultants - Monrovia, CA
717 S. Myrtle Avenue
Monrovia, CA 91016

Accounts Payable- Michael Van Fleet
717 S. Myrtle Avenue
Monrovia, CA 91016

Email To: mvanfleet@converseconsultants.com

Project Description: **Michael Van Fleet**

City/State Collected: **CONCONMCA-LAKEFOREST**

Lab Project # **CONCONMCA-LAKEFOREST**

P.O. #

Quote #

Client Project # **1942-162-00(02)**

Site/Facility ID #

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Collected by (print): **Brian Kelly**

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Comp/Grab Matrix * Depth Date

Sample ID

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
AG OA-1	G	Air		7/18/19	1140	
IA-3	G	Air		7/18/19	1115	
9833 (con ID)						
6947 (con ID)						

Shipped Via: **FedEx Saver**

Remarks:

* Matrix: SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Relinquished by: (Signature) **[Signature]** Date: **09/19/19 10:00**

Relinquished by: (Signature) **[Signature]** Date: **09/19/19 10:00**

Relinquished by: (Signature) **[Signature]** Date: **09/19/19 10:00**

Tracking # **4794 8816 1812**

Received by: (Signature) **[Signature]** Date: **7/20/19 0845**

Received by: (Signature) **[Signature]** Date: **7/20/19 0845**

Received for lab by: (Signature) **[Signature]** Date: **7/20/19 0845**

Sample Receipt Checklist	Y	N
COC Seal Present/Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC Signed/Accurate:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bottles arrive intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct bottles used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sufficient volume sent:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Applicable		
VOA Zero Headspace:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Preservation Correct/Checked:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
if preservation required by Login: Date/Time		
Hold:		
Condition:		NCF / OK

TO-15 Summa



A & R Laboratories, Inc.

1650 S. GROVE AVE., SUITE C

ONTARIO, CA 91761

951-779-0310

www.arlaboratories.com

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FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

Ken Zheng, President
07/24/2019 14:34:40

Laboratory Job No. (Certificate of Analysis No.)

1907-00157

Project Name / No.

23591 El Toro Rd., Lake Forest, CA 92630

Dates Sampled (from/to)

07/19/19 To 07/19/19

Dates Received (from/to)

07/19/19 To 07/19/19

Dates Reported (from/to)

07/24/19 To 7/24/2019

Chains of Custody Received

Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Sample	Analyte	Result	Qual	Units	RL
SV7-5'	Benzene	0.15		µg/L	0.025	SV7-5'	Ethylbenzene	0.060		µg/L	0.050
SV7-5'	Toluene	0.070		µg/L	0.050	SV7-5'	m,p-Xylenes	0.10		µg/L	0.10
SV6-5'	Benzene	0.16		µg/L	0.025	SV6-5'	Ethylbenzene	0.060		µg/L	0.050
SV6-5'	Toluene	0.080		µg/L	0.050	SV6-5'	m,p-Xylenes	0.12		µg/L	0.10



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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SV1-15'								Date & Time Sampled: 07/19/19	@ 10:30	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	10:40	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	10:40	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	10:40	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	10:40	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL

The data and information on this, and other accompanying documents, represent only the sample(s) analyzed and is rendered upon condition that it is not to be reproduced, wholly or in part, for advertising or other purposes without approval from the laboratory.

USDA-EPA-NIOSH Testing Food Sanitation Consulting Chemical and Microbiological Analyses and Research



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Date Reported 07/24/19

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Invoice No. 86321

Cust # 1567

Permit Number

Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SV1-15'								Date & Time Sampled: 07/19/19	@ 10:30	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	10:40	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	10:40	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SV1-15' Date & Time Sampled: 07/19/19 @ 10:30 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	10:40	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	10:40	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	10:40	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	10:40	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	10:40	AL
[VOC Surrogates]										
Dibromofluoromethane	96		%REC	EPA 8260B			70-130	07/19/19	10:40	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	10:40	AL
Bromofluorobenzene	98		%REC	EPA 8260B			70-130	07/19/19	10:40	AL
Sample: 002 SV1-5' Date & Time Sampled: 07/19/19 @ 10:50 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	11:03	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL

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CERTIFICATE OF ANALYSIS

1907-00157

**INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040**

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 SV1-5'								Date & Time Sampled: 07/19/19 @ 10:50		
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	11:03	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:03	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:03	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 SV1-5'								Date & Time Sampled:		07/19/19 @ 10:50
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	11:03	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	11:03	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:03	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	11:03	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	11:03	AL

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Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 002 SV1-5' Date & Time Sampled: 07/19/19 @ 10:50 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:03	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:03	AL
[VOC Surrogates]										
Dibromofluoromethane	98		%REC	EPA 8260B			70-130	07/19/19	11:03	AL
Toluene-D8	104		%REC	EPA 8260B			70-130	07/19/19	11:03	AL
Bromofluorobenzene	100		%REC	EPA 8260B			70-130	07/19/19	11:03	AL
Sample: 003 SV3-15' Date & Time Sampled: 07/19/19 @ 11:09 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	11:25	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	11:25	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 SV3-15'								Date & Time Sampled:		07/19/19 @ 11:09
Sample Matrix: Soil Vapor								Purge Volume Sampled:		3
.....continued										
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:25	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:25	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	11:25	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 003 SV3-15'								Date & Time Sampled: 07/19/19	@ 11:09	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	11:25	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:25	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	11:25	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	11:25	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:25	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:25	AL
[VOC Surrogates]										
Dibromofluoromethane	100		%REC	EPA 8260B			70-130	07/19/19	11:25	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	11:25	AL
Bromofluorobenzene	101		%REC	EPA 8260B			70-130	07/19/19	11:25	AL

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Date Reported 07/24/19

Date Received 07/19/19

Invoice No. 86321

Cust # 1567

Permit Number

Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 SV3-5'								Date & Time Sampled: 07/19/19	@ 11:31	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	11:48	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	11:48	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:48	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:48	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL

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ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 SV3-5'						Date & Time Sampled:		07/19/19	@	11:31
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	11:48	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	11:48	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL

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CERTIFICATE OF ANALYSIS

1907-00157

Date Reported 07/24/19

Date Received 07/19/19

Invoice No. 86321

Cust # 1567

Permit Number

Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 004 SV3-5' Date & Time Sampled: 07/19/19 @ 11:31 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	11:48	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	11:48	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	11:48	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	11:48	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	11:48	AL
[VOC Surrogates]										
Dibromofluoromethane	106		%REC	EPA 8260B			70-130	07/19/19	11:48	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	11:48	AL
Bromofluorobenzene	101		%REC	EPA 8260B			70-130	07/19/19	11:48	AL
Sample: 005 SV2-15' Date & Time Sampled: 07/19/19 @ 11:54 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	12:11	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 SV2-15'								Date & Time Sampled: 07/19/19	@ 11:54	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	12:11	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:11	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:11	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL

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1907-00157

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Cust # 1567
Permit Number
Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 SV2-15'								Date & Time Sampled:		07/19/19 @ 11:54
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	12:11	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	12:11	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:11	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	12:11	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	12:11	AL

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 005 SV2-15' Date & Time Sampled: 07/19/19 @ 11:54 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:11	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:11	AL
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	07/19/19	12:11	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	12:11	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	12:11	AL
Sample: 006 SV2-5' Date & Time Sampled: 07/19/19 @ 12:17 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	12:34	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	12:34	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 SV2-5'								Date & Time Sampled:	07/19/19	@ 12:17
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:34	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:34	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	12:34	AL

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CERTIFICATE OF ANALYSIS

1907-00157

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 006 SV2-5'								Date & Time Sampled:	07/19/19	@ 12:17
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	12:34	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:34	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	12:34	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	12:34	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:34	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:34	AL
[VOC Surrogates]										
Dibromofluoromethane	104		%REC	EPA 8260B			70-130	07/19/19	12:34	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	12:34	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	12:34	AL



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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 SV2-5' DUP								Date & Time Sampled: 07/19/19	@ 12:40	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	12:57	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	12:57	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:57	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:57	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL

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1907-00157

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Invoice No. 86321

Cust # 1567

Permit Number

Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 SV2-5' DUP								Date & Time Sampled:	07/19/19	@ 12:40
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	12:57	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	12:57	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL

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Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 007 SV2-5' DUP								Date & Time Sampled: 07/19/19	@ 12:40	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	12:57	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	12:57	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	12:57	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	12:57	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	12:57	AL
[VOC Surrogates]										
Dibromofluoromethane	104		%REC	EPA 8260B			70-130	07/19/19	12:57	AL
Toluene-D8	107		%REC	EPA 8260B			70-130	07/19/19	12:57	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	12:57	AL
Sample: 008 SV4-15'								Date & Time Sampled: 07/19/19	@ 13:03	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	1:21	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL

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CERTIFICATE OF ANALYSIS

1907-00157

Date Reported 07/24/19

Date Received 07/19/19

Invoice No. 86321

Cust # 1567

Permit Number

Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 SV4-15'								Date & Time Sampled:	07/19/19	@ 13:03
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	1:21	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:21	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:21	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL

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INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 SV4-15'						Date & Time Sampled:		07/19/19	@	13:03
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	1:21	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	1:21	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:21	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	1:21	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	1:21	AL

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Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 008 SV4-15' Date & Time Sampled: 07/19/19 @ 13:03										
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:21	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:21	AL
[VOC Surrogates]										
Dibromofluoromethane	99		%REC	EPA 8260B			70-130	07/19/19	1:21	AL
Toluene-D8	106		%REC	EPA 8260B			70-130	07/19/19	1:21	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	1:21	AL
Sample: 009 SV4-5' Date & Time Sampled: 07/19/19 @ 13:27										
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	1:44	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	1:44	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL

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LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 SV4-5'								Date & Time Sampled:	07/19/19	@ 13:27
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:44	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:44	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	1:44	AL

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CERTIFICATE OF ANALYSIS

1907-00157

Date Reported 07/24/19

Date Received 07/19/19

Invoice No. 86321

Cust # 1567

Permit Number

Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 009 SV4-5'								Date & Time Sampled:	07/19/19	@ 13:27
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	1:44	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	1:44	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	1:44	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	1:44	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	1:44	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	1:44	AL
[VOC Surrogates]										
Dibromofluoromethane	105		%REC	EPA 8260B			70-130	07/19/19	1:44	AL
Toluene-D8	109		%REC	EPA 8260B			70-130	07/19/19	1:44	AL
Bromofluorobenzene	100		%REC	EPA 8260B			70-130	07/19/19	1:44	AL

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INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 SV7-5'								Date & Time Sampled:	07/19/19	@ 13:52
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Benzene	0.15		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	2:08	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	2:08	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:08	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:08	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL

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ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 SV7-5'								Date & Time Sampled:	07/19/19	@ 13:52
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Ethylbenzene	0.060		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	2:08	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	2:08	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Toluene	0.070		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL

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Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 SV7-5'								Date & Time Sampled:		07/19/19 @ 13:52
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:08	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	2:08	AL
m,p-Xylenes	0.10		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	2:08	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:08	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:08	AL
[VOC Surrogates]										
Dibromofluoromethane	112		%REC	EPA 8260B			70-130	07/19/19	2:08	AL
Toluene-D8	107		%REC	EPA 8260B			70-130	07/19/19	2:08	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	2:08	AL
Sample: 011 SV6-5'								Date & Time Sampled:		07/19/19 @ 14:14
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Benzene	0.16		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	2:31	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL

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Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 SV6-5'						Date & Time Sampled:		07/19/19	@	14:14
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	2:31	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:31	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:31	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL

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CERTIFICATE OF ANALYSIS

1907-00157

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 SV6-5'								Date & Time Sampled:	07/19/19	@ 14:14
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Ethylbenzene	0.060		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	2:31	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	2:31	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Toluene	0.080		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:31	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	2:31	AL
m,p-Xylenes	0.12		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	2:31	AL

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CERTIFICATE OF ANALYSIS

1907-00157

**INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040**

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 011 SV6-5' Date & Time Sampled: 07/19/19 @ 14:14 Sample Matrix: Soil Vapor Purge Volume Sampled: 3continued										
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:31	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:31	AL
[VOC Surrogates]										
Dibromofluoromethane	102		%REC	EPA 8260B			70-130	07/19/19	2:31	AL
Toluene-D8	105		%REC	EPA 8260B			70-130	07/19/19	2:31	AL
Bromofluorobenzene	100		%REC	EPA 8260B			70-130	07/19/19	2:31	AL
Sample: 012 SV5-15' Date & Time Sampled: 07/19/19 @ 14:38 Sample Matrix: Soil Vapor Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	2:54	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	2:54	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL

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CERTIFICATE OF ANALYSIS

1907-00157

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 SV5-15'								Date & Time Sampled:	07/19/19	@ 14:38
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:54	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:54	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	2:54	AL

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 012 SV5-15'								Date & Time Sampled:	07/19/19	@ 14:38
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	2:54	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	2:54	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	2:54	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	2:54	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	2:54	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	2:54	AL
[VOC Surrogates]										
Dibromofluoromethane	108		%REC	EPA 8260B			70-130	07/19/19	2:54	AL
Toluene-D8	106		%REC	EPA 8260B			70-130	07/19/19	2:54	AL
Bromofluorobenzene	101		%REC	EPA 8260B			70-130	07/19/19	2:54	AL

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CERTIFICATE OF ANALYSIS

1907-00157

Date Reported 07/24/19
Date Received 07/19/19
Invoice No. 86321
Cust # 1567
Permit Number
Customer P.O.

INTERPHASE
ROSE WILLIAMS
6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 SV5-5'								Date & Time Sampled: 07/19/19	@ 15:01	
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
[VOCs by GCMS]										
Acetone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Benzene	<0.0180		µg/L	EPA 8260B	0.5	0.0180	0.025	07/19/19	3:16	AL
Bromobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromodichloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromoform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Bromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
t-Butanol (TBA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
2-Butanone (MEK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
n-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
sec-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
tert-Butylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Carbon Disulfide	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
Carbon Tetrachloride	<0.0125		µg/L	EPA 8260B	0.5	0.0125	0.025	07/19/19	3:16	AL
Chlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Chloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Chloroform	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Chloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
2-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
4-Chlorotoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Dibromochloromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2-Dibromoethane (EDB)	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	3:16	AL
1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	3:16	AL
Dibromomethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,3-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,4-Dichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Dichlorodifluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL

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LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 SV5-5'						Date & Time Sampled:		07/19/19	@	15:01
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,2-Dichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
cis-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
trans-1,2-Dichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,3-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
2,2-Dichloropropane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
cis-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
trans-1,3-Dichloropropene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Diisopropyl Ether (DiPE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Ethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Hexachlorobutadiene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
2-Hexanone	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
Isopropylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
4-Isopropyltoluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Methylene Chloride	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.05	07/19/19	3:16	AL
4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Naphthalene	<0.0160		µg/L	EPA 8260B	0.5	0.0160	0.025	07/19/19	3:16	AL
n-Propylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Styrene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1,1,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1,1,2,2-Tetrachloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Tetrachloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Toluene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,3-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,4-Trichlorobenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,1,1-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL

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Customer P.O.

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6200 PEACHTREE STREET
LOS ANGELES, CA 90040

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 013 SV5-5'								Date & Time Sampled:	07/19/19	@ 15:01
Sample Matrix: Soil Vapor										
Purge Volume Sampled: 3										
.....continued										
1,1,2-Trichloroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Trichloroethene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,3-Trichloropropane	<0.0100		µg/L	EPA 8260B	0.5	0.0100	0.050	07/19/19	3:16	AL
Trichlorofluoromethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Trichlorotrifluoroethane	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,2,4-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
1,3,5-Trimethylbenzene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
Vinyl Chloride	<0.0040		µg/L	EPA 8260B	0.5	0.0040	0.025	07/19/19	3:16	AL
m,p-Xylenes	<0.0500		µg/L	EPA 8260B	0.5	0.0500	0.10	07/19/19	3:16	AL
o-Xylene	<0.0250		µg/L	EPA 8260B	0.5	0.0250	0.050	07/19/19	3:16	AL
[VOC Vapor Sampling Tracer]										
Isopropanol (IPA)	<0.2500		µg/L	EPA 8260B	0.5	0.2500	0.50	07/19/19	3:16	AL
[VOC Surrogates]										
Dibromofluoromethane	107		%REC	EPA 8260B			70-130	07/19/19	3:16	AL
Toluene-D8	106		%REC	EPA 8260B			70-130	07/19/19	3:16	AL
Bromofluorobenzene	99		%REC	EPA 8260B			70-130	07/19/19	3:16	AL

Respectfully Submitted:

Ken Zheng
Ken Zheng - President

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician



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For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



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QUALITY CONTROL DATA REPORT

INTERPHASE
LOS ANGELES, CA 90040

1907-00157

Date Reported 07/24/2019
Date Received 07/19/2019
Date Sampled 07/19/2019
Invoice No. 86321
Customer # 1567
Customer P.O.

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Method # EPA 8260B

QC Reference # 83308 Date Analyzed: 7/19/2019 Technician: AL

Samples 001 002 003 004 005 006 007 008 009 010 011 012 013

Results

LCS %REC	BLKSRR% REC
----------	----------------

1,1-Dichloroethene	85	
Benzene	101	
Bromofluorobenzene		100
Chlorobenzene	103	
Dibromofluoromethan		104
Toluene	111	
Toluene-D8		105
Trichloroethene	108	

Control Ranges

LCS %REC	BLKSRR%REC
----------	------------

70 - 130	
70 - 130	
	50 - 150
70 - 130	
	50 - 150
70 - 130	
	50 - 150
70 - 130	



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QUALITY CONTROL DATA REPORT

1907-00157

INTERPHASE

Date Reported 07/24/2019
Date Received 07/19/2019
Date Sampled 07/19/2019

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
83308	Acetone	<0.2500		µg/L	0.2500		Isopropylbenzene	<0.0250		µg/L	0.0250
	t-Amyl Methyl Ether (TAME)	<0.0250		µg/L	0.0250		4-Isopropyltoluene	<0.0250		µg/L	0.0250
	Benzene	<0.0180		µg/L	0.0180		Methylene Chloride	<0.0250		µg/L	0.0250
	Bromobenzene	<0.0250		µg/L	0.0250		4-Methyl-2-Pentanone (MIBK)	<0.2500		µg/L	0.2500
	Bromochloromethane	<0.0250		µg/L	0.0250		Methyl-t-butyl Ether (MtBE)	<0.0250		µg/L	0.0250
	Bromodichloromethane	<0.0250		µg/L	0.0250		Naphthalene	<0.0160		µg/L	0.0160
	Bromoform	<0.0250		µg/L	0.0250		n-Propylbenzene	<0.0250		µg/L	0.0250
	Bromomethane	<0.0250		µg/L	0.0250		Styrene	<0.0250		µg/L	0.0250
	t-Butanol (TBA)	<0.2500		µg/L	0.2500		1,1,1,2-Tetrachloroethane	<0.0250		µg/L	0.0250
	2-Butanone (MEK)	<0.2500		µg/L	0.2500		1,1,2,2-Tetrachloroethane	<0.0250		µg/L	0.0250
	n-Butylbenzene	<0.0250		µg/L	0.0250		Tetrachloroethene	<0.0250		µg/L	0.0250
	sec-Butylbenzene	<0.0250		µg/L	0.0250		Toluene	<0.0250		µg/L	0.0250
	tert-Butylbenzene	<0.0250		µg/L	0.0250		1,2,3-Trichlorobenzene	<0.0250		µg/L	0.0250
	Carbon Disulfide	<0.2500		µg/L	0.2500		1,2,4-Trichlorobenzene	<0.0250		µg/L	0.0250
	Carbon Tetrachloride	<0.0125		µg/L	0.0125		1,1,1-Trichloroethane	<0.0250		µg/L	0.0250
	Chlorobenzene	<0.0250		µg/L	0.0250		1,1,2-Trichloroethane	<0.0250		µg/L	0.0250
	Chloroethane	<0.0250		µg/L	0.0250		Trichloroethene	<0.0250		µg/L	0.0250
	Chloroform	<0.0250		µg/L	0.0250		1,2,3-Trichloropropane	<0.0100		µg/L	0.0100
	Chloromethane	<0.0250		µg/L	0.0250		Trichlorofluoromethane	<0.0250		µg/L	0.0250
	2-Chlorotoluene	<0.0250		µg/L	0.0250		Trichlorotrifluoroethane	<0.0250		µg/L	0.0250
	4-Chlorotoluene	<0.0250		µg/L	0.0250		1,2,4-Trimethylbenzene	<0.0250		µg/L	0.0250
	Dibromochloromethane	<0.0250		µg/L	0.0250		1,3,5-Trimethylbenzene	<0.0250		µg/L	0.0250
	1,2-Dibromoethane (EDB)	<0.0100		µg/L	0.0100		Vinyl Chloride	<0.0040		µg/L	0.0040
	1,2-Dibromo-3-Chloropropane	<0.0100		µg/L	0.0100		m,p-Xylenes	<0.0500		µg/L	0.0500
	Dibromomethane	<0.0250		µg/L	0.0250		o-Xylene	<0.0250		µg/L	0.0250
	1,2-Dichlorobenzene	<0.0250		µg/L	0.0250		Isopropanol (IPA)	<0.2500		µg/L	0.2500
	1,3-Dichlorobenzene	<0.0250		µg/L	0.0250						
	1,4-Dichlorobenzene	<0.0250		µg/L	0.0250						
	Dichlorodifluoromethane	<0.0250		µg/L	0.0250						
	1,1-Dichloroethane	<0.0250		µg/L	0.0250						
	1,2-Dichloroethane	<0.0250		µg/L	0.0250						
	1,1-Dichloroethene	<0.0250		µg/L	0.0250						
	cis-1,2-Dichloroethene	<0.0250		µg/L	0.0250						
	trans-1,2-Dichloroethene	<0.0250		µg/L	0.0250						
	1,2-Dichloropropane	<0.0250		µg/L	0.0250						
	1,3-Dichloropropane	<0.0250		µg/L	0.0250						
	2,2-Dichloropropane	<0.0250		µg/L	0.0250						
	1,1-Dichloropropene	<0.0250		µg/L	0.0250						
	cis-1,3-Dichloropropene	<0.0250		µg/L	0.0250						
	trans-1,3-Dichloropropene	<0.0250		µg/L	0.0250						
	Diisopropyl Ether (DIPE)	<0.0250		µg/L	0.0250						
	Ethylbenzene	<0.0250		µg/L	0.0250						
	Ethyl-t-Butyl Ether (EtBE)	<0.0250		µg/L	0.0250						
	Hexachlorobutadiene	<0.0250		µg/L	0.0250						
	2-Hexanone	<0.2500		µg/L	0.2500						



A & R Laboratories, Inc.

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ONTAIRO, CA 91761

951-779-0310

www.arlaboratories.com

FAX 951-779-0344

office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

CHEMISTRY · MICROBIOLOGY · FOOD SAFETY · MOBILE LABORATORIES
FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

QUALITY CONTROL DATA REPORT

INTERPHASE

1907-00157

Date Reported 07/24/2019

Date Received 07/19/2019

Date Sampled 07/19/2019

Project: 23591 El Toro Rd., Lake Forest, CA 92630

Respectfully Submitted:

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.



A & R Laboratories
 1650 S. Grove Ave., Ste C, Ontario, CA 91761
 Tel: 951-779-0310 / 909-781-6335 Fax: 951-779-0344
 E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: **1907-157**

Client Name InterPhase		<input type="checkbox"/> Chilled		Analyses Requested										Turn Around Time Requested						
E-mail OFFICE@INTERPHASEENVIRONMENTAL.COM		<input checked="" type="checkbox"/> Intact												<input type="checkbox"/> Rush 8 12 24 48 Hours <input type="checkbox"/> Normal Mobile						
Address 6200 PEACHTREE ST., LOS ANGELES, CA 90040		<input type="checkbox"/> Seal												Remarks						
Report Attention Gilbert Mendez		Phone # (923) 301-0076																		
Sampled By Ashlee Lynch		Fax: #																		
Project No./ Name		Project Site		Sample Collection		Matrix	Sample Preserve	No., type* & size of container												
No. / Name		23541 El Toro Rd Lake Forest, CA 92630		Date	Time	Type														
1	SV1-15'	7/19/19	10:30	Air	NA			250 mL Glass Bottle	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli			
2	SV1-5'		10:50						X											
3	SV3-15'		11:04						X											
4	SV3-5'		11:31						X											
5	SV2-15'		11:54						X											
6	SV2-5'		12:17						X											
7	SV2-5' DUP		12:40						X											
8	SV4-15'		13:03						X											
9	SV4-5'		13:27						X											
10	SV7-5'		13:52						X											
11	SV6-5'		14:14						X											
12	SV5-15'		14:30						X											
13	SV5-5'		15:01						X											
Requisitioned By AR Converse		Company Converse		Date 7/19/19		Time 15:36		Received By AR Converse		Company ARL		Date 7/19/19		Time 15:55		Note: Samples are discarded 30 days after results are reported unless other arrangements are made.				

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste, SL=Sludge, SS=Soil/Sediment, AP=Air, PP=Pure Product, Preservative Code: IC=Ice, HC=HCl, HN=HNO3, SH=NaOH, ST=Na2S2O3, HS=H2SO4, Sample Container Types: T=Tedlar Air Bag, G=Glass Container, B=Brass Tube, P=Plastic Bottle, V=VOA Vial, E=EnCore

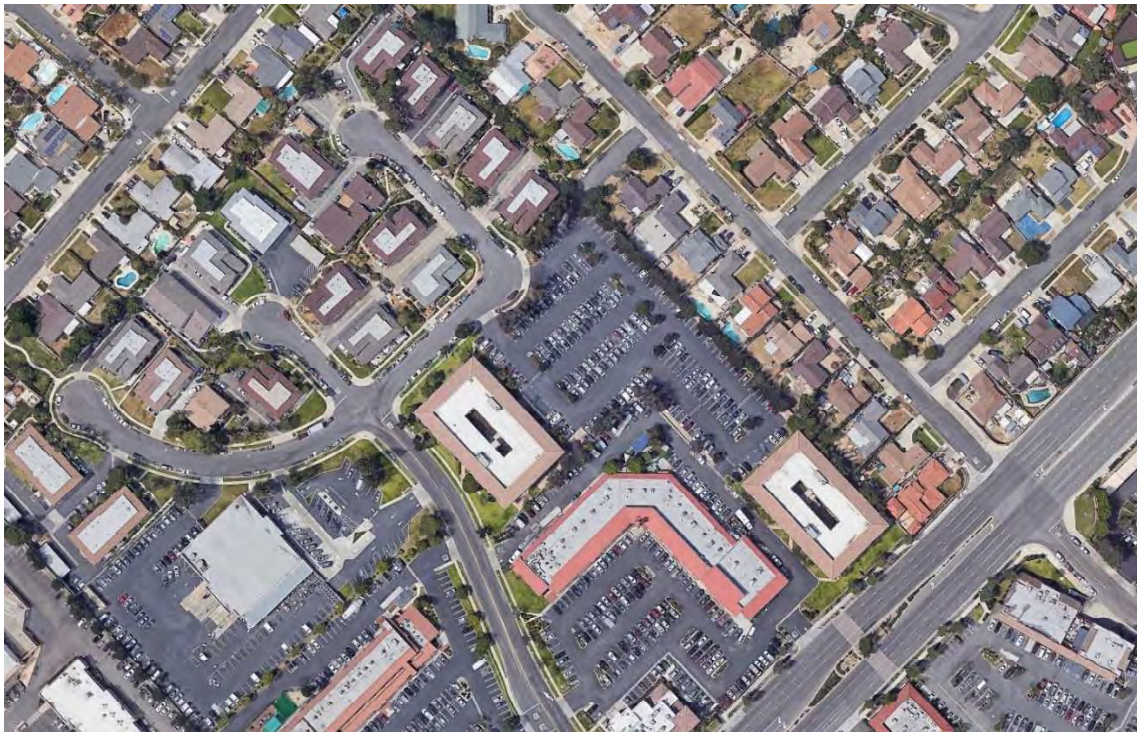
APPENDIX F – PRELIMINARY HYDROLOGICAL REPORT



PRELIMINARY HYDROLOGY REPORT MOUNTAIN VIEW AFFORDABLE HOUSING COMMUNITY

24551 RAYMOND WAY, LAKE FOREST, CA

May 12, 2020



PREPARED FOR:

National CORE

PREPARED BY:

Apryl Weidl, P.E.



10 E. Figueroa Street, Ste. 200

Santa Barbara, CA 93101

(805) 963-8283

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Location 2
Background..... 3
Method of Analysis 3
Conclusions..... 5

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EXHIBIT B POST-DEVELOPMENT HYDROLOGY MAP

ATTACHMENT 1 SOILS MAPS
ATTACHMENT 2 FEMA MAP WEBSITE IMAGE
ATTACHMENT 3 TIME OF CONCENTRATION NOMOGRAPH
ATTACHMENT 4 HYDROLOGY CALCULATIONS

Purpose of Report

The purpose of this report is to assess the project site, identify the pre-development and post-development drainage conditions, and identify storm water facilities to meet the requirements of the Orange County Hydrology Manual (Orange County Environmental Management Agency, 1986). The Mountain View Affordable Housing Community project proposes to demolish an existing commercial building and construct a single three- to four-story multifamily housing facility and associated parking.

Location

The proposed affordable housing project is located at 2455 I Raymond Way in Lake Forest, California on a 3.76 acre site which has been previously developed. Currently the site contains two existing commercial buildings and a surface parking lot. The proposed project includes a lot split dividing the parcel into two separate parcels. The proposed development will occur on Parcel 1. Other than required stormwater treatment measures, no development is proposed on Parcel 2. The proposed development on Parcel 1 includes the demolition of the existing commercial building and the construction of a single building varying from three to four stories in height. The building will contain 71 residential units and a community center. A playground, teen center, and barbeque area are proposed outside of the building. The existing parking lot will be reconfigured for the change in use of the site. See the project vicinity map in Figure 1 below.



Figure 1. Project Vicinity Map

Background

The site is currently occupied by a commercial building and a parking lot. Soils belong to Hydrologic Soil Group D, see Orange County Soils Map (Orange County Environmental Management Agency, 1986) in Attachment I.

Currently, drainage sheet flows from the parking lot in a northwesterly direction toward Packer Place, see Existing Hydrology Map, Exhibit A. Runoff from Drainage Area X1 flows out of the existing driveway into the curb and gutter on Packer Place. Eventually, runoff enters the municipal storm drain system through a curb inlet at the end of Bendricon Lane. Runoff from Drainage Area X2 from the building flows overland in a westerly direction toward Raymond Way where it enters the municipal storm drain system through an inlet near the easterly corner of the Raymond Way and Packer Place intersection. Runoff from Drainage Area X3 flows to El Toro Road and enters the municipal storm drain system through an inlet on El Toro Road. The drainage boundary for this analysis will follow the property line as depicted in the Existing Hydrology Map, Exhibit A.

Time of Concentration

The existing and proposed time of concentrations for each drainage area are shown in Table I. Calculations are provided in Attachment 3.

Table I. Time of Concentration

Drainage Area	Time of Concentration (min)
X1	7.3
X2	6.3
X3	6.4
A	10.0
B	7.9

Proposed Development

The proposed development will maintain existing drainage patterns and discharge locations, see Proposed Hydrology Map, Exhibit B. To address stormwater quality and retention, dry well BMPs have been chosen for the site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Storage chambers are proposed to operate in-line with the dry wells and provide additional storage to meet the required retention volume, per the separate Post-Construction Stormwater Management Plan. Together, Parcels 1 and 2 have been divided into three drainage areas: A, B and X3.

- Runoff from drainage area 'A' will be collected by the on-site storm drain system and directed to a dry well system near the southern corner of the site. Overflow from the dry well and storage chamber system will flow out through the curb and enter the municipal storm drain system through inlets located near the eastern corner of the Raymond Way/Packer Place intersection.
- Runoff from drainage area 'B' will flow overland through the parking lot and be collected by the on-site storm drain system which will outlet into a dry well and storage chamber system near the driveway entry to the site. Overflow from the dry wells will outlet through the curb face on Packer Place. Runoff will enter the municipal storm drain system through an inlet at the end of the Bendricon Lane cul-de-sac.

- Runoff from drainage area 'X3' will flow to the southeast and be captured in a proposed dry well and chamber system. Overflow will continue to flow toward El Toro Road as it has historically.

The site currently falls in Zone 'X' with a minimal chance of flood hazard according to FEMA NFHL, see Attachment 2 for FIRMette download from FEMA interactive maps (Federal Emergency Management Agency, 2009).

Method of Analysis

The approach to analyze the runoff from the project site follows the Orange County Hydrology Manual requirements. The hydrologic analysis is a comparison of the pre-project condition to the post-project condition.

The proposed project will increase the time of concentration from 7.3 minutes to 10 minutes. See calculation in Attachment 3. This increase in time of concentration results in a reduced peak flow generated from the project site and eliminates the need for detention.

The method of analysis as described in the Orange County Hydrology Manual for local facilities utilized for this project is the Rational Method as outlined in Section D of the manual.

Step 1. Draw drainage area on a topographic map. See Exhibits A and B.

Step 2. Determine Time of Concentration. See Attachment 3.

Step 3. Determine Intensity from Figure B-3. See Attachment 4.

Step 4. Calculate area-averaged maximum loss rate, F_m . See Attachment 4.

$$F_m = a_p F_p \text{ (equation C.7 from OC Hydrology Manual)}$$

a_p = fraction of pervious area coverage F_p = maximum loss rate of pervious area from table C.2.

SOIL GROUP:	A	B	C	D
F_p :	0.40	0.30	0.25	0.20

Step 5. Determine area of watershed tributary to the point of concentration. See Exhibits A and B.

Step 6. Compute peak flows for the point of concentration for each storm event. See calculations in Attachment 4 and a summary in Tables 2, 3 and 4.

$$Q = 0.90(I - F_m)A$$

Table 2. Peak Flows to Raymond Way

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.95	1.68
25-Year	2.33	2.01
100-Year	3.00	2.58

Table 3. Peak Flows to Packer Place

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	7.62	7.09
25-Year	9.10	8.46
100-Year	11.67	10.84

Table 4. Peak Flows to El Toro Road

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.58	1.58
25-Year	1.89	1.89
100-Year	2.44	2.44

Conclusions

Based on the findings of this report, the proposed drainage design for this project meets applicable standards and requirements of the Orange County Hydrology Manual. The proposed drainage plan is consistent with the historical drainage patterns for the site. There is an increase in the time of concentration decreasing the peak flow of runoff from the site. Therefore, the proposed development:

- Reduces the post-development peak flow of runoff to that of the pre-development rate for the hydrological analysis for all storm events at all outlet locations.

References

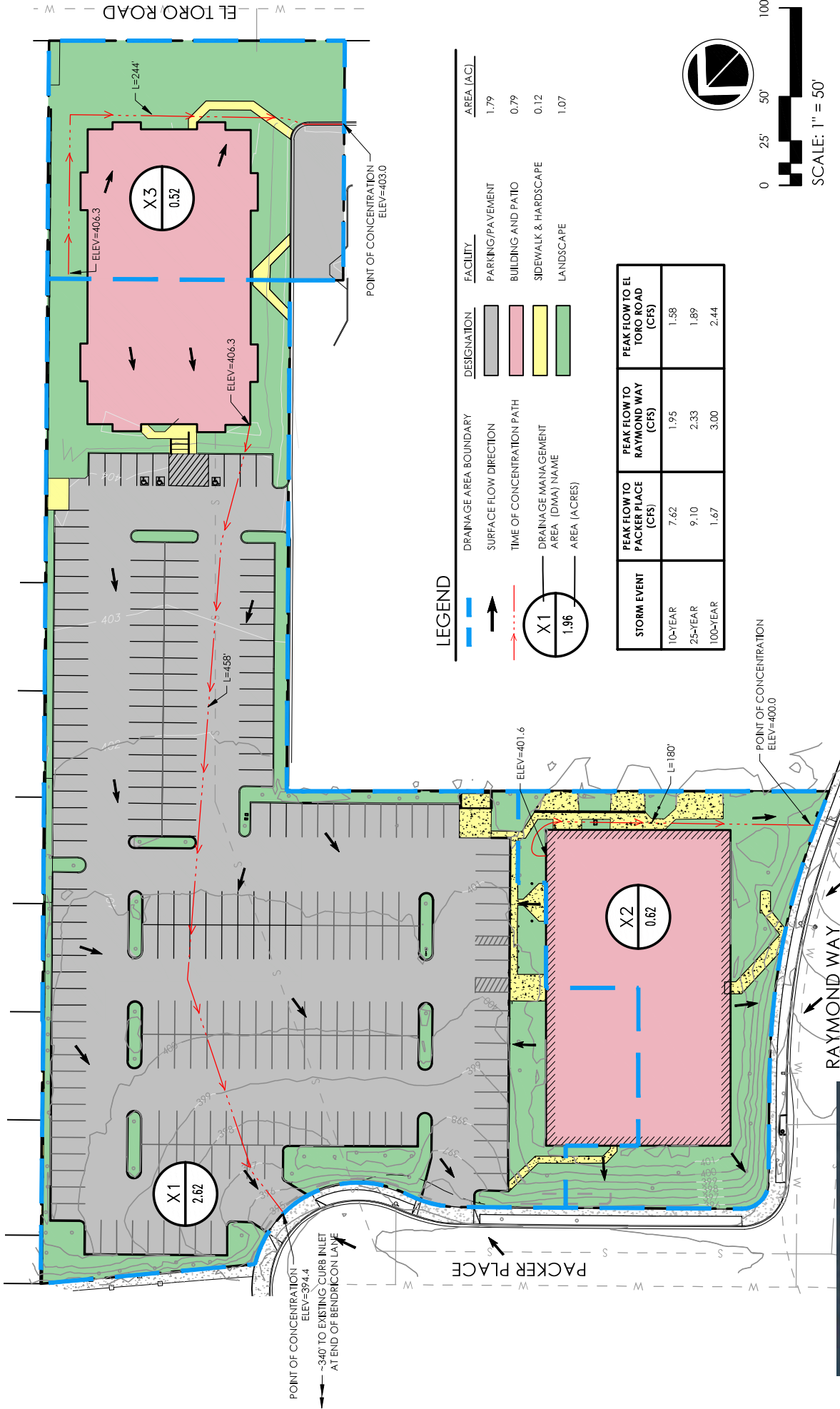
Federal Emergency Management Agency. (2009, December 3). *FEMA Flood Map Service Center*. Retrieved from <https://msc.fema.gov/>

Orange County Environmental Management Agency. (1986). *Orange County Hydrology Manual*.

EXHIBITS

EXHIBIT A

Pre-Development Hydrology Map



LEGEND

DRAINAGE AREA BOUNDARY	DESIGNATION	FACILITY	AREA (AC)
		PARKING/PAVEMENT	1.79
		BUILDING AND PATIO	0.79
		SIDEWALK & HARDSCAPE	0.12
		LANDSCAPE	1.07

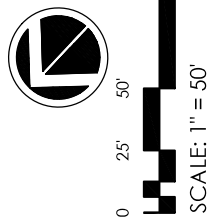
SURFACE FLOW DIRECTION	TIME OF CONCENTRATION	DRAINAGE MANAGEMENT AREA (DMA) NAME	AREA (ACRES)
			1.96

STORM EVENT	PEAK FLOW TO PACKER PLACE (CFS)	PEAK FLOW TO RAYMOND WAY (CFS)	PEAK FLOW TO EL TORO ROAD (CFS)
10-YEAR	7.62	1.95	1.56
25-YEAR	9.10	2.33	1.89
100-YEAR	1.67	3.00	2.44



EXHIBIT A-EXISTING HYDROLOGY MAP
24551 RAYMOND WAY, LAKE FOREST, CA

MAY 7, 2020



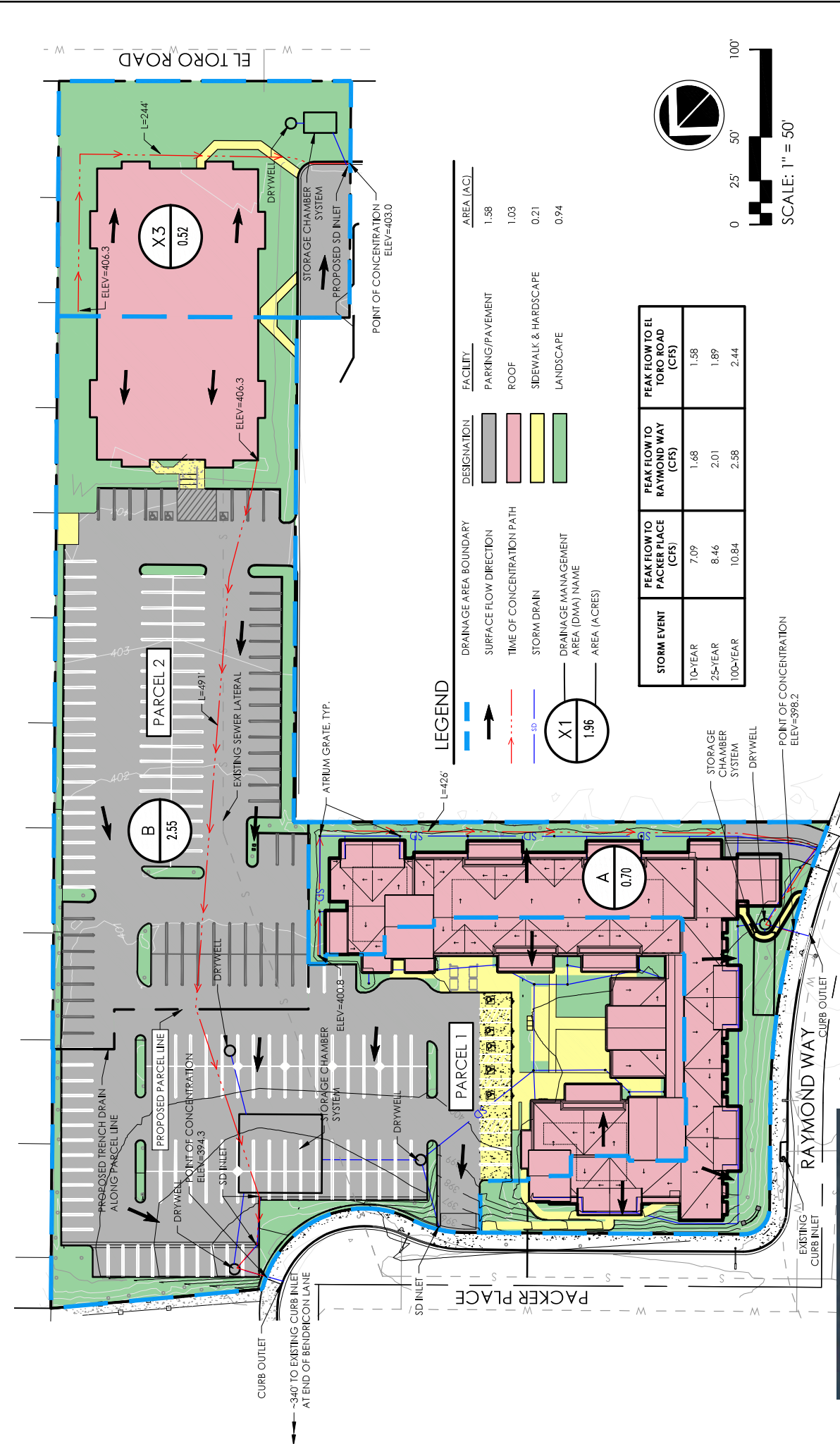
POINT OF CONCENTRATION
ELEV=394.4
--340' TO EXISTING CURB INLET
AT END OF BENDICON LAVE

POINT OF CONCENTRATION
ELEV=400.0

POINT OF CONCENTRATION
ELEV=403.0

EXHIBIT B

Post-Development Hydrology Map



LEGEND

	DRAINAGE AREA BOUNDARY		DESIGNATION		FACILITY		AREA (AC)
	SURFACE FLOW DIRECTION		ROOF		PARKING/PAVEMENT		1.58
	TIME OF CONCENTRATION PATH		SIDEWALK & HARDSCAPE		LANDSCAPE		1.03
	STORM DRAIN		LANDSCAPE				0.21
	DRAINAGE MANAGEMENT AREA (DMA) NAME						0.94
	AREA (ACRES)						

STORM EVENT	PEAK FLOW TO PACKER PLACE (CFS)	PEAK FLOW TO RAYMOND WAY (CFS)	PEAK FLOW TO EL TORO ROAD (CFS)
10-YEAR	7.09	1.68	1.58
25-YEAR	8.46	2.01	1.89
100-YEAR	10.84	2.58	2.44

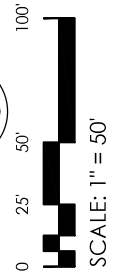


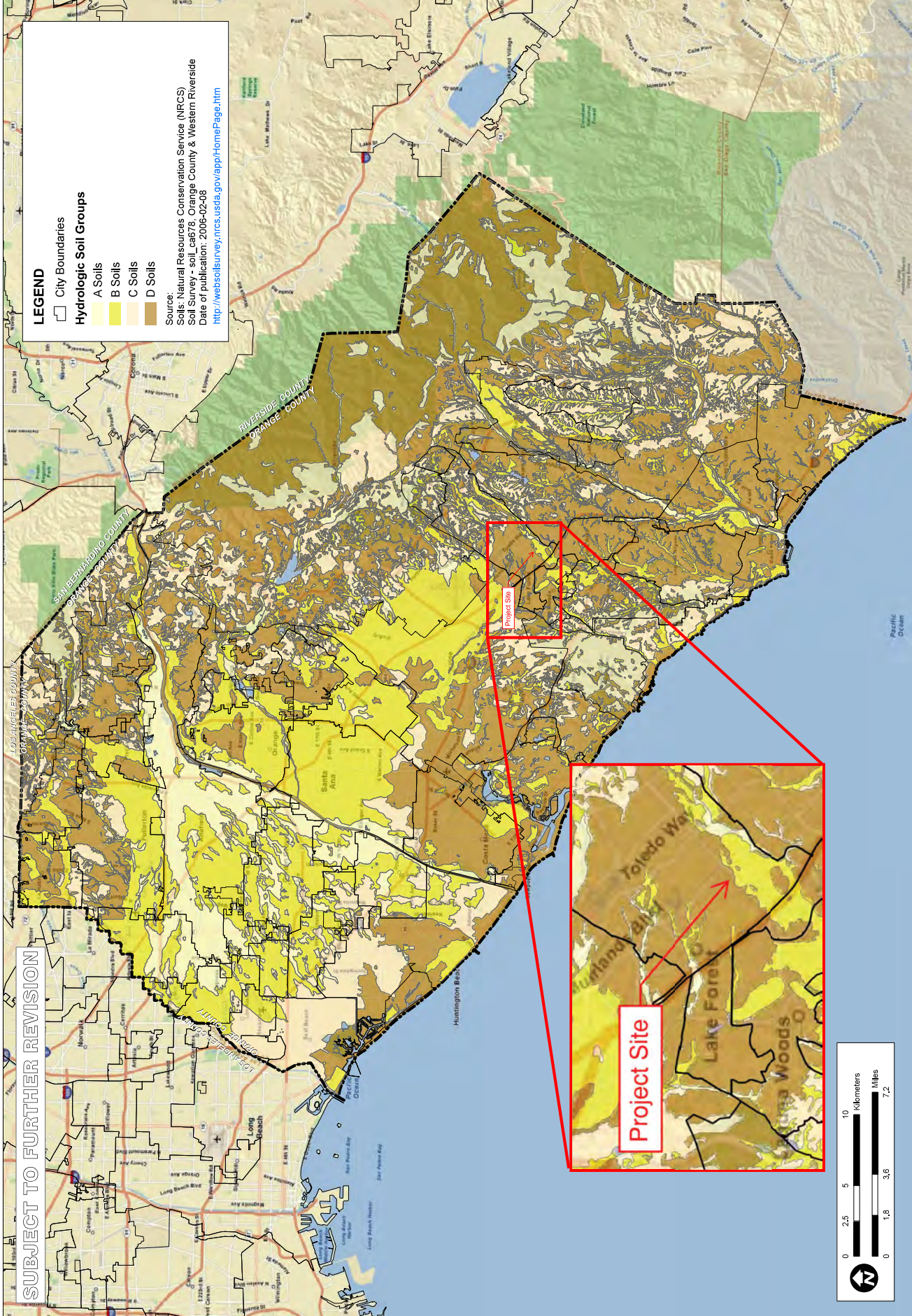
EXHIBIT B-PROPOSED HYDROLOGY MAP
 24551 RAYMOND WAY, LAKE FOREST, CA

MAY 11, 2020

ATTACHMENTS

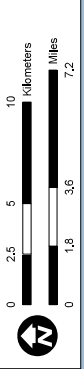
ATTACHMENT 1

Soils Maps



LEGEND
 City Boundaries
 Hydrologic Soil Groups
 A Soils
 B Soils
 C Soils
 D Soils
 Source:
 Soils: Natural Resources Conservation Service (NRCS)
 Soil Survey - soil_ca678_Orange County & Western Riverside
 Date of publication: 2006-02-08
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

SUBJECT TO FURTHER REVISION



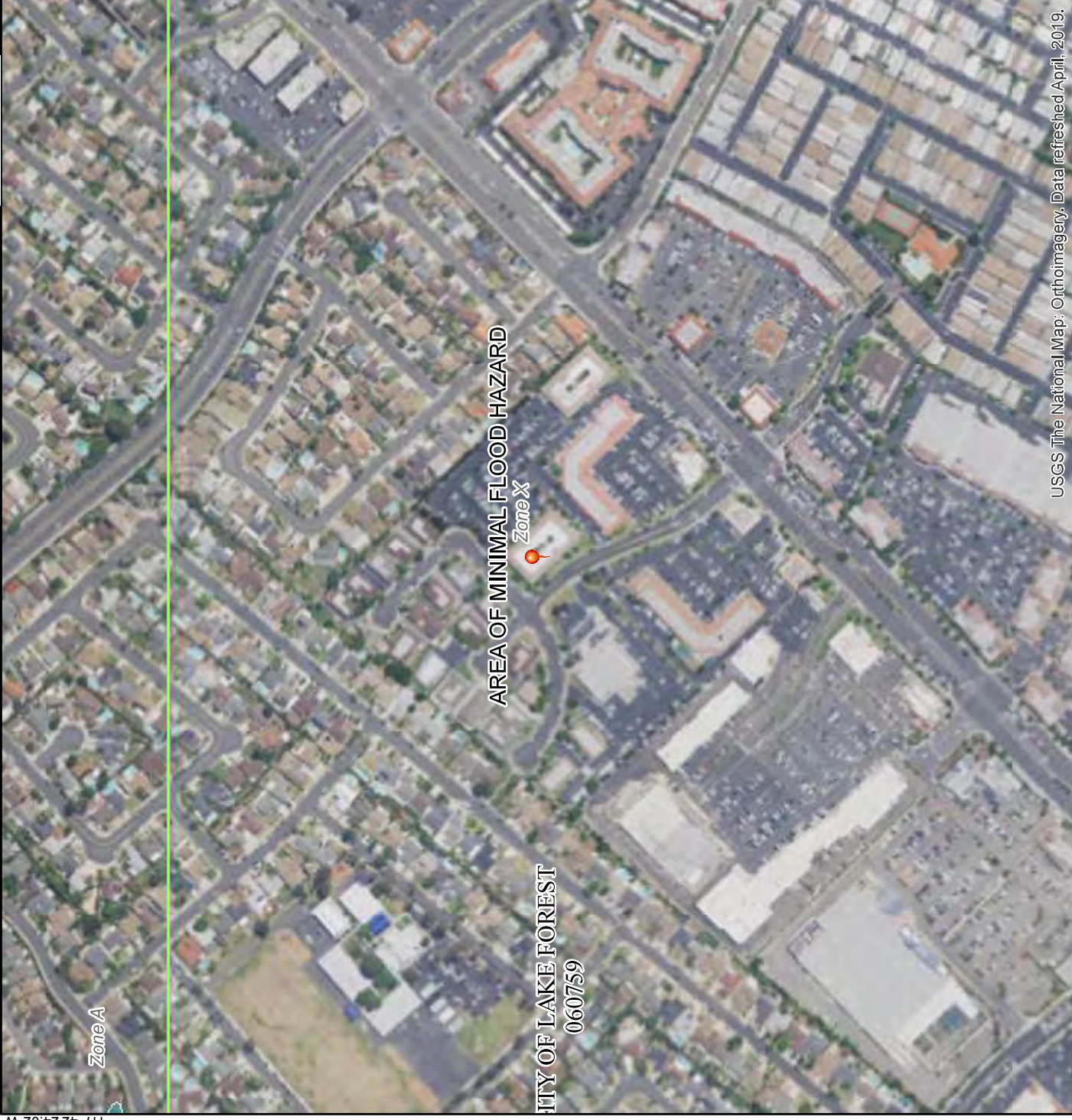
ATTACHMENT 2

FEMA Flood Map

National Flood Hazard Layer FIRMette



33°37'34.69"N



USGS The National Map: Orthoimagery, Data refreshed April, 2019.
33°37'4.73"N



117°41'46.57"W

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*

OTHER AREAS OF FLOOD HAZARD

- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee, See Notes, *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **11/7/2019 at 7:20:03 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

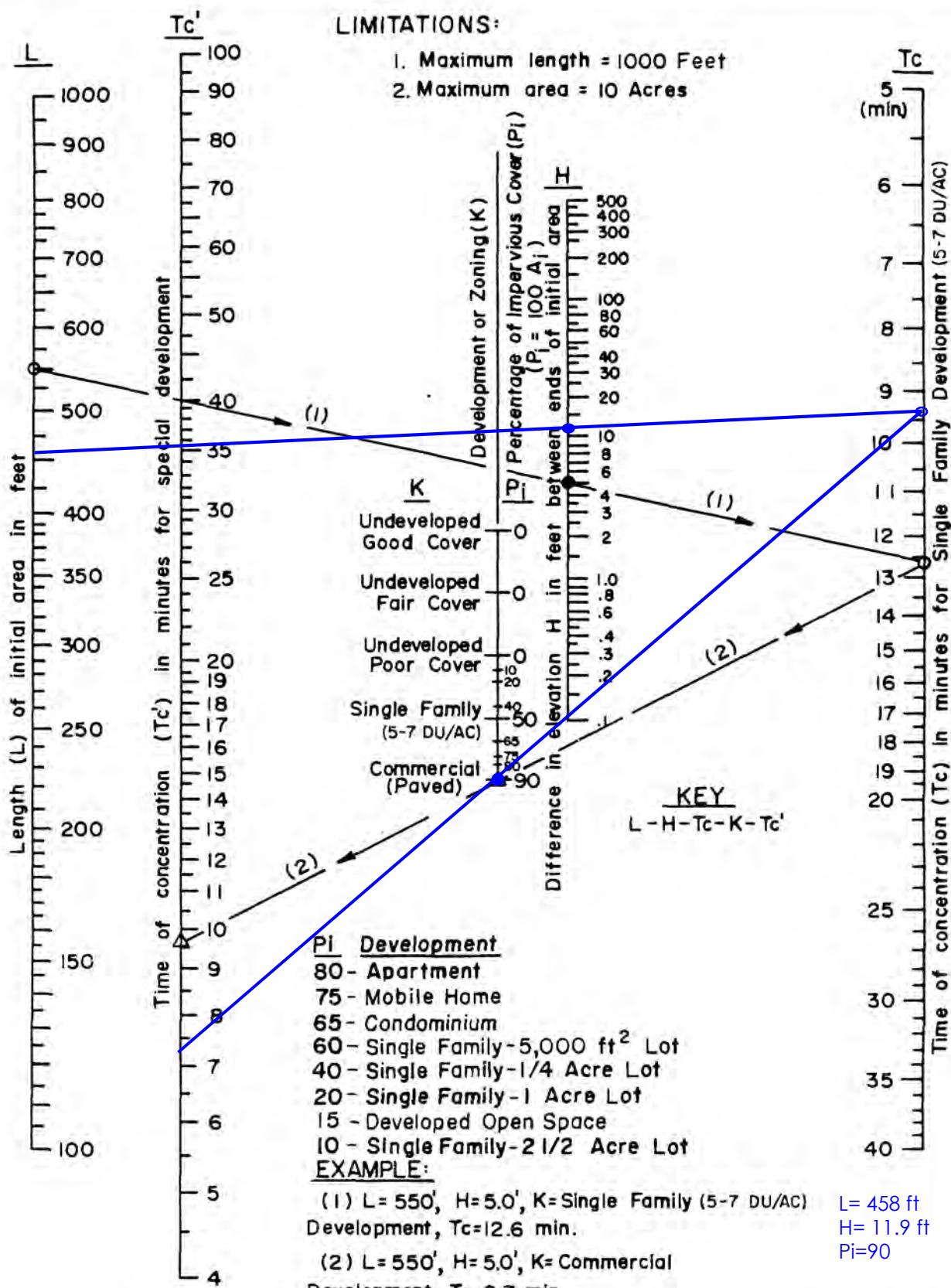
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

ATTACHMENT 3

Time of Concentration Nomograph

LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



ORANGE COUNTY
HYDROLOGY MANUAL

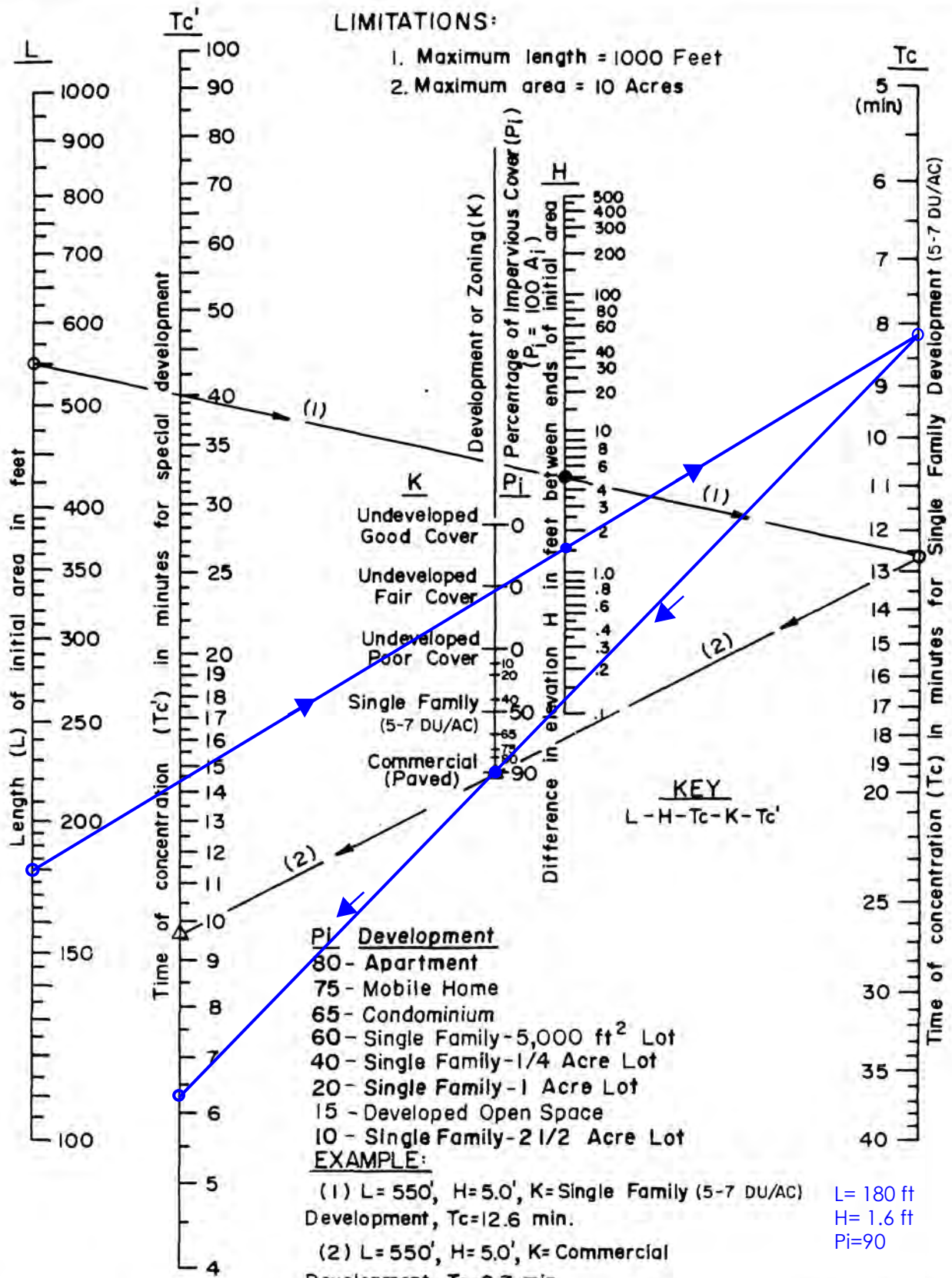
Existing Condition
 Area X1

Tc' = 7.3 min

TIME OF CONCENTRATION
NOMOGRAPH
FOR INITIAL SUBAREA

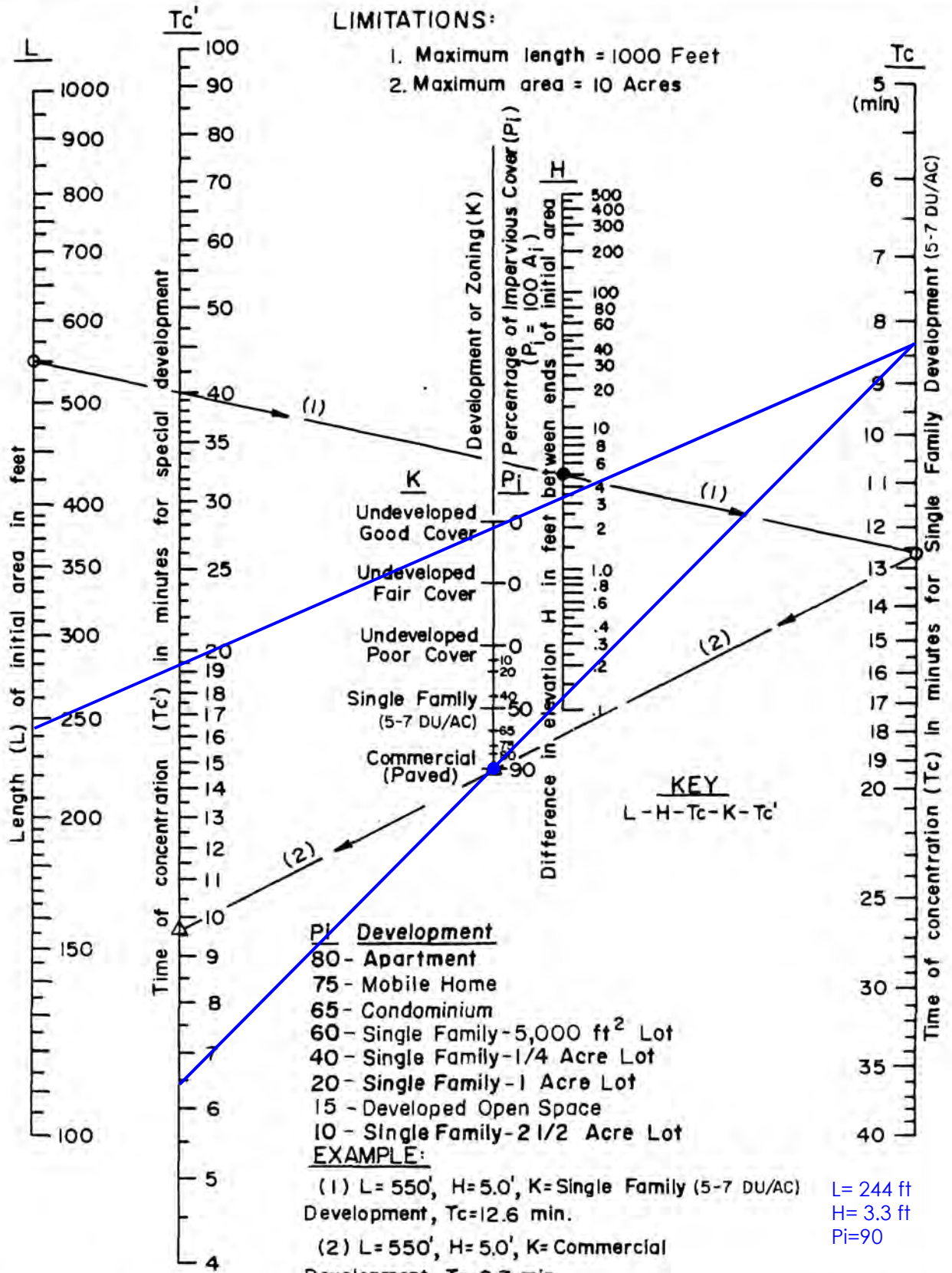
LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



ORANGE COUNTY
HYDROLOGY MANUAL

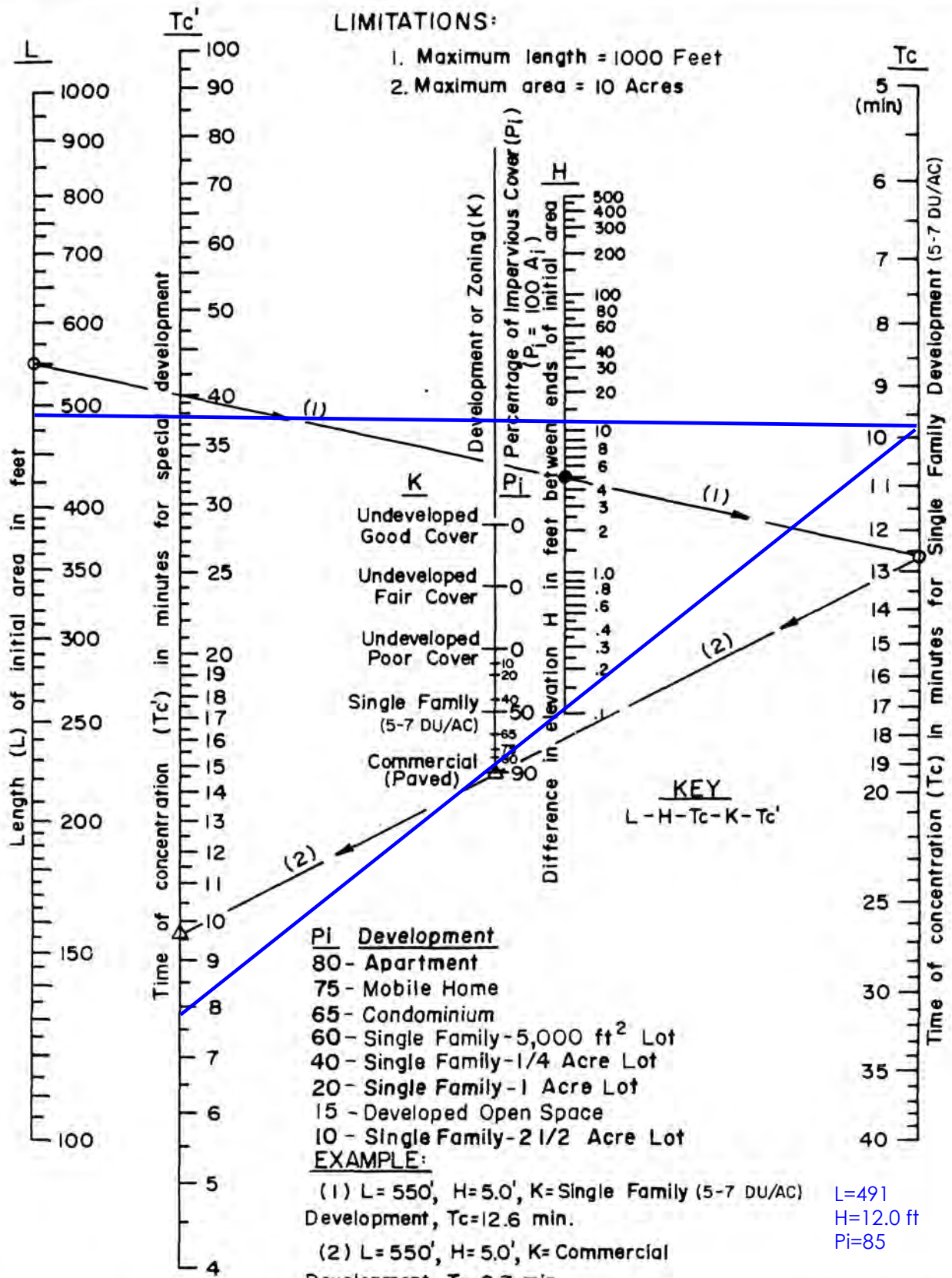
Existing and Proposed
Condition
Area X3

Tc' = 6.4 min

**TIME OF CONCENTRATION
NOMOGRAPH
FOR INITIAL SUBAREA**

LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



ORANGE COUNTY
 HYDROLOGY MANUAL

Proposed Condition
 Area B

$Tc' = 7.9 \text{ min}$

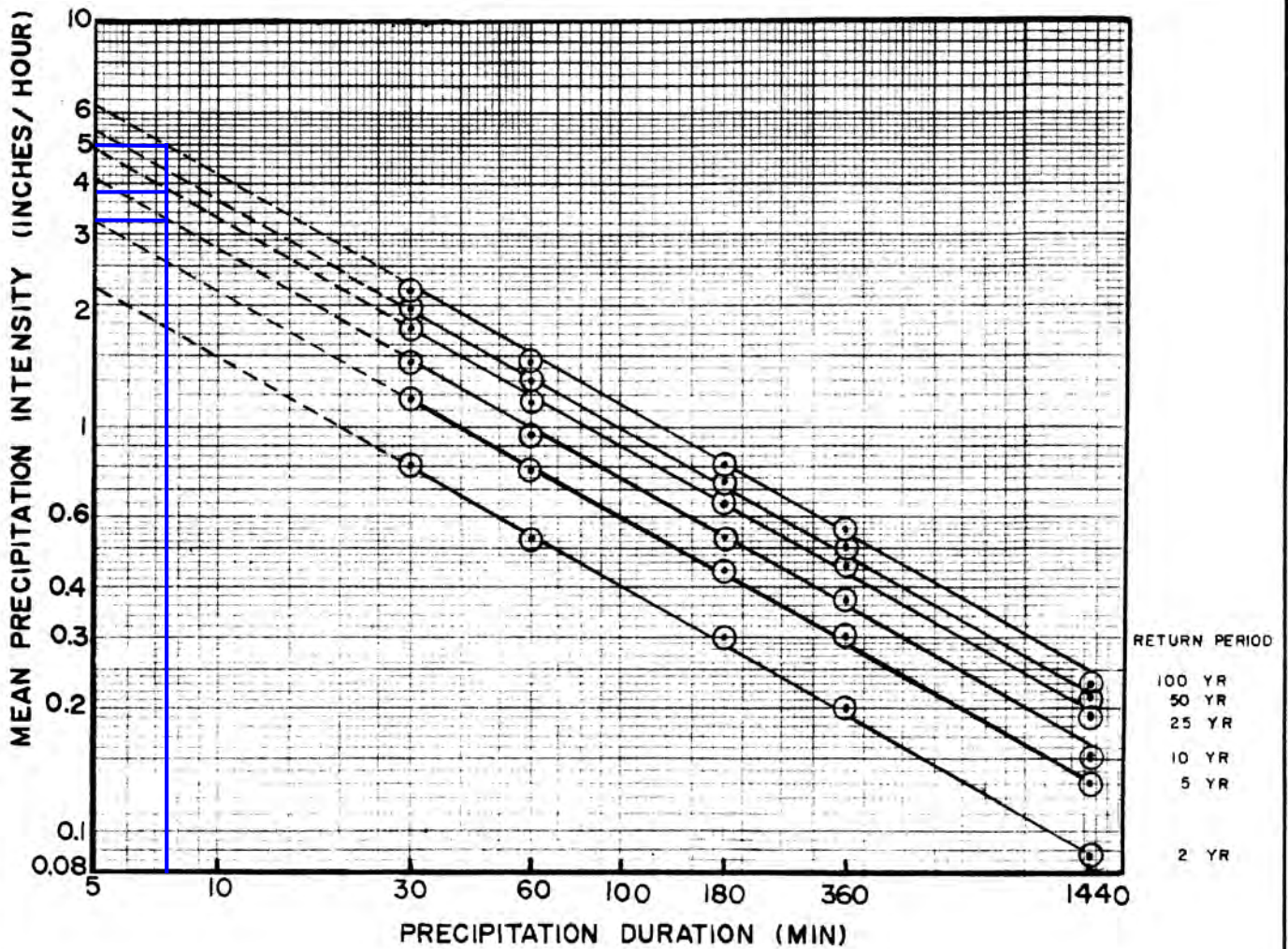
**TIME OF CONCENTRATION
 NOMOGRAPH
 FOR INITIAL SUBAREA**

ATTACHMENT 4
Hydrology Calculations

Regression Equations: $I(t) = at^b$
 (I = Intensity in inches/hour, t = duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X1
For t = 7.3 min
 10 yr I = 3.27 in/hr
 25 yr I = 3.89 in/hr
 100 yr I = 4.98 in/hr



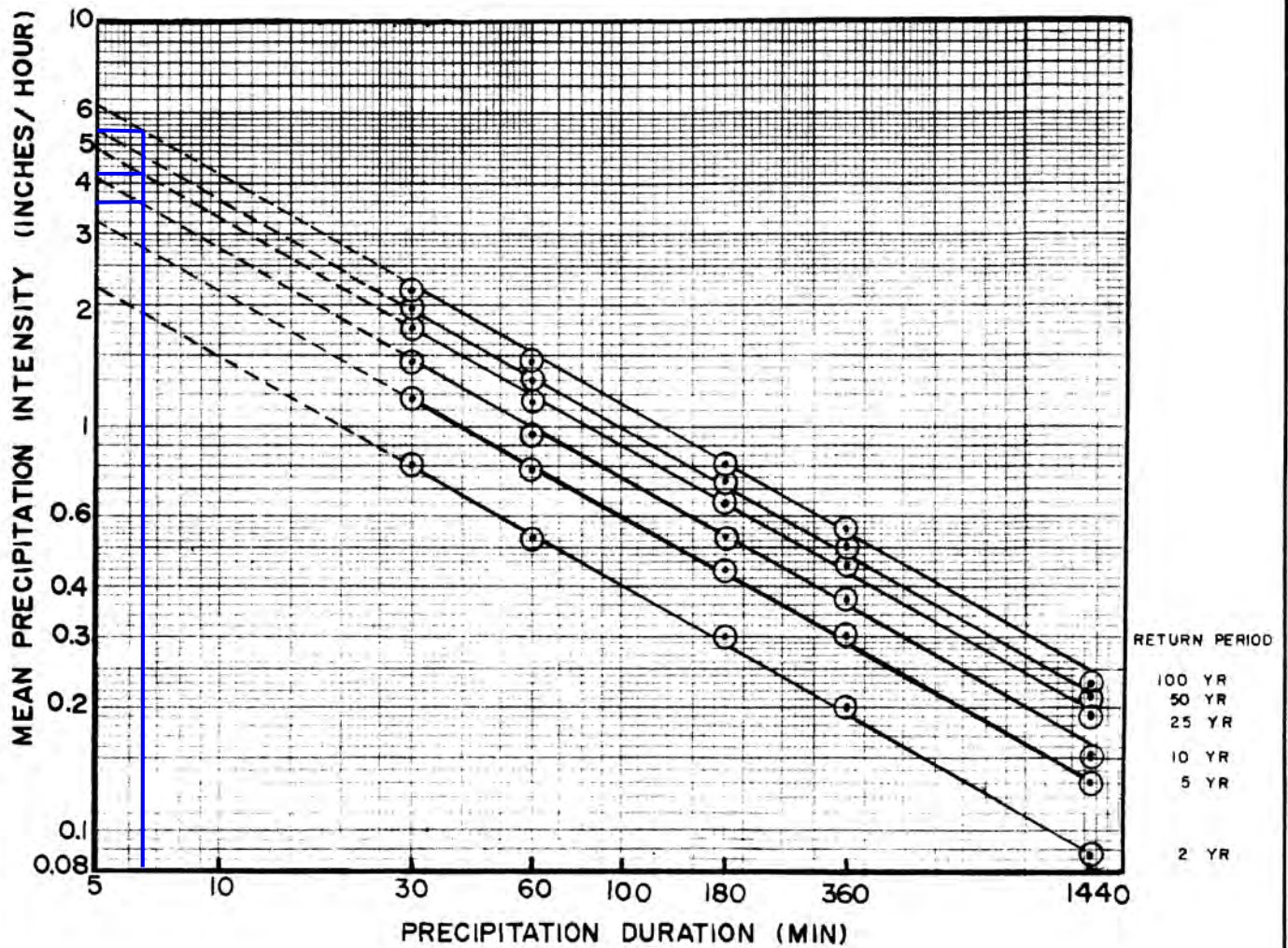
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I = Intensity in inches/hour, t = duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X2
For t = 6.3 min
 10 yr I = 3.56 in/hr
 25 yr I = 4.23 in/hr
 100 yr I = 5.42 in/hr



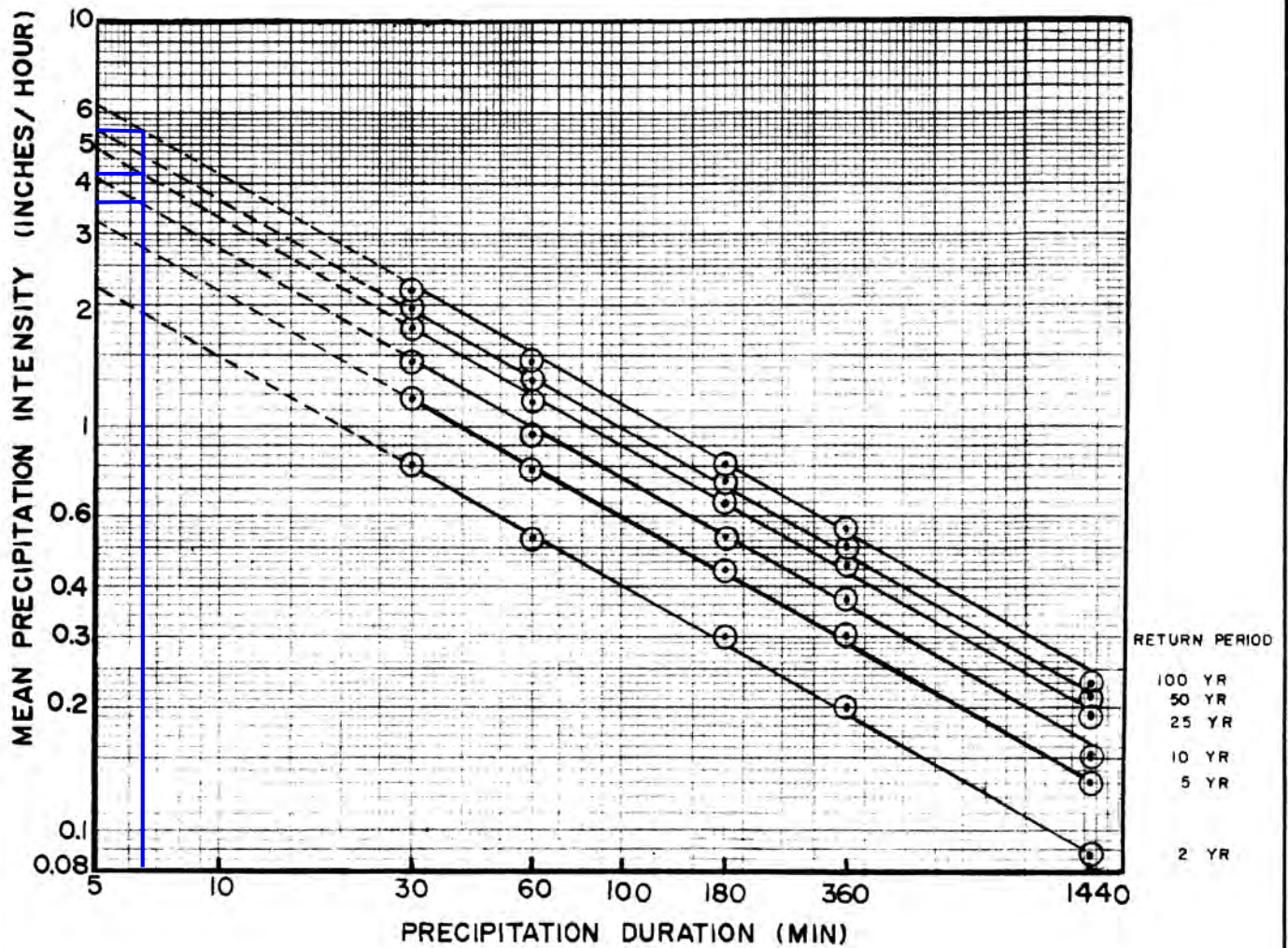
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I = Intensity in inches/hour, t = duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X3
For t = 6.4min
 10 yr I = 3.52 in/hr
 25 yr I = 4.19 in/hr
 100 yr I = 5.37 in/hr



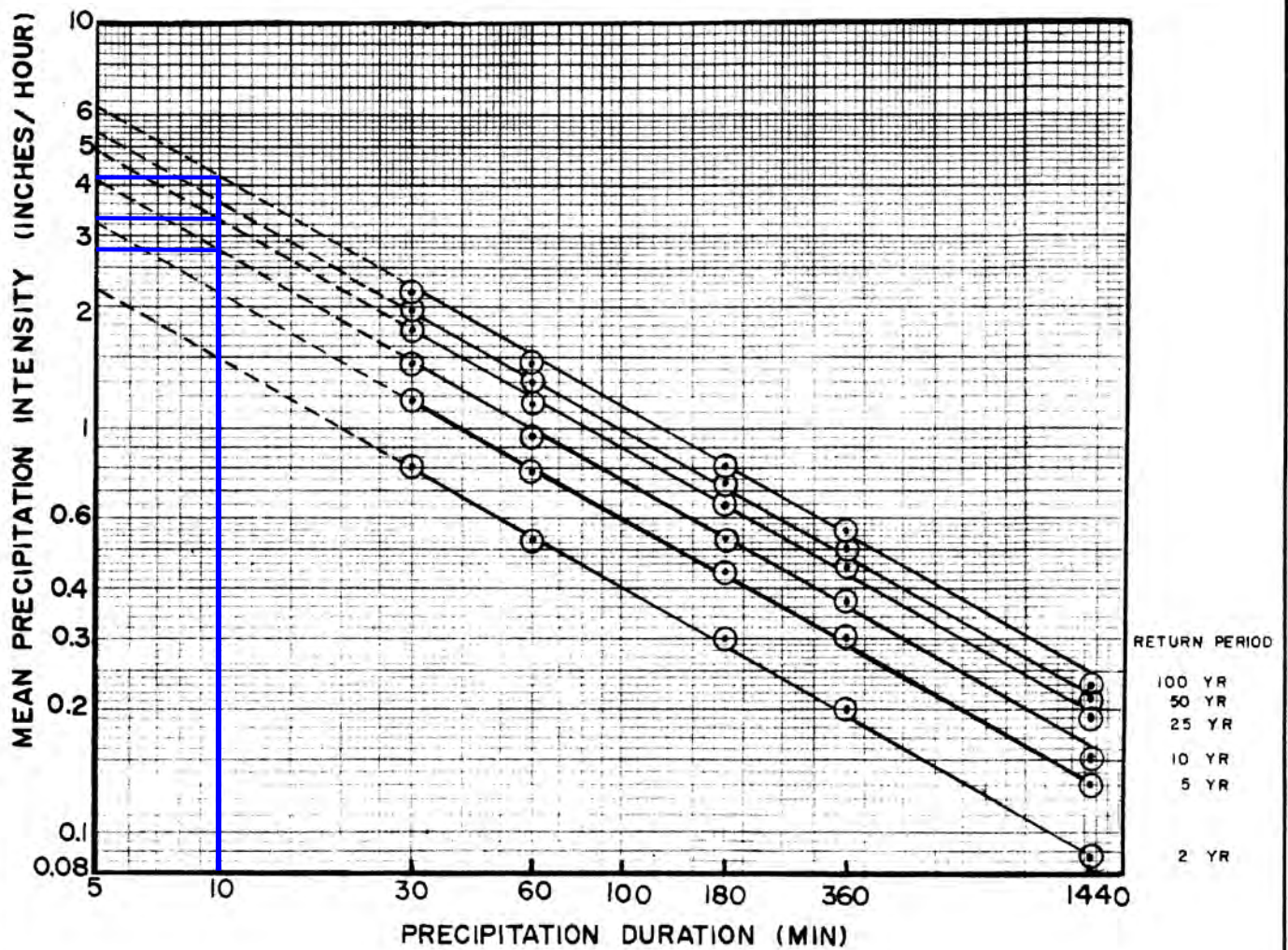
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area A
For t= 10.0 min
 10 yr I=2.73 in/hr
 25 yr I=3.26 in/hr
 100 yr I=4.16 in/hr



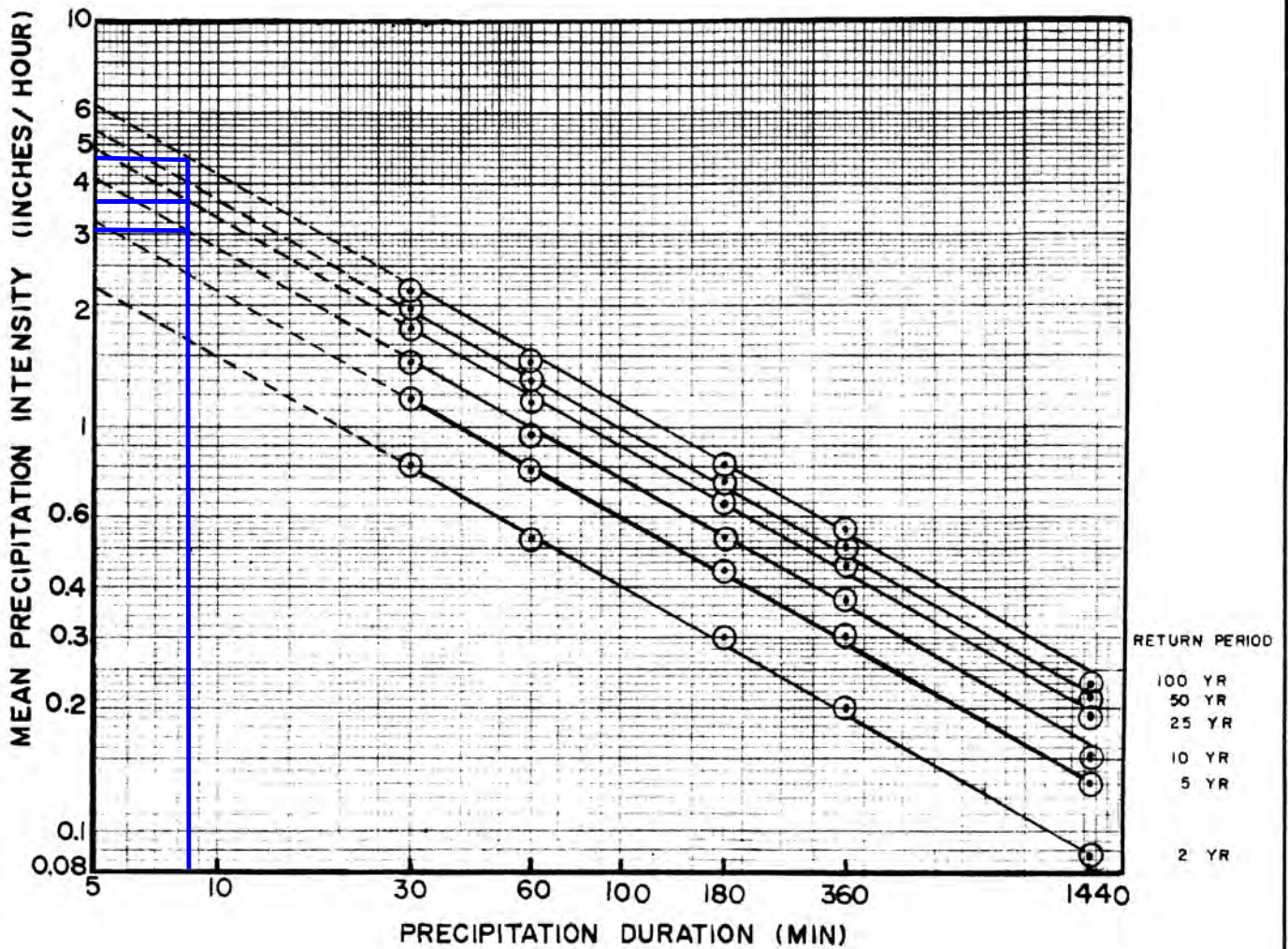
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I = Intensity in inches/hour, t = duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area B
 For t = 7.9 min
 10 yr I = 3.12 in/hr
 25 yr I = 3.72 in/hr
 100 yr I = 4.76 in/hr



ORANGE COUNTY
 HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

APPENDIX G – PRELIMINARY WATER QUALITY MANAGEMENT PLAN



Preliminary Water Quality Management Plan (WQMP)

**Project Name:
24551 Raymond Way
Lake Forest, CA**

**Prepared for:
National CORE
9421 Haven Avenue
Rancho Cucamonga, CA 91730
(909) 204-3444**

**Prepared by:
RRM Design Group**

**Engineer: Apryl Weidl Registration No. 87601
10 E. Figueroa Street, Suite 200
Santa Barbara, CA 93101
(805) 963-8283**

May 12, 2020

Section will be completed during final design.

Project Owner's Certification			
Permit/Application No.		Grading Permit No.	
Tract/Parcel Map No.		Building Permit No.	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract)			APN 617-441-02

This Water Quality Management Plan (WQMP) has been prepared for Owner/Developer Name by Consulting/Engineering Firm Name. The WQMP is intended to comply with the requirements of the local NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner: National CORE			
Representative:			
Title			
Company	National CORE		
Address	9421 Haven Avenue, Rancho Cucamonga, CA 91730		
Email			
Telephone #	(909) 204-3444		
Signature		Date	

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Attachments

Attachment A	Educational Materials*
Attachment B	TGD Worksheets & Figures
Attachment C	Exhibits & Grading Plan
Attachment D	Notice of Transfer*
Attachment E	Hydrology Calculations
Attachment F.....	Geotechnical Report

* Attachments A and D will be provided with the Final WQMP and are not included in this Preliminary WQMP

Section I Discretionary Permit(s) and Water Quality Conditions

Provide discretionary permit and water quality information. *Refer to Section 2.1 in the Technical Guidance Document (TGD) available from the Orange County Stormwater Program (ocwatersheds.com).*

Section will be completed during final design.

Project Information	
Permit/Application No.	Tract/Parcel Map No.
Additional Information/ Comments:	
Water Quality Conditions	
Water Quality Conditions (list verbatim)	
Watershed-Based Plan Conditions	
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	

Section II Project Description

II.1 Project Description

Include attributes relevant to determining applicable source controls. *Refer to Section 2.2 in the TGD for information that must be included in the project description.*

Description of Proposed Project				
Development Category (Verbatim from WQMP):	Significant Redevelopment: All significant redevelopment projects, where significant redevelopment is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety.			
Project Area (ft ₂): <u>85,556</u>	Number of Dwelling Units: <u>71</u>		SIC Code: <u>N/A</u>	
Narrative Project Description:	The proposed affordable housing project is located at 24551 Raymond Way in Lake Forest, California on a 3.76 acre site which has been previously developed. Currently the site contains two existing commercial buildings and a surface parking lot. The proposed project includes a lot split dividing the parcel into two separate parcels. The proposed development will occur on Parcel 1. No development is proposed on Parcel 2. The proposed development on Parcel 1 includes the demolition of the existing commercial building and the construction of a single building varying from three to four stories in height. The building will contain 71 residential units and a community center. A playground, teen center, and barbeque area are proposed outside of the building. The existing parking lot will be reconfigured for the change in use of the site.			
Project Area	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
	Pre-Project Conditions	1.07 ac 24.5%	2.70 ac 71.7%%	
Post-Project Conditions	0.94 ac 20.2%	2.82 ac 74.9%%		
Drainage Patterns/Connections	<p>The site is currently occupied by a commercial building and an asphalt parking lot. Drainage sheet flows from the parking lot in a northwesterly direction toward Packer Place. Drainage flows out of the existing driveway into the curb and gutter on Packer Place. Eventually, runoff enters the municipal storm drain system through a curb inlet at the end of Bendricon Lane.</p> <p>Some runoff from the building flows overland in a westerly direction toward Raymond Way where it enters the municipal storm drain system through an inlet near the easterly corner of the Raymond Way and Packer Place intersection.</p>			

Runoff from the parking lot on Parcel 2 flows overland through Parcel 1 to Packer Place. The remainder of runoff from Parcel 2 flows to El Toro Road.

Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean

Proposed Development drainage conditions are described in Section II.4.

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the TGD for guidance.*

Pollutants of Concern			
Pollutant	Circle One: E=Expected to be of concern N=Not Expected to be of concern		Additional Information and Comments
	E	N	
Suspended-Solid/ Sediment	<input checked="" type="radio"/> E	<input type="radio"/> N	
Nutrients	<input checked="" type="radio"/> E	<input type="radio"/> N	
Heavy Metals	<input type="radio"/> E	<input checked="" type="radio"/> N	
Pathogens (Bacteria/Virus)	<input checked="" type="radio"/> E	<input type="radio"/> N	
Pesticides	<input checked="" type="radio"/> E	<input type="radio"/> N	
Oil and Grease	<input checked="" type="radio"/> E	<input type="radio"/> N	Uncovered Parking Areas
Toxic Organic Compounds	<input type="radio"/> E	<input checked="" type="radio"/> N	
Trash and Debris	<input checked="" type="radio"/> E	<input type="radio"/> N	

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are determined to be potentially susceptible to hydromodification impacts. *Refer to Section 2.2.3.1 in the TGD for NOC or Section 2.2.3.2 for SOC.*

No - Show map

Yes - Describe applicable hydrologic conditions of concern below. *Refer to Section 2.2.3 in the TGD.*

The project is upstream of an earthen channel that is susceptible to erosion per the Susceptibility Analysis Map for the Newport Bay Watershed (Attachment B).

However, the post-development peak runoff will not exceed the pre-development peak runoff for the 10-yr, 25-yr, and 100-yr storm events. See Attachment E for calculations. A summary is provided below.

Peak Flows to Raymond Way

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.95	1.68
25-Year	2.33	2.01
100-Year	3.00	2.58

Peak Flows to Packer Place

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	7.62	7.09
25-Year	9.10	8.46
100-Year	11.67	10.84

Peak Flows to El Toro Road

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	1.58	1.58
25-Year	1.89	1.89
100-Year	2.44	2.44

In addition, the time of concentration for the post-development condition is greater than the pre-development condition. See Attachment E for calculations.

Therefore, according the TGD, an HCOC does not exist and hydromodification does not need to be considered further.

II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the TGD.*

The proposed development will maintain existing drainage patterns and discharge locations. To address stormwater quality and retention, dry well BMPs have been chosen for the site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Storage chambers are proposed to operate in-line with the dry wells and provide additional storage to meet the required retention volume. The total volume of chambers and drywells combined is equal to the design capture volume. Dry wells are sized to infiltrate the full design capture volume within 72 hours. Sizing calculations are further discussed in section IV.3.2.

The project site has been divided into two (3) drainage areas: A, B and X3.

- Runoff from drainage area 'A' will be collected by the on-site storm drain system and directed to a dry well and storage chamber system near the southern corner of the site. Runoff will be captured and retained in the chambers and infiltrated through the dry well. Overflow from the dry well will flow out through the curb and enter the municipal storm drain system through inlets located near the eastern corner of the Raymond Way/Packer Place intersection.
- Runoff from drainage area 'B' will flow overland through the parking lot and be collected by the on-site storm drain system which will outlet into a dry well and storage chamber system near the driveway entry to the site. Runoff will be captured in the chambers and infiltrated through three dry wells. Overflow from the dry wells will outlet through the curb face on Packer Place. Runoff will enter the municipal storm drain system through an inlet at the end of the Bendricon Lane cul-de-sac.
- Runoff from drainage area 'X3' will flow to the southeast and be captured in a proposed dry well and chamber system. Overflow will continue to flow toward El Toro Road as it has historically.

Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the TGD.*

National CORE will own and manage Parcel 1. The Owner will be responsible for the long-term maintenance of the project's stormwater facilities and conformance with this WQMP after construction is complete.

A Notice of Transfer of Responsibility is provided in Attachment D which should be executed as part of any ownership transfer that might occur.

Section III Site Description

III.1 Physical Setting

Refer to Section 2.3.1 in the TGD.

Planning Area/ Community Name	N/A
Location/Address	24551 Raymond Way (Parcel 1) 23591 El Toro Road (Parcel 2) Lake Forest, CA
Land Use	Existing: PA-Profession and Administrative Proposed: Residential
Zoning	Existing: PA-Profession and Administrative Proposed: Residential
Acreage	3.76 Total (Parcel 1: 1.96, Parcel 2: 1.80)
Predominant Soil Type	Hydrologic Soil Group D (see Soils Map, Attachment B)

III.2 Site Characteristics

Refer to Section 2.3.2 in the TGD.

<i>Precipitation Zone</i>	85th percentile Rainfall = 0.85" (See Map, Attachment B)
<i>Topography</i>	The site slopes at 2-3% to the west. There is a roughly 20% slope from the building down to the street level along Raymond Way and Packer Place.
<i>Drainage Patterns/Connections</i>	Runoff from the site enters the municipal storm drain system through inlets at the northwestern end of Bendricon Lane, near the eastern corner of the Raymond Way and Packer Place intersection, and on El Toro Road. Ultimately, runoff flows from the municipal storm drain system to the Canada Cannel, San Diego Creek, Newport Bay, and the Pacific Ocean
<i>Soil Type, Geology, and Infiltration Properties</i>	Per the Orange County Infiltration Study Map (Attachment B), soils at the site are within the NRCS Hydrologic Soils Group D, which gives low infiltration potential and high runoff rates. Site specific infiltration testing was performed by Albus-Keefe & Associates, Inc. showing average infiltration rates of 3.0 inches per hour. See attachment F.

<i>Site Characteristics (continued)</i>	
<i>Hydrogeologic (Groundwater) Conditions</i>	Per the page 4 of the project Soils Report (Attachment F) “Groundwater was encountered during this firm’s subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet.”
<i>Geotechnical Conditions (relevant to infiltration)</i>	<p>There are no known geotechnical conditions at the site that would prevent or complicate stormwater infiltration at the project site. Refer to Geotechnical Report, Attachment F.</p> <p>The GeoTracker website shows no past or present soil or groundwater contamination sites within a 250’ radius of the project site.</p>
<i>Off-Site Drainage</i>	The proposed development will maintain existing drainage patterns which includes conveying runoff from the existing parking lot on Parcel 2 through the proposed parking lot on the Parcel 1, see Exhibits B1 and B2 Proposed Hydrology Map in Attachment C. Off-site runoff will flow overland through the proposed parking lot and into the curb and gutter on Packer Place. It is assumed that the proposed dry well system will only capture on-site flows and any additional off-site flows will continue overland as they have historically.
<i>Utility and Infrastructure Information</i>	A sewer lateral from the Parcel 2 runs through both parcels and is shown on the Proposed Hydrology Map in Attachment C.

III.3 Watershed Description

Refer to Section 2.3.3 in the TGD.

Receiving Waters	San Diego Creek Reach 2, San Diego Creek Reach 1, Newport Bay (Upper), Newport Bay (Lower),
303(d) Listed Impairments	San Diego Creek Reach 2: None San Diego Creek Reach 1: Bacteria/Pathogens Newport Bay (Upper): Toxicity, Organics Newport Bay (Lower): Toxicity, Organics
Applicable TMDLs	Metals, Nutrients, Pesticides, Turbidity/Siltation
Pollutants of Concern for the Project	Sediment, Nutrients, Pathogens, Pesticides
Environmentally Sensitive and Special Biological Significant Areas	There are no environmentally sensitive or special biological significant areas within or adjacent to the project, and the project does not discharge directly to an ESA.

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. The local Permittee planning or NPDES staff should be consulted regarding the existence of an approved WIHMP or equivalent.
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-3.2.2 of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.		

Project Performance Criteria (continued)	
<p>If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)</p>	<p>No HCOC exists, refer to Section II.3.</p>
<p>List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)</p>	<p>Priority Projects must infiltrate, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile, 24-hour storm event (Design Capture Volume).</p> <p>A properly designed biotreatment system may only be considered if infiltration, harvest and use, and evapotranspiration (ET) cannot be feasibly implemented for the full design capture volume. In this case, infiltration, harvest and use, and ET practices must be implemented to the greatest extent feasible and biotreatment may be provided for the remaining design capture volume.</p>
<p>List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)</p>	<p>Not Applicable-LID performance criteria is met through retention provided on-site.</p>
<p>Calculate LID design storm capture volume for Project.</p>	<p>Refer to Worksheets B in Attachment B for DCV calculations.</p>

IV.2. SITE DESIGN AND DRAINAGE PLAN

Describe site design and drainage plan including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP plot plan.
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs (unless not required by local jurisdiction). Committee

Refer to Section 2.4.2 in the TGD.

Dry well BMPs have been chosen for the site due to limited flat permeable areas at the site that would allow other infiltration BMPs. Runoff from each drainage area will be collected by storm drains and outlet into storage chambers and dry well system that will provide retention and infiltration of the DCV. Per calculations in Section IV.3.2, specifically step 2, the maximum volume of runoff that a single dry well can infiltrate in 48 hours (the maximum draw down time) is 2,065 CF. Because the DCV for Drainage Area B and X3 is greater than 2,065 CF, three dry wells are required to ensure that the full DCV is infiltrated in 48 hours. In each drainage area, the dry wells and storage chambers are interconnected with a level storm drain (0% slope) to allow chambers and dry wells to function as a single system, filling and emptying simultaneously.

The project site has been divided into three drainage management areas (DMAs). The DMAs and associated BMPS are shown on the Proposed Hydrology Exhibit (Exhibit B1) in Attachment C along with project Grading and Drainage Plans. Calculations of Design Capture Volumes for each DMA are provided in Attachment B.

The following treatment BMPs are proposed:

- DMA A is treated by a chamber and dry well system near the southern corner of the site.
 - Dry Well Center Coordinates: 33°37'18.62"N 117°42'5.10"W
- DMA B is treated by a chamber and dry well system near the northern corner of the site.
 - Dry Well 1 Center Coordinates: 33°37'21.06"N 117°42'4.52"W
 - Dry Well 2 Center Coordinates: 33°37'22.02"N 117°42'4.22"W
 - Dry Well 3 Center Coordinates: 33°37'21.37"N 117°42'3.09"W
- DMA X3 is treated by a chamber and dry well system near the southern corner of the site.
 - Dry Well 1 Center Coordinates: 33°37'17.21"N 117°41'59.36"W

DMA	Total Area (SF)	Roof (SF)	Hardscape (SF)	Landscape (SF)	Total Impervious (SF)	Total Pervious (SF)
A	30,525	18,051	1,974	10,500	20,025	10,500
B	110,868	18,542	75,634	16,692	94,176	16,692
X3	22,467	8,077	522	13,868	8,599	13,868
Total	163,860	44,670	78,130	41,060	122,800	41,060

DMA	Percent Impervious	C	DCV
A	65.5%	0.64	1,382
B	84.9%	0.79	6,184
X3	38.3%	0.44	706
Total	79.8%	0.75	8,272

IV.3 LID BMP SELECTION AND PROJECT CONFORMANCE ANALYSIS

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. *Refer to Section 2.4.2.3 in the TGD for selecting LID BMPs and Section 2.4.3 in the TGD for conducting conformance analysis with project performance criteria.*

IV.3.1 Hydrologic Source Controls

Retention criteria for the project is met through infiltration BMPs listed in section IV.3.2. HSCs are not required.

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met, state why.

Name	Included?
Bioretention without underdrains	
Rain gardens	
Porous landscaping	
Infiltration planters	
Retention swales	
Infiltration trenches	
Infiltration basins	
Drywells	X
Subsurface infiltration galleries	
French drains	
Permeable asphalt	
Permeable concrete	
Permeable concrete pavers	
Other:	

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with infiltration BMPs. If not, document how much can be met with infiltration and document why it is not feasible to meet the full volume with infiltration BMPs

Drainage Area A-Dry Well and Storage Chambers

Step 1: Determine Infiltration Dry Well DCV

(see DCV Calculation Worksheet-Attachment B)

$$DCV = 1,382 \text{ cu-ft.}$$

Step 2: Determine Volume of Infiltration in 48 hours

Design Flow Rate

$$Q_{\text{measured}} = 0.018 \text{ cfs (Preliminary Percolation Study, Page 6-Attachment F)}$$

Safety Factor, SF=2.25 (Worksheet H, Attachment B)

$$Q_{\text{design}} = Q_{\text{measured}} / SF = 0.018 \text{ cfs} / 2.25 = 0.008 \text{ cfs}$$

Total Time for Infiltration = T = Storm Duration + Drawdown Time = 24 hours + 48 hours

$$T = 72 \text{ hours}$$

Time to empty chamber = 8.5 hours (Preliminary Percolation Study, Page 7-Attachment F)

Volume Infiltrated in first 63.5 hours, $V = Q_{\text{design}} \times T$

$$V_{63.5} = 0.008 \frac{ft^3}{s} \times 63.5 \text{ hrs} \times \frac{3600 \text{ s}}{1 \text{ hr}} = 1,829 \text{ ft}^3$$

Volume Infiltrated in last 8.5 hours = Volume of Dry Well

Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)

$$V_{\text{DW}} = 236 \text{ CF}$$

Total Volume Infiltrated in 48 Hours

$$V_T = V_{39.5} + V_{\text{DW}} = 1,829 + 236 = 2,065 \text{ CF}$$

2,065 cf > 1,382 cf ... **OK**

Step 3: Determine Storage Volume of Dry Well

Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)

$$V_{\text{DW}} = 236 \text{ CF}$$

Step 4: Determine additional Storage Volume in Chambers

$$\text{Chamber Volume} = DCV - V_{\text{DW}} = 1,382 - 236 = \mathbf{1,146 \text{ CF}}$$

Drainage Area B-Dry Wells and Storage Chambers

Step 1: Determine Infiltration Dry Well DCV

(see DCV Calculation Worksheet-Attachment B)

DCV= 6,184 cu-ft.

Step 2: Determine Volume of Infiltration in 48 hours

Design Flow Rate

$Q_{\text{measured}}=0.018\text{cfs}$ (Preliminary Percolation Study, Page 6-Attachment F)

Safety Factor, SF=2.25 (Worksheet H, Attachment B)

$Q_{\text{design}}=Q_{\text{measured}}/\text{SF}=0.018\text{cfs}/2.25=0.008\text{cfs}$

Total Time for Infiltration= T= Storm Duration + Drawdown Time = 24 hours + 48 hours

T=72 hours

Time to empty chamber=8.5 hours (Preliminary Percolation Study, Page 7-Attachment F)

Volume Infiltrated in first 63.5 hours, $V = Q_{\text{design}} \times T$

$$V_{63.5} = 0.008 \frac{ft^3}{s} \times 63.5hrs \times \frac{3600 s}{1 hr} = 1,829 ft^3$$

Volume Infiltrated in last 8.5 hours=Volume of Dry Well

Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)

$V_{\text{DW}}=236 \text{ CF}$

Total Volume Infiltrated in 48 Hours

$V_{\text{T}}=V_{39.5}+V_{\text{DW}}=1,829+236=2,065 \text{ CF}$

Since $V_{\text{T}} < \text{DCV}$... **Three dry wells are required**

$V_{\text{T2}} = 6,195 \text{ CF}$

6,195 cf > 6,184 cf ...**OK**

Step 3: Determine Storage Volume of Dry Wells

Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)

$V_{\text{DW}}=236 \text{ CF} \times 3=708 \text{ CF}$

Step 4: Determine additional Storage Volume in Chambers

Chamber Volume = DCV- $V_{\text{DW}} = 6,184-708 = 5,476 \text{ CF}$

Drainage Area X3-Dry Well and Storage Chambers

Step 1: Determine Infiltration Dry Well DCV

(see DCV Calculation Worksheet-Attachment B)

$$DCV = 706 \text{ cu-ft.}$$

Step 2: Determine Volume of Infiltration in 48 hours

Design Flow Rate

$$Q_{\text{measured}} = 0.018 \text{ cfs (Preliminary Percolation Study, Page 6-Attachment F)}$$

Safety Factor, SF=2.25 (Worksheet H, Attachment B)

$$Q_{\text{design}} = Q_{\text{measured}} / SF = 0.018 \text{ cfs} / 2.25 = 0.008 \text{ cfs}$$

Total Time for Infiltration= T= Storm Duration + Drawdown Time = 24 hours + 48 hours

$$T = 72 \text{ hours}$$

Time to empty chamber=8.5 hours (Preliminary Percolation Study, Page 7-Attachment F)

Volume Infiltrated in first 63.5 hours, $V = Q_{\text{design}} \times T$

$$V_{63.5} = 0.008 \frac{ft^3}{s} \times 63.5 \text{ hrs} \times \frac{3600 \text{ s}}{1 \text{ hr}} = 1,829 \text{ ft}^3$$

Volume Infiltrated in last 8.5 hours=Volume of Dry Well

Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)

$$V_{\text{DW}} = 236 \text{ CF}$$

Total Volume Infiltrated in 48 Hours

$$V_T = V_{39.5} + V_{\text{DW}} = 1,829 + 236 = 2,065 \text{ CF}$$

2,065 cf > 706cf ... **OK**

Step 3: Determine Storage Volume of Dry Well

Given dimensions from Preliminary Percolation Study, Page 7(Attachment F)

$$V_{\text{DW}} = 236 \text{ CF}$$

Step 4: Determine additional Storage Volume in Chambers

$$\text{Chamber Volume} = DCV - V_{\text{DW}} = 706 - 236 = \mathbf{470 \text{ CF}}$$

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

The full Design Storm Capture Volume is met with infiltration BMPs, therefore no evapotranspiration and/or rainwater harvesting BMPs are included.

IV.3.4 Biotreatment BMPs

The full Design Storm Capture Volume is met with infiltration BMPs, no biotreatment BMPs are included.

IV.3.5 Hydromodification Control BMPs

Hydromodification Control BMPs are not necessary because the proposed project decreases the runoff volume and increases the time of concentration.

IV.3.6 Regional/Sub-Regional LID BMPs

The project will not participate in any regional/sub-regional LID BMPs.

IV.3.7 Treatment Control BMPs

Treatment control BMPs are not required because the full design capture volume is retained with LID BMPs.

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	Name	Check One		If not applicable, state brief reason
		Included	Not Applicable	
N1	Education for Property Owners, Tenants and Occupants	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N2	Activity Restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N3	Common Area Landscape Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N4	BMP Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N5	Title 22 CCR Compliance (How development will comply)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Hazardous Waste
N6	Local Industrial Permit Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential Development
N7	Spill Contingency Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Hazardous Materials
N8	Underground Storage Tank Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No underground storage tanks
N9	Hazardous Materials Disclosure Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Hazardous Waste
N10	Uniform Fire Code Implementation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N11	Common Area Litter Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N12	Employee Training	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N13	Housekeeping of Loading Docks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No loading docks
N14	Common Area Catch Basin Inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
N15	Street Sweeping Private Streets and Parking Lots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if Structural source controls were not used.

Structural Source Control BMPs				
Identifier	Name	Check One		If not applicable, state brief reason
		Included	Not Applicable	
S1	Provide storm drain system stenciling and signage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No Hazardous Material storage
S3	Design and construct trash and waste storage areas to reduce pollution introduction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
S5	Protect slopes and channels and provide energy dissipation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No slopes or channels on-site
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Site is within SARWQCB jurisdiction
S6	Dock areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S7	Maintenance bays	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S8	Vehicle wash areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S9	Outdoor processing areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S10	Equipment wash areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S11	Fueling areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S12	Hillside landscaping	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S13	Wash water control for food preparation areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design
S14	Community car wash racks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not a part of site design

IV.4 ALTERNATIVE COMPLIANCE PLAN (IF APPLICABLE)

IV.4.1 Water Quality Credits

Description of Proposed Project				
Project Types that Qualify for Water Quality Credits (Select all that apply):				
<input type="checkbox"/> Redevelopment projects that reduce the overall impervious footprint of the project site.	<input type="checkbox"/> Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.	<input checked="" type="checkbox"/> Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).		
<input type="checkbox"/> Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).	<input type="checkbox"/> Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned	<input type="checkbox"/> Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).		
<input type="checkbox"/> Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.	<input type="checkbox"/> Developments in a city center area.	<input type="checkbox"/> Developments in historic districts or historic preservation areas.	<input type="checkbox"/> Live-work developments, a variety of developments designed to support residential and vocational needs together - similar to criteria to mixed use development; would not be able to take credit for both categories.	<input type="checkbox"/> In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.
Calculation of Water Quality Credits (if applicable)	N/A- Not used for this project			

IV.4.2 Alternative Compliance Plan Information

Not applicable to this project.

Section V Inspection/Maintenance Responsibility for BMPs

Section will be completed during Final Design.

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.11 4.0 in the Model WQMP.*

BMP Inspection/Maintenance			
BMP	Responsible Party(s)	Inspection/Maintenance Activities Required	Minimum Frequency of Activities
Chamber and Drywell System	Owner		

Section VI Site Plan and Drainage Plan

VI.1 SITE PLAN AND DRAINAGE PLAN

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Drainage connections
- BMP details

See Exhibits B1 and B2-Proposed Hydrology Exhibit and Preliminary Grading and Utility Plan in Attachment C .

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. For the copy submitted to the Permittee, only attach the educational materials specifically applicable to the project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material (http://www.ocwatersheds.com)	Check If Applicable	Business Material (http://www.ocwatersheds.com)	Check If Applicable
The Ocean Begins at Your Front Door	<input checked="" type="checkbox"/>	Tips for the Automotive Industry	<input type="checkbox"/>
Tips for Car Wash Fund-raisers	<input type="checkbox"/>	Tips for Using Concrete and Mortar	<input type="checkbox"/>
Tips for the Home Mechanic	<input type="checkbox"/>	Tips for the Food Service Industry	<input type="checkbox"/>
Homeowners Guide for Sustainable Water Use	<input type="checkbox"/>	Proper Maintenance Practices for Your Business	<input type="checkbox"/>
Household Tips	<input type="checkbox"/>	Other Material	Check If Attached
Proper Disposal of Household Hazardous Waste	<input checked="" type="checkbox"/>		
Recycle at Your Local Used Oil Collection Center (North County)	<input type="checkbox"/>		<input type="checkbox"/>
Recycle at Your Local Used Oil Collection Center (Central County)	<input type="checkbox"/>		<input type="checkbox"/>
Recycle at Your Local Used Oil Collection Center (South County)	<input type="checkbox"/>		<input type="checkbox"/>
Tips for Maintaining a Septic Tank System	<input type="checkbox"/>		<input type="checkbox"/>
Responsible Pest Control	<input type="checkbox"/>		<input type="checkbox"/>
Sewer Spill	<input type="checkbox"/>		<input type="checkbox"/>
Tips for the Home Improvement Projects	<input type="checkbox"/>		<input type="checkbox"/>
Tips for Horse Care	<input type="checkbox"/>		<input type="checkbox"/>
Tips for Landscaping and Gardening	<input type="checkbox"/>		<input type="checkbox"/>
Tips for Pet Care	<input checked="" type="checkbox"/>		<input type="checkbox"/>
Tips for Pool Maintenance	<input type="checkbox"/>		<input type="checkbox"/>
Tips for Residential Pool, Landscape and Hardscape Drains	<input type="checkbox"/>		<input type="checkbox"/>
Tips for Projects Using Paint	<input type="checkbox"/>		<input type="checkbox"/>

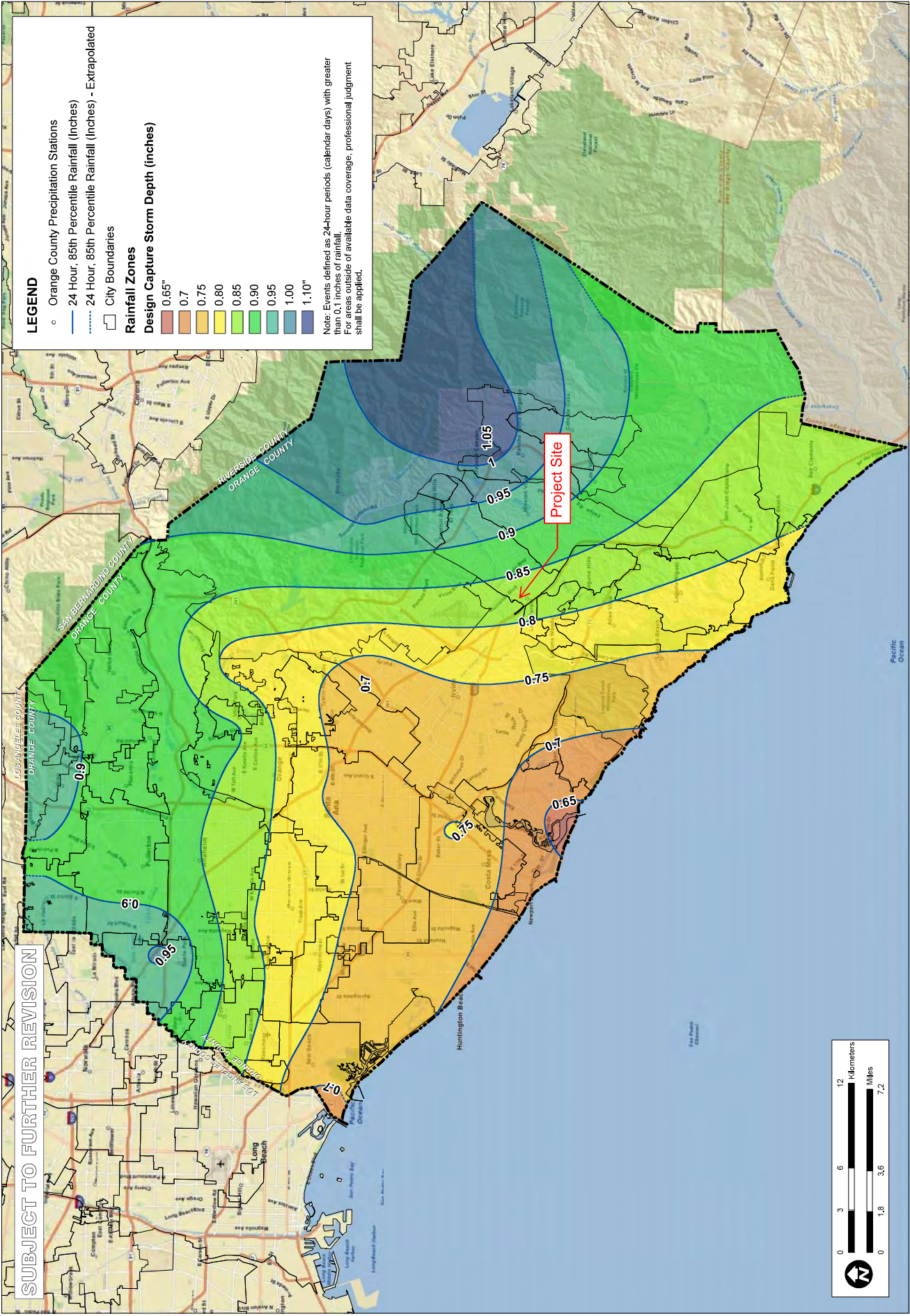
Attachment A

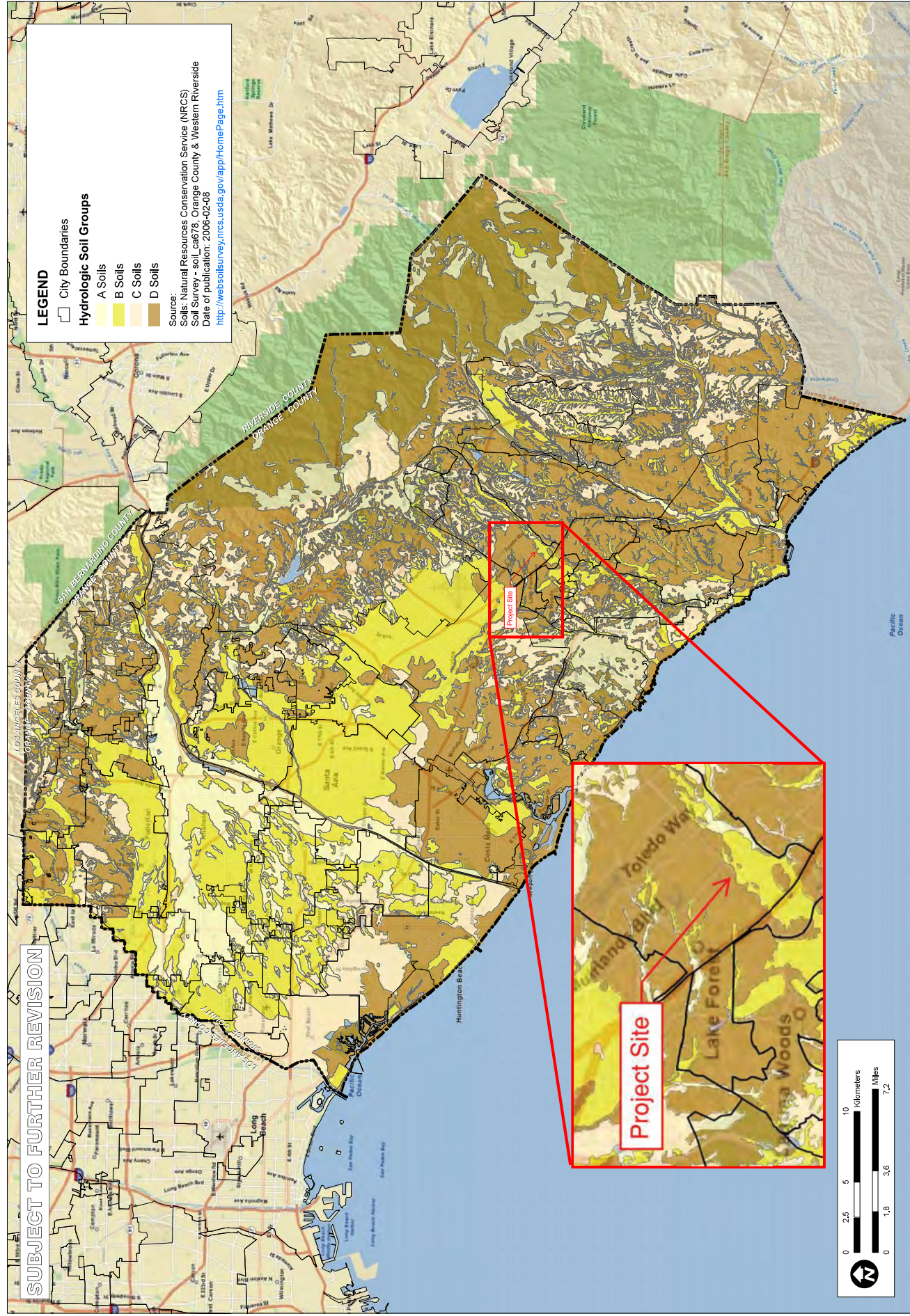
Educational Materials

To be included in Final WQMP, not included in this Preliminary WQMP

Attachment B

TGD Worksheets & Figures



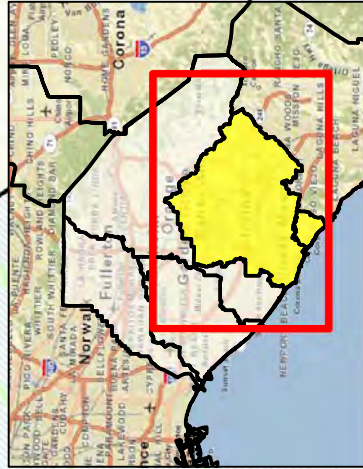


LEGEND

- City Boundaries
- Hydrologic Soil Groups
 - A Soils
 - B Soils
 - C Soils
 - D Soils

Source:
Soils: Natural Resources Conservation Service (NRCS)
Soil Survey - soil_ca678_Orange County & Western Riverside
Date of publication: 2006-02-08
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

SUBJECT TO FURTHER REVISION



Susceptibility

- Potential Areas of Erosion, Habitat, & Physical Structure Susceptibility

Channel Type

- Earth (Unstabilized)
- Earth (Stabilized)

Tidel Influence

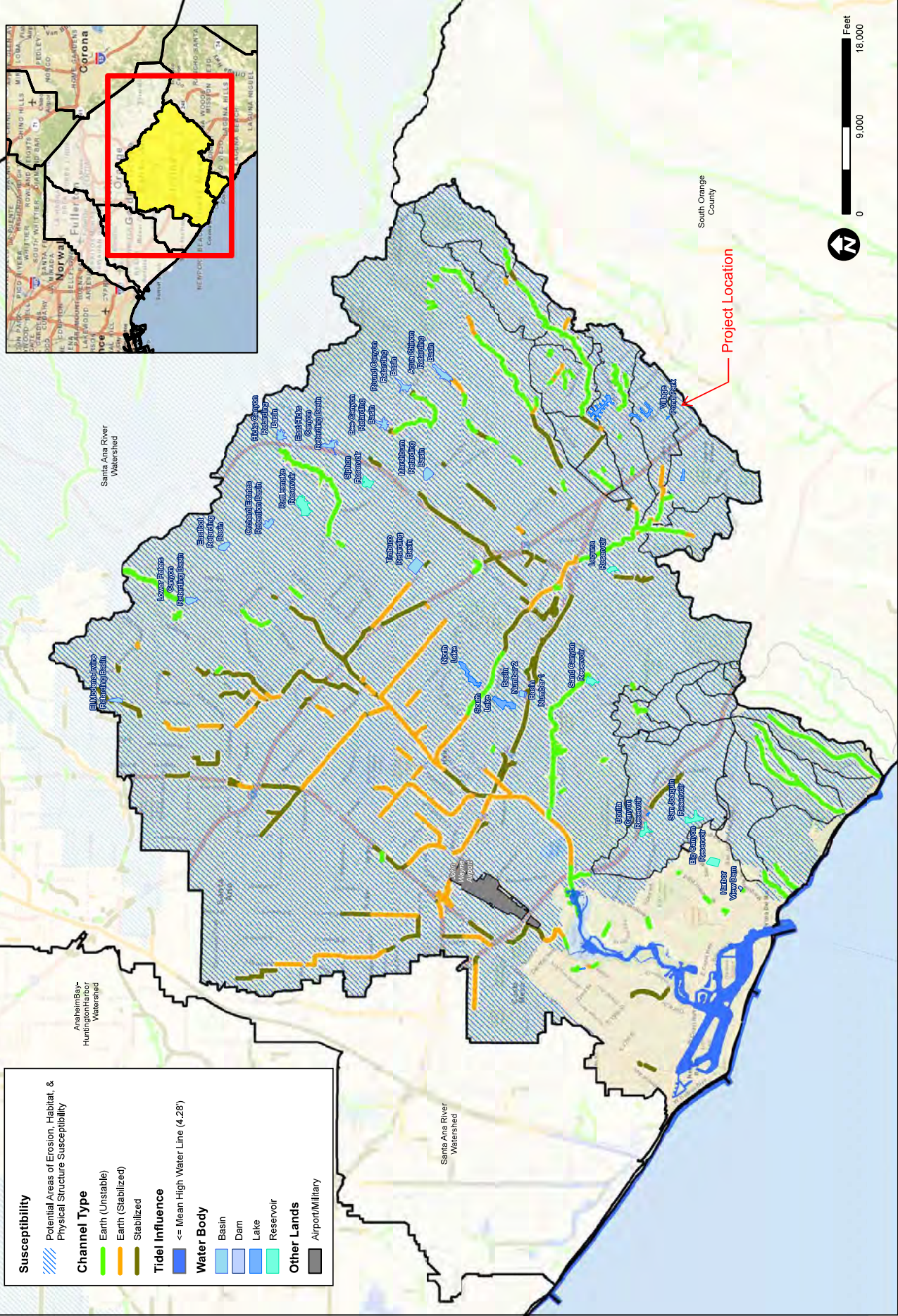
- <= Mean High Water Line (4.28')

Water Body

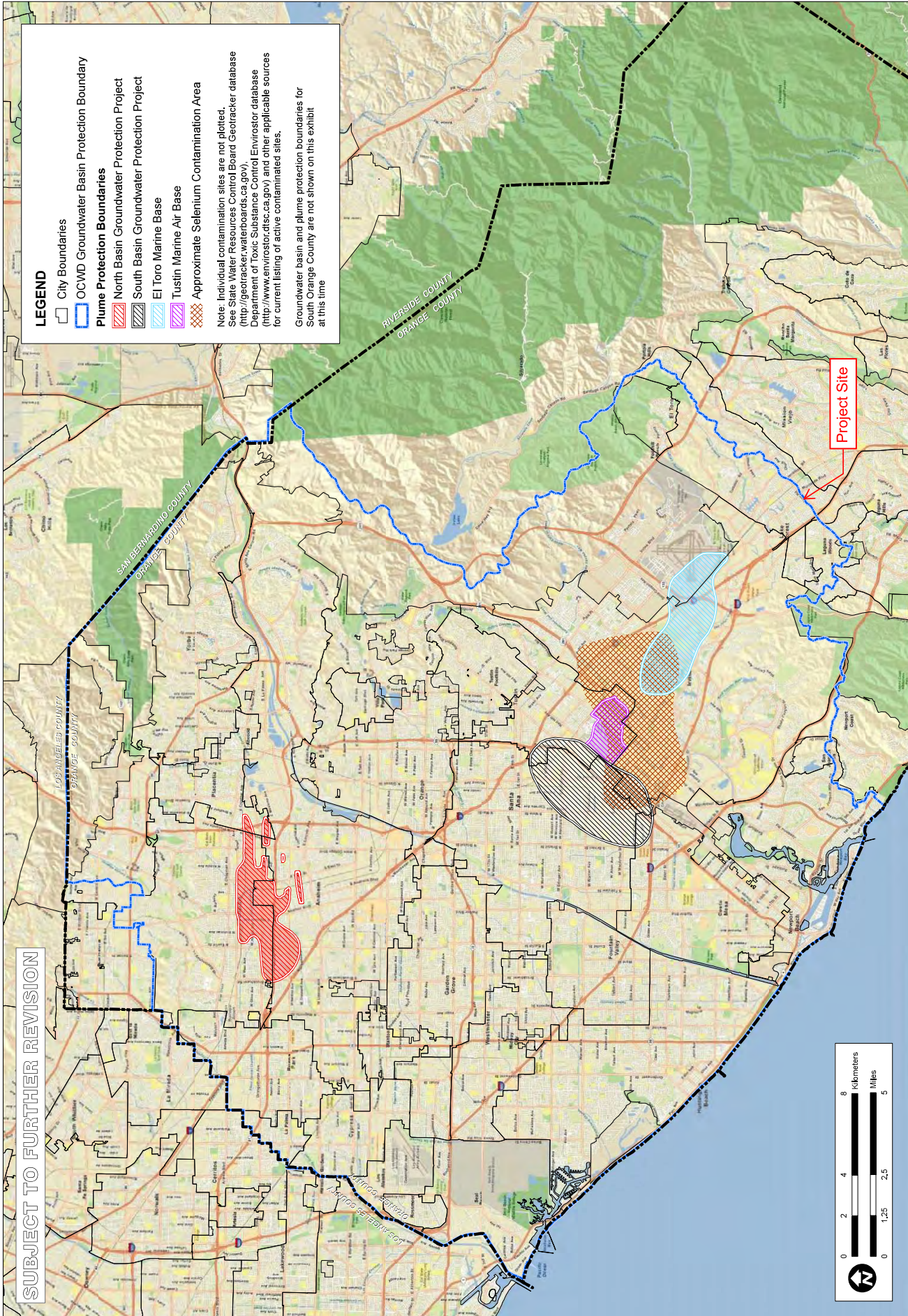
- Basin
- Dam
- Lake
- Reservoir

Other Lands

- Airport/Military



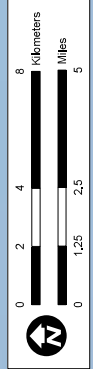
SUBJECT TO FURTHER REVISION



- LEGEND**
- City Boundaries
 - OCWD Groundwater Basin Protection Boundary
 - Plume Protection Boundaries
 - North Basin Groundwater Protection Project
 - South Basin Groundwater Protection Project
 - El Toro Marine Base
 - Tustin Marine Air Base
 - Approximate Selenium Contamination Area

Note: Individual contamination sites are not plotted. See State Water Resources Control Board Geotracker database (<http://geotracker.waterboards.ca.gov/>), Department of Toxic Substance Control Envirostor database (<http://www.envirostor.dtscc.ca.gov/>) and other applicable sources for current listing of active contaminated sites.

Groundwater basin and plume protection boundaries for South Orange County are not shown on this exhibit at this time



NORTH ORANGE COUNTY
GROUNDWATER PROTECTION
AREAS

ORANGE COUNTY
INFILTRATION STUDY

ORANGE CO.
JOB NO. 9526E
DATE 04/23/10
CHECKED BWP
DRAWING TH
DESIGNED TH
SCALE 1" = 1.25 miles



FIGURE
XVI-2f

Worksheet B: Simple Design Capture Volume Sizing Method Drainage Area A

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, d (inches)	$d=$	0.85	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	$d_{HSC}=$	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 - Line 2)	$d_{remainder}=$	0.85	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), A (acres)	$A=$	0.70	acres
2	Enter Project Imperviousness, imp (unitless)	$imp=$	0.66	
3	Calculate runoff coefficient, $C = (0.75 \times imp) + 0.15$	$C=$	0.64	
4	Calculate runoff volume, $V_{design} = (C \times d_{remainder} \times A \times 43560 \times (1/12))$	$V_{design}=$	1,382	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}^1$ (in/hr) (Appendix VII)	$K_{observed}=$	3.0	In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	$S_{total}=$	2.25	
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	$K_{design}=$	1.33	In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, T (max 48 hours)	$T=$	48	Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	$D_{max}=$	5.32	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	$A_{min}=$	259.8	sq-ft

¹ $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet B: Simple Design Capture Volume Sizing Method Drainage Area B

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, d (inches)	$d=$	0.85	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	$d_{HSC}=$	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 - Line 2)	$d_{remainder}=$	0.85	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), A (acres)	$A=$	2.55	acres
2	Enter Project Imperviousness, imp (unitless)	$imp=$	0.85	
3	Calculate runoff coefficient, $C= (0.75 \times imp) + 0.15$	$C=$	0.79	
4	Calculate runoff volume, $V_{design}= (C \times d_{remainder} \times A \times 43560 \times (1/12))$	$V_{design}=$	6,184	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}^1$ (in/hr) (Appendix VII)	$K_{observed}=$	3.0	In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	$S_{total}=$	2.25	
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	$K_{design}=$	1.33	In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, T (max 48 hours)	$T=$	48	Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	$D_{max}=$	5.32	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	$A_{min}=$	1162.4	sq-ft

¹ $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet B: Simple Design Capture Volume Sizing Method Drainage Area X3

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, d (inches)	$d=$	0.85	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	$d_{HSC}=$	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 - Line 2)	$d_{remainder}=$	0.85	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), A (acres)	$A=$	0.52	acres
2	Enter Project Imperviousness, imp (unitless)	$imp=$	0.38	
3	Calculate runoff coefficient, $C= (0.75 \times imp) + 0.15$	$C=$	0.44	
4	Calculate runoff volume, $V_{design}= (C \times d_{remainder} \times A \times 43560 \times (1/12))$	$V_{design}=$	706	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{observed}^1$ (in/hr) (Appendix VII)	$K_{observed}=$	3.0	In/hr
2	Enter combined safety factor from Worksheet H, S_{total} (unitless)	$S_{total}=$	2.25	
3	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$	$K_{design}=$	1.33	In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, T (max 48 hours)	$T=$	48	Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	$D_{max}=$	5.32	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	$A_{min}=$	132.7	sq-ft

¹ $K_{observed}$ is the vertical infiltration measured in the field, before applying a factor of safety. If field testing measures a rate that is different than the vertical infiltration rate (for example, three-dimensional borehole percolation rate), then this rate must be adjusted by an acceptable method (for example, Porchet method) to yield the field estimate of vertical infiltration rate, $K_{observed}$. See Appendix VII.

Worksheet H: Factor of Safety and Design Infiltration Rate and Worksheet

Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) $p = w \times v$
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	3	0.75
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			
B	Design	Tributary area size	0.25	1	0.25
		Level of pretreatment/ expected sediment loads	0.25	1	0.25
		Redundancy	0.25	2	0.50
		Compaction during construction	0.25	2	0.50
		Design Safety Factor, $S_B = \Sigma p$			
Combined Safety Factor, $S_{Total} = S_A \times S_B$				2.25	
Observed Infiltration Rate, inch/hr, $K_{observed}$ (corrected for test-specific bias)				3.0 in/hr	
Design Infiltration Rate, in/hr, $K_{DESIGN} = K_{Observed} / S_{Total}$				1.33 in/hr	
Supporting Data					
Briefly describe infiltration test and provide reference to test forms:					
<p>Percolation testing was performed in accordance with constant head test procedures outlined in the Well Permeameter Method (USBR 7300-89). See Soils Report, Attachment F.</p>					

Note: The minimum combined adjustment factor shall not be less than 2.0 and the maximum combined adjustment factor shall not exceed 9.0.

Worksheet I: Summary of Groundwater-related Feasibility Criteria

1	Is project large or small? (as defined by Table VIII.2) circle one	<input checked="" type="radio"/> Large	<input type="radio"/> Small	
2	What is the tributary area to the BMP?	A	varies	acres
3	What type of BMP is proposed?	Dry Well		
4	What is the infiltrating surface area of the proposed BMP?	A _{BMP}	varies	sq-ft
5	What land use activities are present in the tributary area (list all) Multi-family residential			
6	What land use-based risk category is applicable?	<input checked="" type="radio"/> L	<input type="radio"/> M	<input type="radio"/> H
7	If M or H, what pretreatment and source isolation BMPs have been considered and are proposed (describe all): N/A			
8	What minimum separation to mounded seasonally high groundwater applies to the proposed BMP? See Section VIII.2 (circle one)	5 ft	<input checked="" type="radio"/> 10 ft	
9	Provide rationale for selection of applicable minimum separation to seasonally high mounded groundwater: Dry Wells are listed under 10' minimum separation			
10	What is separation from the infiltrating surface to seasonally high groundwater?	SHGWT	N/A	ft
11	What is separation from the infiltrating surface to mounded seasonally high groundwater?	Mounded SHGWT	N/A	ft
12	Describe assumptions and methods used for mounding analysis: Groundwater was encountered during geotechnical analysis at 41 feet, per soils report.			
13	Is the site within a plume protection boundary (See Figure	Y	<input checked="" type="radio"/> N	N/A

Worksheet I: Summary of Groundwater-related Feasibility Criteria

	VIII.2)?	
14	Is the site within a selenium source area or other natural plume area (See Figure VIII.2)?	Y <input checked="" type="radio"/> N N/A
15	Is the site within 250 feet of a contaminated site?	Y <input checked="" type="radio"/> N N/A
16	If site-specific study has been prepared, provide citation and briefly summarize relevant findings: N/A	
17	Is the site within 100 feet of a water supply well, spring, septic system?	Y <input checked="" type="radio"/> N N/A
18	Is infiltration feasible on the site relative to groundwater-related criteria?	<input checked="" type="radio"/> Y N
<p>Provide rationale for feasibility determination:</p> <p>Based on the high distance to groundwater and location of the site, infiltration BMPs are considered feasible based on groundwater related criteria.</p>		

Note: if a single criterion or group of criteria would render infiltration infeasible, it is not necessary to evaluate every question in this worksheet.

Table 2.7: Infiltration BMP Feasibility Worksheet

	Infeasibility Criteria	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1	Would Infiltration BMPs pose significant risk for groundwater related concerns <input type="checkbox"/> Refer to Appendix VIII (Worksheet I) for guidance on groundwater-related infiltration feasibility criteria.		X
<p>Provide basis: Based on the high distance to groundwater and location of the site infiltration BMPs are considered feasible based on groundwater related criteria.</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
2	<p>Would Infiltration BMPs pose significant risk of increasing risk of geotechnical hazards that cannot be mitigated to an acceptable level? (Yes if the answer to any of the following questions is yes, as established by a geotechnical expert):</p> <ul style="list-style-type: none"> • The BMP can only be located less than 50 feet away from slopes steeper than 15 percent • The BMP can only be located less than eight feet from building foundations or an alternative setback. • A study prepared by a geotechnical professional or an available watershed study substantiates that stormwater infiltration would potentially result in significantly increased risks of geotechnical hazards that cannot be mitigated to an acceptable level. 		X
<p>Provide basis: None of the above criteria apply.</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
3	Would infiltration of the DCV from drainage area violate downstream water rights?		X
<p>Provide basis:</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			

Table 2.7: Infiltration BMP Feasibility Worksheet (continued)

	<i>Partial Infeasibility Criteria</i>	Yes	No
4	Is proposed infiltration facility located on HSG D soils or the site geotechnical investigation identifies presence of soil characteristics which support categorization as D soils?	X	
<p>Provide basis: See Soils Map in Attachment B</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
5	Is measured infiltration rate below proposed facility less than 0.3 inches per hour? This calculation shall be based on the methods described in Appendix VII .		X
<p>Provide basis: See Soils Report, Attachment F</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
6	Would reduction of over predeveloped conditions cause impairments to downstream beneficial uses, such as change of seasonality of ephemeral washes or increased discharge of contaminated groundwater to surface waters ?		X
<p>Provide citation to applicable study and summarize findings relative to the amount of infiltration that is permissible:</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
7	Would an increase in infiltration over predeveloped conditions cause impairments to downstream beneficial uses, such as change of seasonality of ephemeral washes or increased discharge of contaminated groundwater to surface waters ?		X
<p>Provide citation to applicable study and summarize findings relative to the amount of infiltration that is permissible:</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			

Table 2.7: Infiltration BMP Feasibility Worksheet (continued)

Infiltration Screening Results (check box corresponding to result):		
8	<p>Is there substantial evidence that infiltration from the project would result in a significant increase in I&I to the sanitary sewer that cannot be sufficiently mitigated? (See Appendix VII)</p> <p>Provide narrative discussion and supporting evidence:</p> <p>Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>	No
9	<p>If any answer from row 1-3 is yes: infiltration of any volume is not feasible within the DMA or equivalent.</p> <p>Provide basis:</p> <p>Summarize findings of infeasibility screening</p>	N/A
10	<p>If any answer from row 4-7 is yes, infiltration is permissible but is not presumed to be feasible for the entire DCV. Criteria for designing biotreatment BMPs to achieve the maximum feasible infiltration and ET shall apply.</p> <p>Provide basis: Based on the hydrologic soil group and infiltration rate of the soil, infiltration BMPs are feasible but may not account for the entire DCV.</p> <p>Summarize findings of infeasibility screening</p>	Yes
11	<p>If all answers to rows 1 through 11 are no, infiltration of the full DCV is potentially feasible, BMPs must be designed to infiltrate the full DCV to the maximum extent practicable.</p>	N/A

Harvest and Use Infeasibility

Harvest and use infeasibility criteria include:

- If inadequate demand exists for the use of the harvested rainwater. See [Appendix X](#) for guidance on determining harvested water demand and applicable feasibility thresholds.
- If the use of harvested water for the type of demand on the project violates codes or ordinances most applicable to stormwater harvesting in effect at the time of project application and a waiver of these codes and/or ordinances cannot be obtained. It is noted that codes and ordinances most applicable to stormwater harvesting may change

Attachment C

Exhibits and Grading Plan

MAXWELL® IV DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

ITEM NUMBERS

1. Manhole Cone – Modified Flat Bottom.
2. Moisture Membrane – 6 Mil. Plastic. Applies only when native material is used for backfill. Place membrane securely against eccentric cone and hole sidewall.
3. Bolted Ring & Grate – Diameter as shown. Clean cast iron with wording "Storm Water Only" in raised letters. Bolted in 2 locations and secured to cone with mortar. Rim elevation $\pm 0.02'$ of plans.
4. Graded Basin or Paving (by Others).
5. Compacted Base Material – 1-Sack Slurry except in landscaped installations with no pipe connections.
6. PureFlo® Debris Shield – Rolled 16 ga. steel X 24" length with vented anti-siphon and Internal .265" Max. SWO flattened expanded steel screen X 12" length. Fusion bonded epoxy coated.
7. Pre-cast Liner – 4000 PSI concrete 48" ID. X 54" OD. Center in hole and align sections to maximize bearing surface.
8. Min. 6" \emptyset Drilled Shaft.
9. Support Bracket – Formed 12 Ga. steel. Fusion bonded epoxy coated.
10. Overflow Pipe – Sch. 40 PVC mated to drainage pipe at base seal.
11. Drainage Pipe – ADS highway grade with TRI-A coupler. Suspend pipe during backfill operations to prevent buckling or breakage. Diameter as noted.
12. Base Seal – Geotextile or concrete slurry.
13. Rock – Washed, sized between 3/8" and 1-1/2" to best complement soil conditions.
14. FloFast® Drainage Screen – Sch. 40 PVC 0.120" slotted well screen with 32 slots per row/ft. Diameter varies 120" overall length with TRI-B coupler.
15. Min. 4' \emptyset Shaft – Drilled to maintain permeability of drainage soils.
16. Fabric Seal – U.V. resistant geotextile – to be removed by customer at project completion.
17. Absorbent – Hydrophobic Petrochemical Sponge. Min. to 128 oz. capacity.
18. Freeboard Depth Varies with inlet pipe elevation. Increase settling chamber depth as needed to maintain all inlet pipe elevations above overflow pipe inlet.
19. Optional Inlet Pipe (Maximum 4", by Others). Extend moisture membrane and compacted base material or 1 sack slurry backfill below pipe invert.

The referenced drawing and specifications are available on CAD either through our office or web site. This detail is copyrighted (2004) but may be used as is in construction plans without further release. For information on product application, individual project specifications or site evaluation, contact our Design Staff for no-charge assistance in any phase of your planning.

CALCULATING MAXWELL IV REQUIREMENTS

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of Maxwell Systems. For general applications draining retained stormwater, use one standard **MaxWell IV** per the instructions below for up to 3 acres of landscaped contributory area, and up to 1 acre of paved surface. For larger paved surfaces, subdivision drainage, nuisance water drainage, connecting pipes larger than 4" \emptyset from catch basins or underground storage, or other demanding applications, refer to our **MaxWell® Plus** System. For industrial drainage, including gasoline service stations, our **Envibro® System** may be recommended. For additional considerations, please refer to "Design Suggestions For Retention And Drainage Systems" or consult our Design Staff.

COMPLETING THE MAXWELL IV DRAWING

To apply the **MaxWell IV** drawing to your specific project, simply fill in the blue boxes per instructions below. For assistance, please consult our Design Staff.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate depth required to achieve 10 continuous feet of penetration into permeable soils. Torrent utilizes specialized "crowd" equipped drill rigs to penetrate difficult, cemented soils and to reach permeable materials at depths up to **180 feet**. Our extensive database of drilling logs and soils information is available for use as a reference. Please contact our Design Staff for site-specific information on your project.

SETTLING CHAMBER DEPTH

On MaxWell IV Systems of over 30 feet overall depth and up to 0.25cfs design rate, the **standard** Settling Chamber Depth is **18 feet**. For systems exposed to greater contributory area than noted above, extreme service conditions, or that require higher design rates, chamber depths up to 25 feet are recommended.

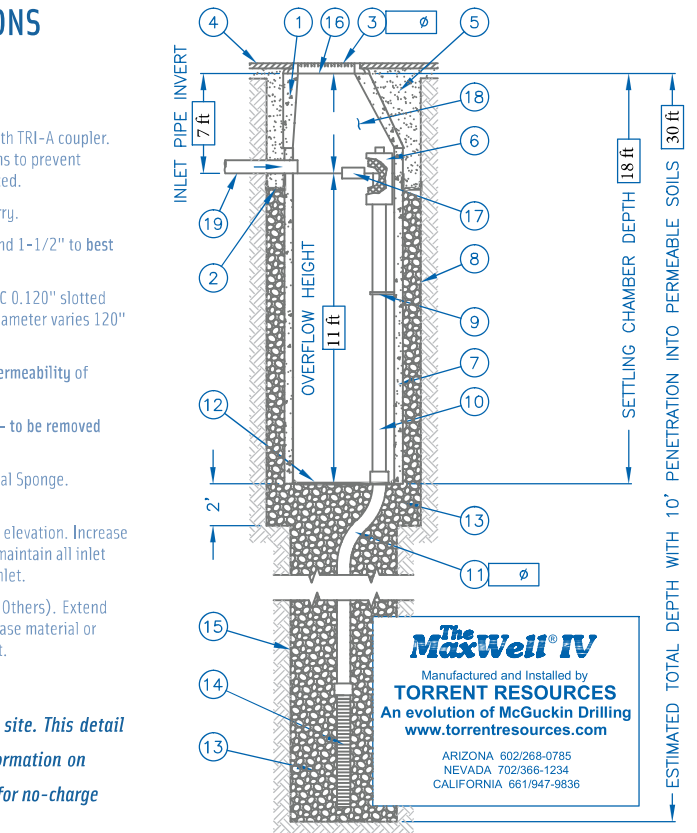
OVERFLOW HEIGHT

The Overflow Height and Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. For normal drainage applications, an overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet**. Sites with higher design rates than noted above, heavy debris loading or unusual service conditions require greater settling capacities

TORRENT RESOURCES INCORPORATED

1509 East Elwood Street, Phoenix Arizona 85040-1391
phone 602-268-0785 fax 602-268-0820
Nevada 702-366-1234

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CA Lic. 528080 A, C-42, HAZ - NV Lic. 0035350 A - NM Lic. 90504 GF04



AZ Lic. ROC070465 A, ROC047067 B-4, ADWR 363
CA Lic. 528080, C-42, HAZ
NV Lic. 0035350 A - NM Lic. 90504 GF04

U.S. Patent No. 4,923,330 - TM Trademark 1974, 1990, 2004

DRAINAGE PIPE

This dimension also applies to the **PureFlo®** Debris Shield, the **FloFast®** Drainage Screen, and fittings. The size selected is based upon system design rates, soil conditions, and the need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to "Design Suggestions for Retention and Drainage Systems" for recommendations on which size best matches your application.

BOLTED RING & GRATE

Standard models are quality cast iron and available to fit 24" \emptyset or 30" \emptyset manhole openings. All units are bolted in two locations with wording "Storm Water Only" in raised letters. For other surface treatments, please refer to "Design Suggestions for Retention and Drainage Systems."

INLET PIPE INVERT

Pipes up to 4" in diameter from catch basins, underground storage, etc. may be connected into the settling chamber. Inverts deeper than 5 feet will require additional settling chamber depth to maintain effective overflow height.

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Plate 2



Attachment D

Notice of Transfer

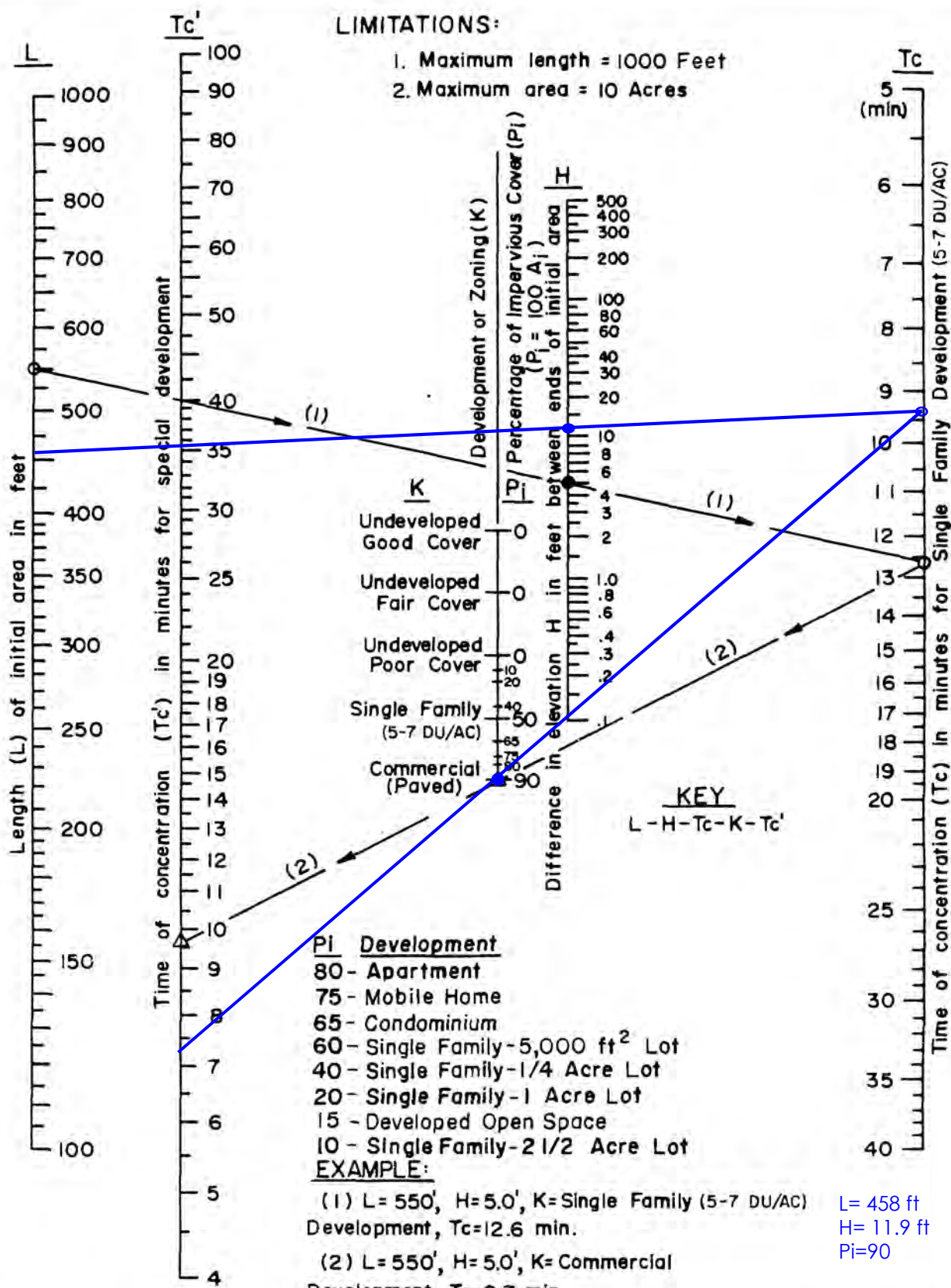
To be included in Final WQMP, not included in this Preliminary WQMP

Attachment E

Hydrology Calculations

LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



ORANGE COUNTY
HYDROLOGY MANUAL

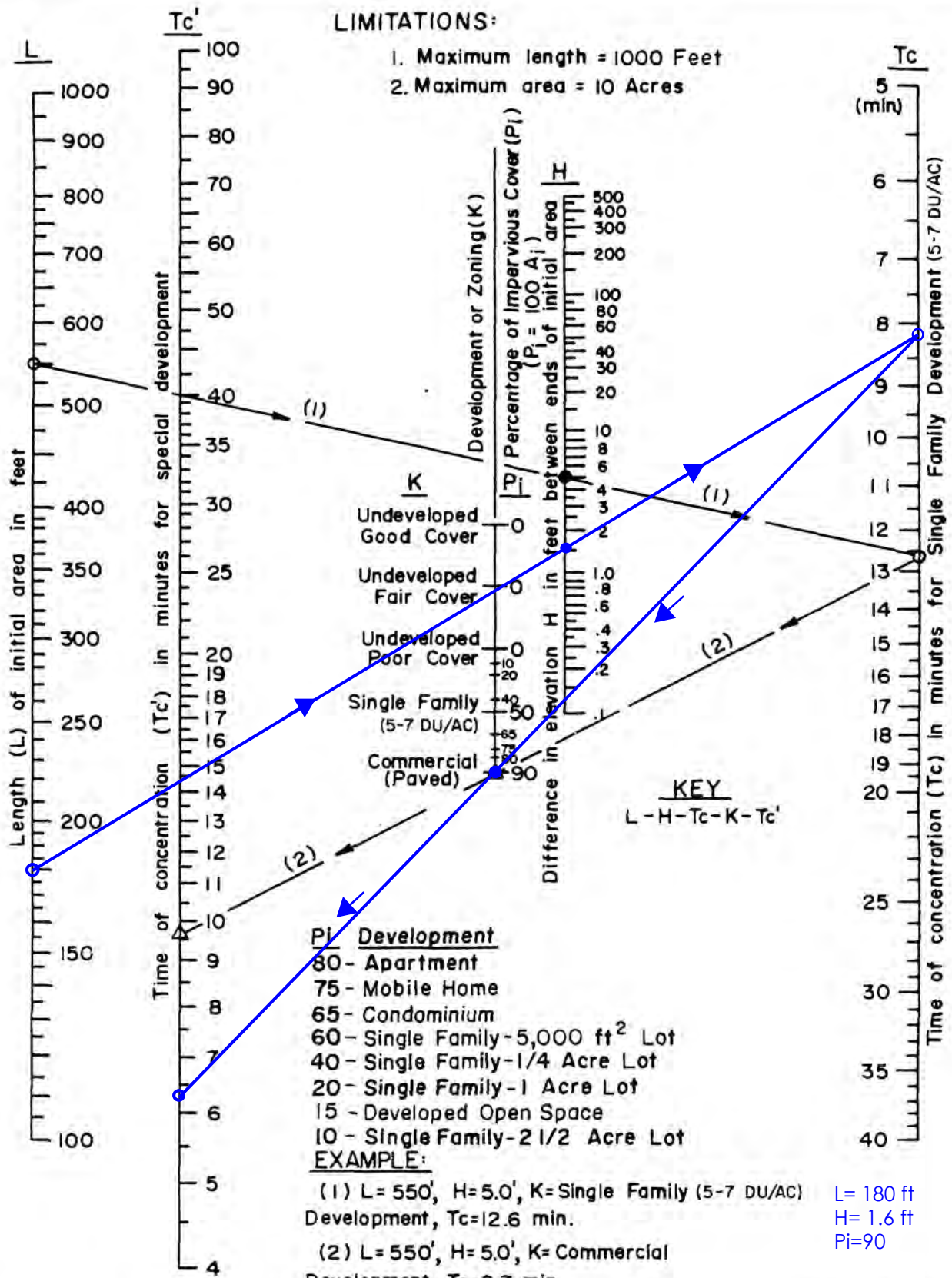
Existing Condition
 Area X1

Tc' = 7.3 min

TIME OF CONCENTRATION
NOMOGRAPH
FOR INITIAL SUBAREA

LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



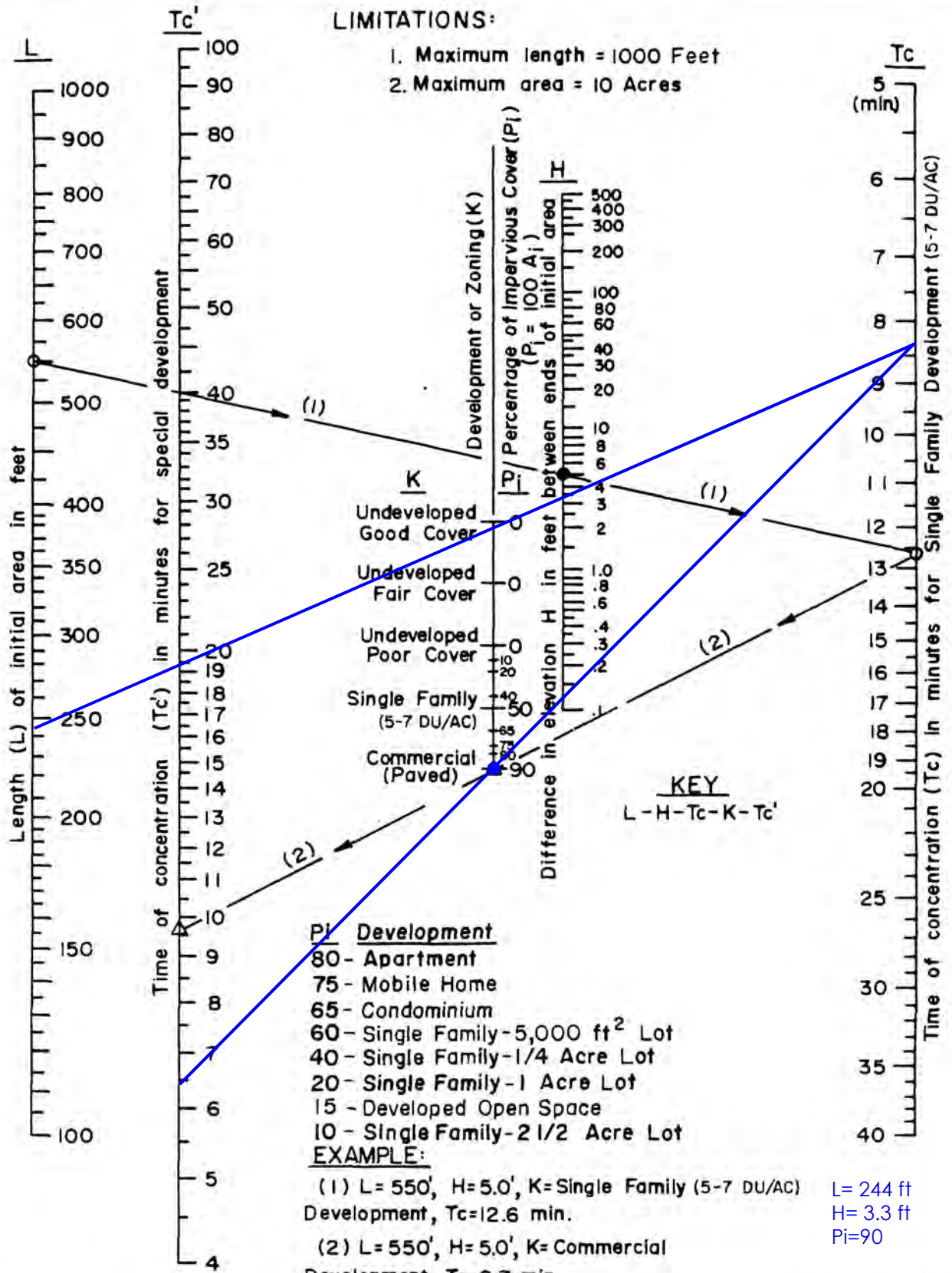
ORANGE COUNTY
HYDROLOGY MANUAL

Existing Condition
 Area X2
 Tc' = 6.3 min

TIME OF CONCENTRATION
NOMOGRAPH
FOR INITIAL SUBAREA

LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres



ORANGE COUNTY
HYDROLOGY MANUAL

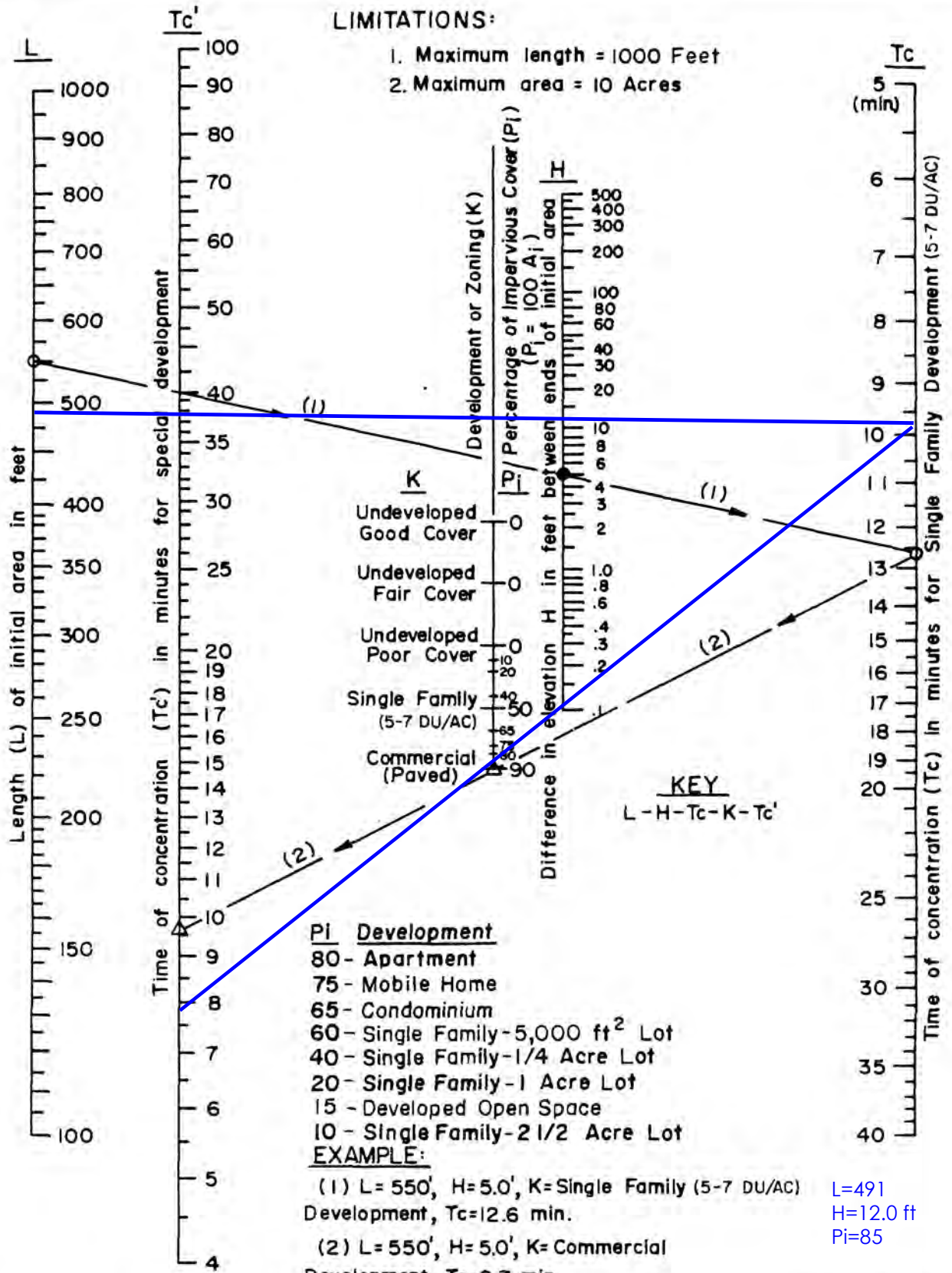
Existing and Proposed
Condition
Area X3

Tc' = 6.4 min

**TIME OF CONCENTRATION
NOMOGRAPH
FOR INITIAL SUBAREA**

LIMITATIONS:

- 1. Maximum length = 1000 Feet
- 2. Maximum area = 10 Acres



ORANGE COUNTY
HYDROLOGY MANUAL

Proposed Condition
Area B

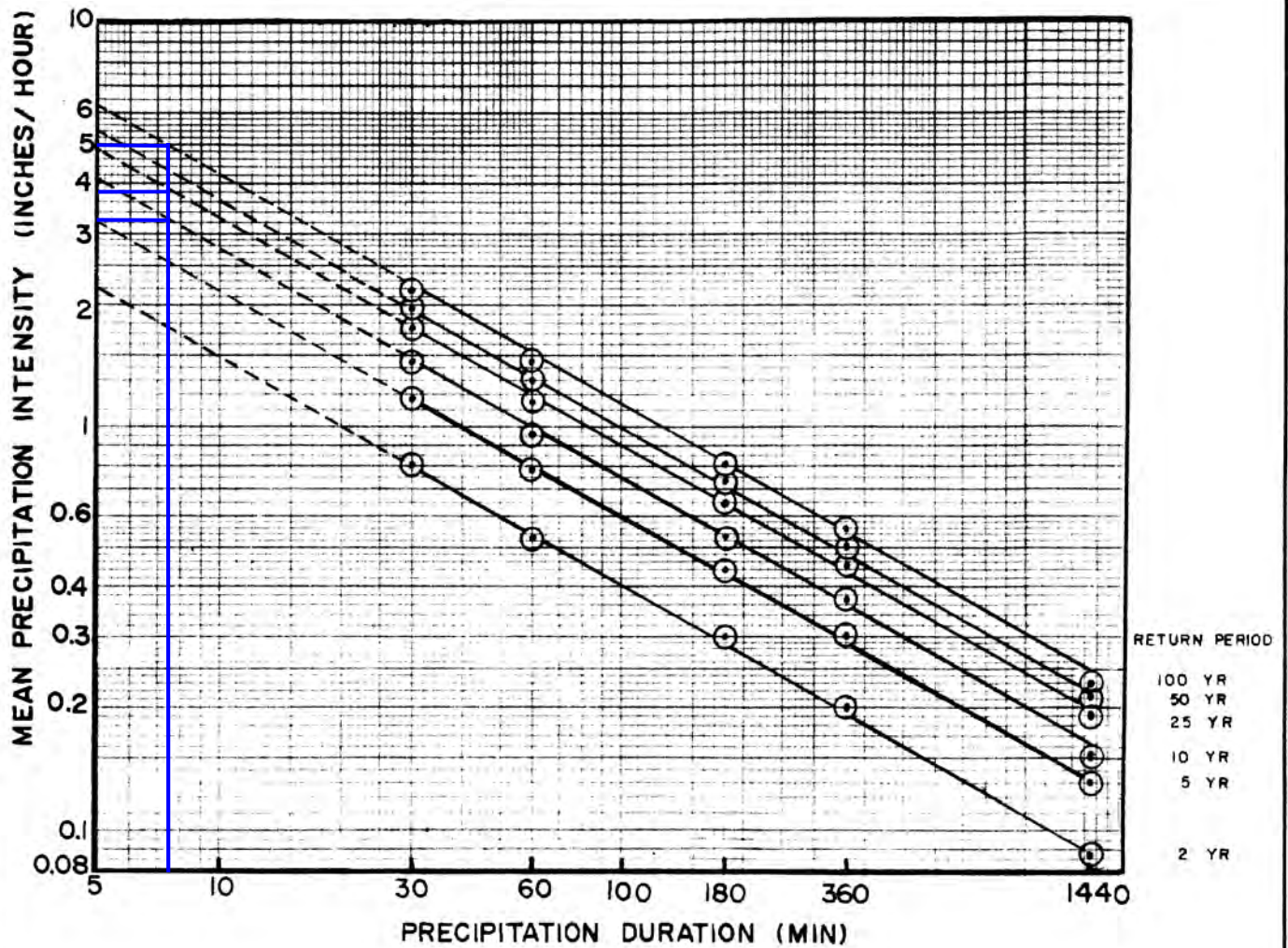
Tc' = 7.9 min

**TIME OF CONCENTRATION
NOMOGRAPH
FOR INITIAL SUBAREA**

Regression Equations: $I(t) = at^b$
 (I = Intensity in inches/hour, t = duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X1
For t = 7.3 min
 10 yr I = 3.27 in/hr
 25 yr I = 3.89 in/hr
 100 yr I = 4.98 in/hr



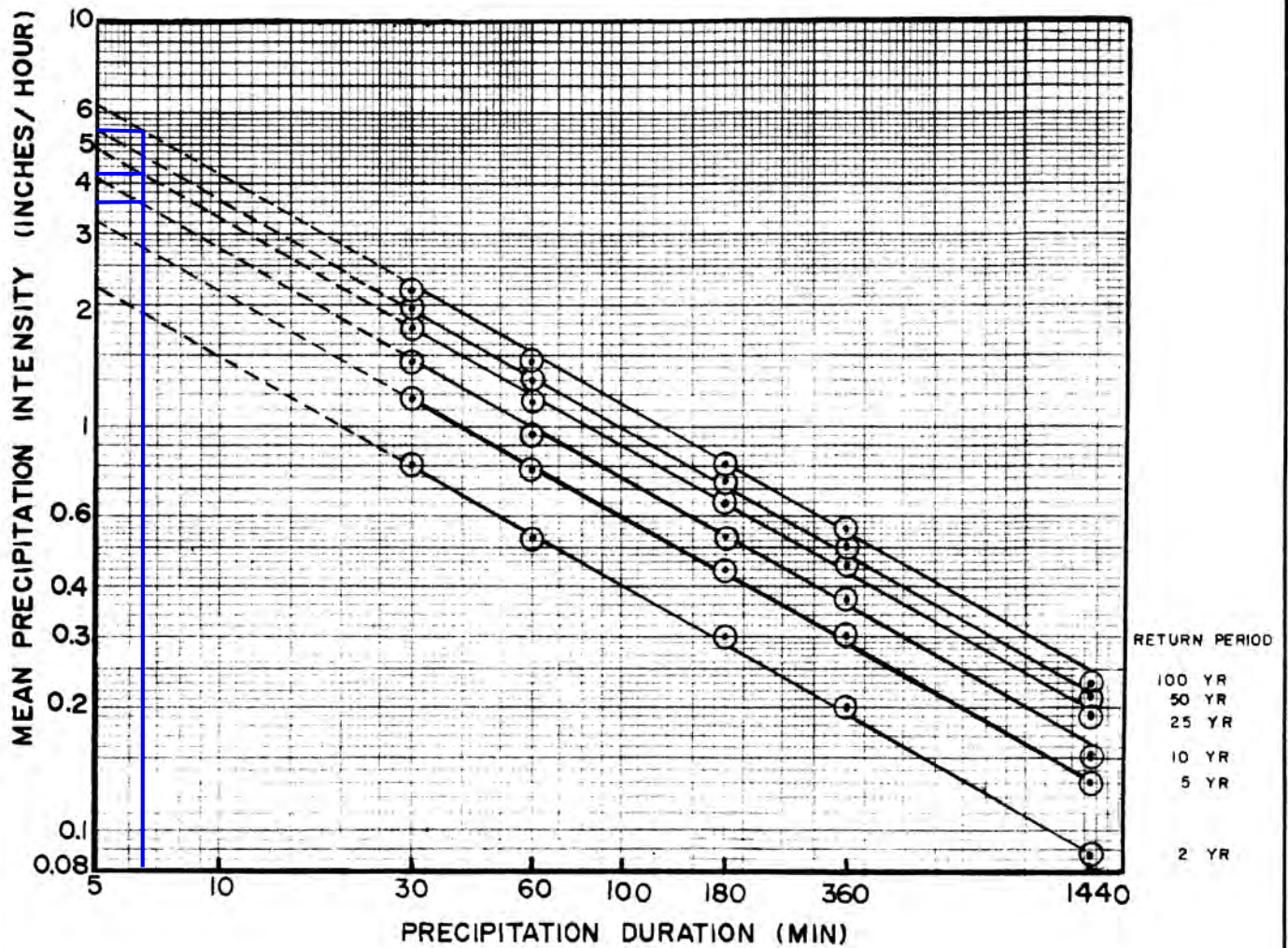
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I = Intensity in inches/hour, t = duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X2
For t = 6.3 min
 10 yr I = 3.56 in/hr
 25 yr I = 4.23 in/hr
 100 yr I = 5.42 in/hr



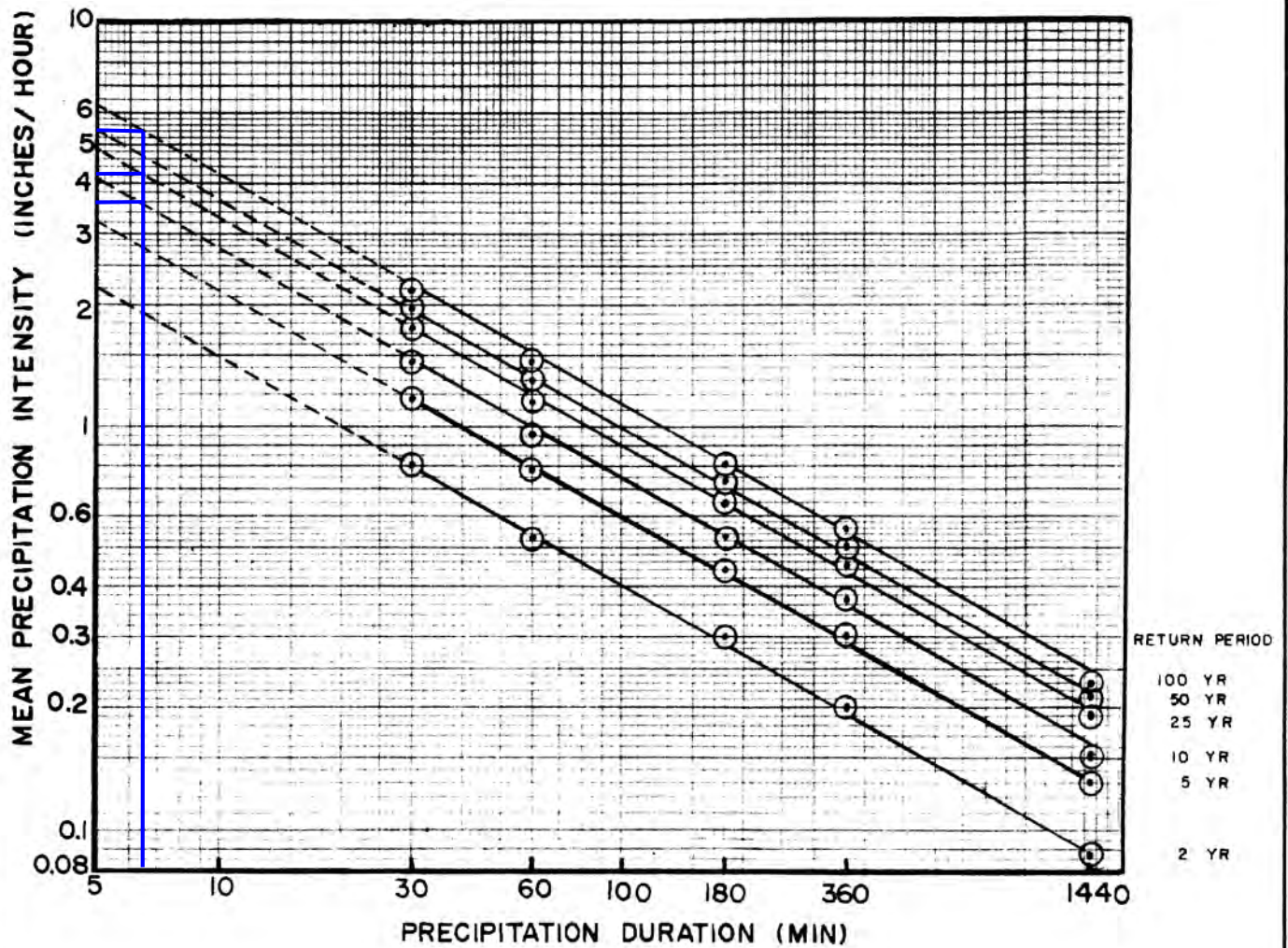
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Existing Area X3
For t= 6.4min
 10 yr I=3.52 in/hr
 25 yr I=4.19 in/hr
 100 yr I=5.37 in/hr



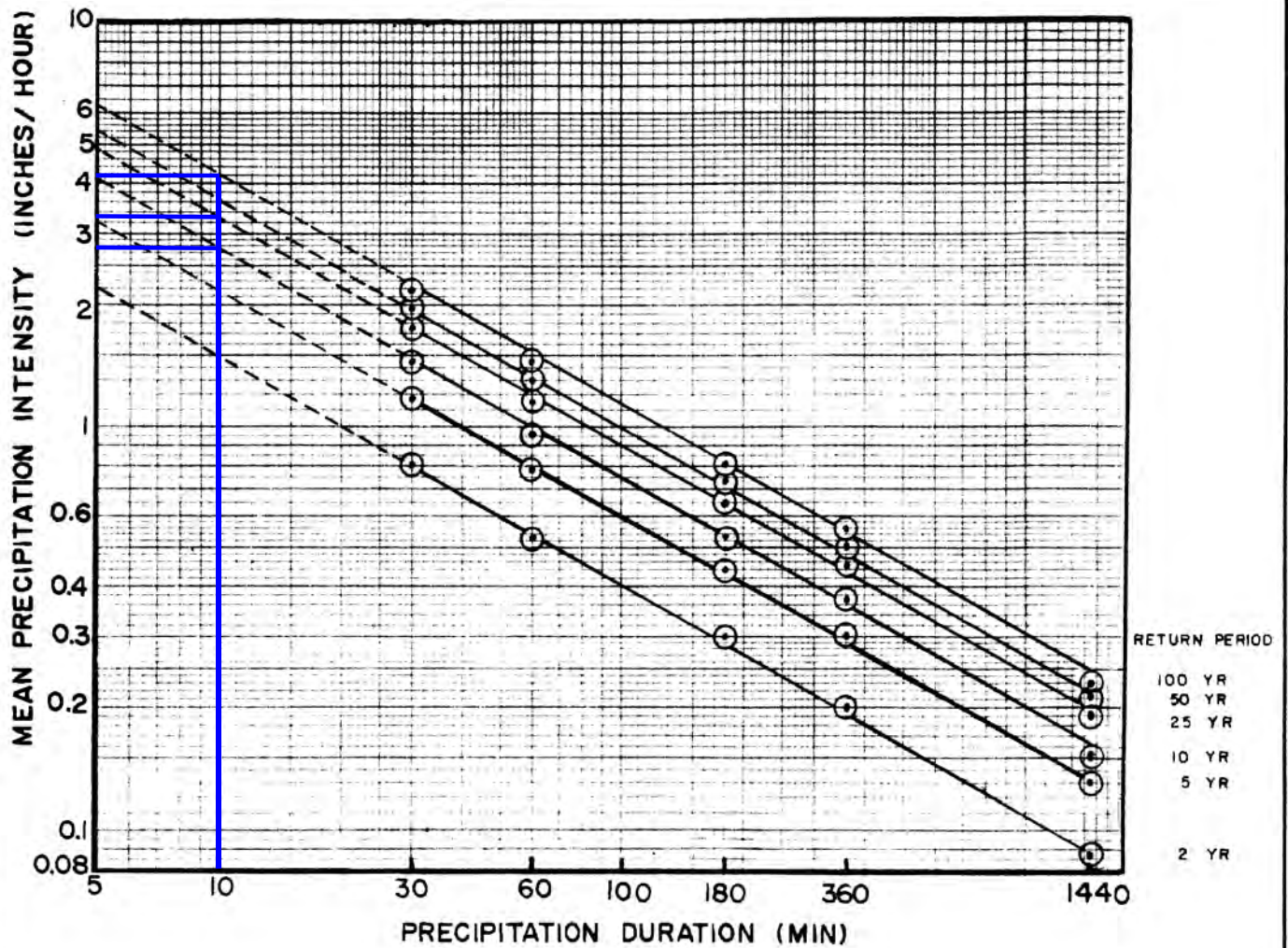
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I= Intensity in inches/hour, t= duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area A
For t= 10.0 min
 10 yr I=2.73 in/hr
 25 yr I=3.26 in/hr
 100 yr I=4.16 in/hr



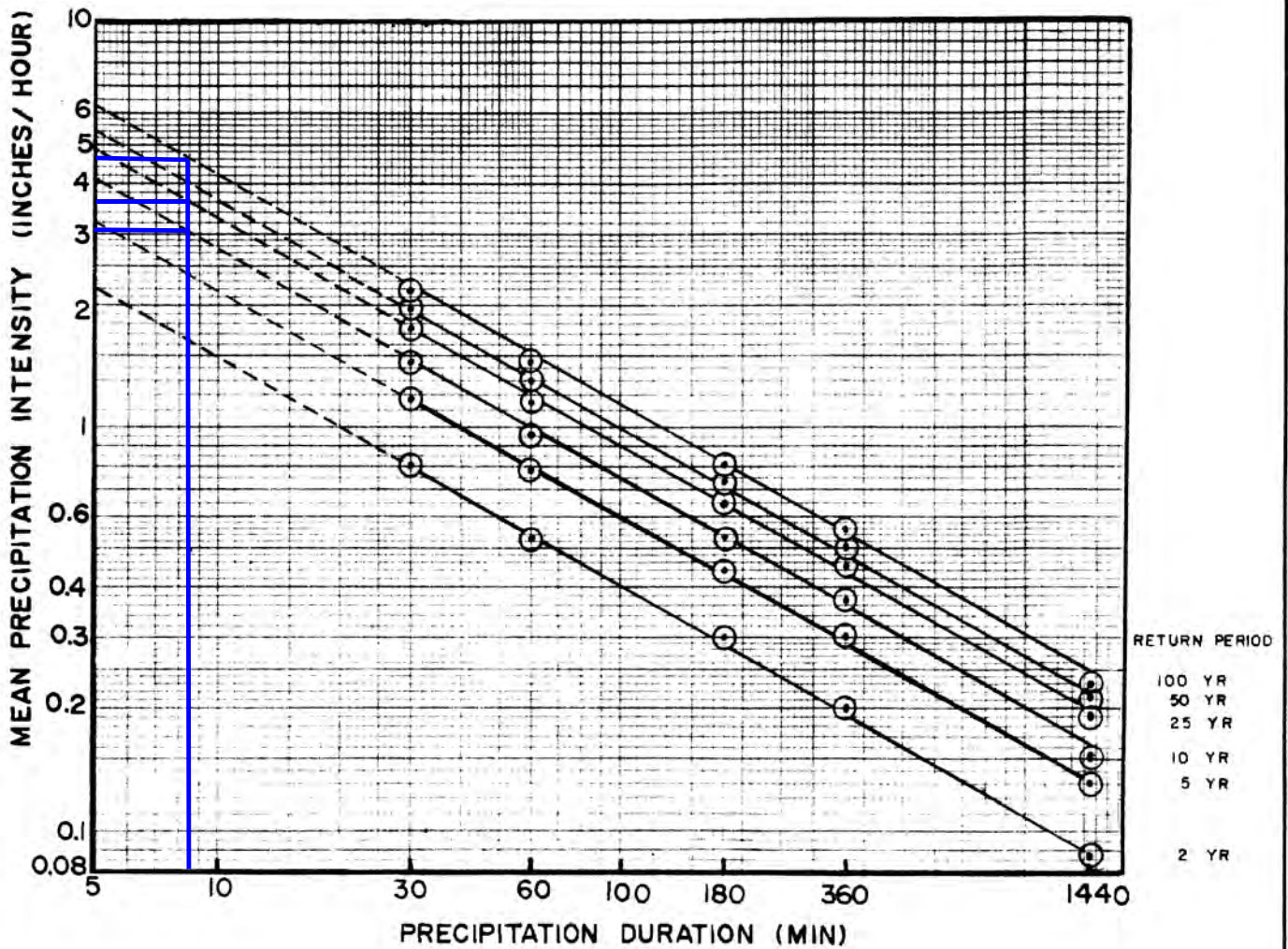
ORANGE COUNTY
HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Regression Equations: $I(t) = at^b$
 (I = Intensity in inches/hour, t = duration in minutes)

Return Frequency (years)	a	b
2	5.702	-0.574
5	7.870	-0.562
10	10.209	-0.573
25	11.995	-0.566
50	13.521	-0.566
100	15.560	-0.573

Proposed Area B
 For t = 7.9 min
 10 yr I = 3.12 in/hr
 25 yr I = 3.72 in/hr
 100 yr I = 4.76 in/hr

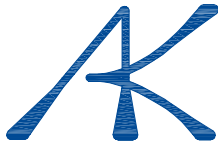


ORANGE COUNTY
 HYDROLOGY MANUAL

MEAN PRECIPITATION
INTENSITIES FOR
NONMOUNTAINOUS AREAS

Attachment F

Geotechnical Report



ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

October 23, 2019
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, California 91730

Subject: Preliminary Geotechnical Investigation, Proposed Multi-Family Residential Development, 24551 Raymond Way, Lake Forest, California.

Dear Mr. Killian,

Pursuant to your request, *Albus-Keefe & Associates, Inc.* is pleased to present to you our preliminary geotechnical investigation report for the subject development. This report presents the results of our field investigation, laboratory testing, engineering analyses, as well as our preliminary geotechnical recommendations for design and construction of the subject development.

We appreciate this opportunity to be of service to you. If you have any questions regarding the contents of this report, please do not hesitate to call this office.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.

Paul Kim
Associate Engineer

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Figure 1 – Site Location Map

Plate 1– Geotechnical Map

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APPENDIX A – Exploration Logs

Plates A-1 through A-8 – Exploration Logs

APPENDIX B – Laboratory Test Program

Table B-1 – Summary of Laboratory Test Results

Plates B-1 through B-3 – Grain Size Distribution Plot

Plates B-4 through B-6 – Consolidation Plots

Plate B-7 – Direct Shear Test Plot

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The purposes of our preliminary geotechnical investigation were to evaluate geotechnical conditions within the project area and to provide conclusions and recommendations relevant to the design and construction of the proposed improvements at the subject site. The scope of this investigation included the following:

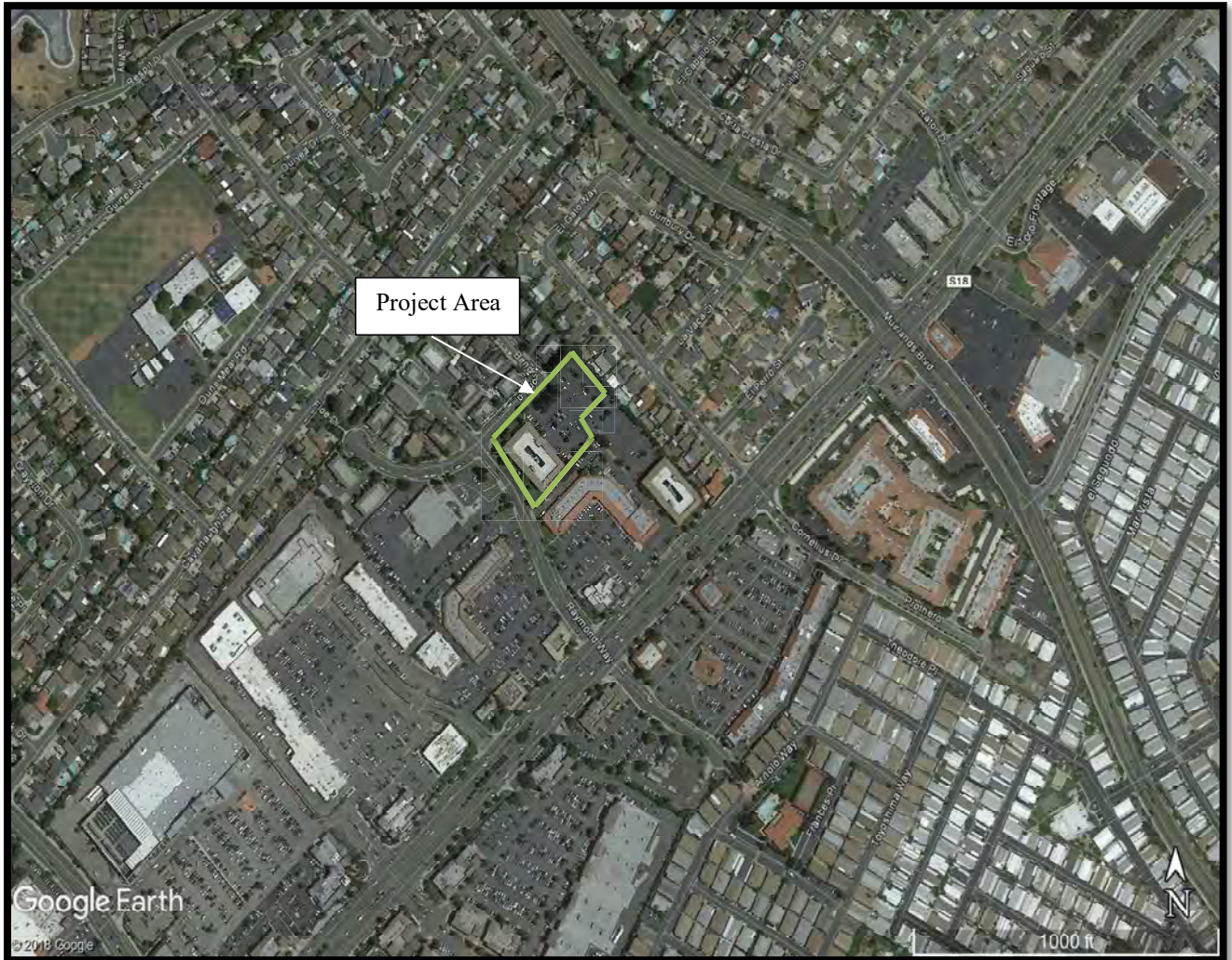
- Review of the referenced conceptual site plan
- Review of published geologic and seismic data for the site and surrounding area
- Review of historical aerial photographs
- Exploratory drilling and soil sampling
- Laboratory testing of selected soil samples
- Engineering analyses of data obtained from our review, exploration, and laboratory testing
- Evaluation of site seismicity, liquefaction, and settlement potential
- Preparation of this report

1.2 SITE LOCATION AND DESCRIPTION

The site is located at 24551 Raymond Way, within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas is shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property containing approximately 1.9 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth) descending to the west. Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass cover adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



© 2019 Google Earth



SITE LOCATION MAP
Lake Forest
Proposed Multi-Family Residential Development
24551 Raymond Way,
Lake Forest, California

NOT TO SCALE
FIGURE 1

1.3 PROPOSED DEVELOPMENT

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparing of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

2.0 INVESTIGATION

2.1 RESEARCH

We have reviewed the referenced geologic publications and maps (see references). Data from these sources were utilized to develop some of the findings and conclusions presented herein.

We have also reviewed available historical aerial photographs. The aerial photos indicate that as early as 1938, the site was vacant land. In the vicinity of the site, some areas of land were used for agricultural purposes. By 1967, the adjacent single-family residential properties to the northeast were developed. By 1980, the property was developed with the present-day commercial building and parking lot. The site has remained unchanged since then.

2.2 SUBSURFACE EXPLORATION

Subsurface exploration for this investigation was conducted on October 2nd, 2019, and consisted of the drilling of five (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and Standard Penetration Test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

2.3 LABORATORY TESTING

Selected samples of representative earth materials from our borings were tested in our laboratory. Tests consisted of USCS classification, in-situ moisture content and dry density, maximum dry density and optimum moisture content, consolidation/collapse, direct shear strength, grain size analysis, soluble sulfate content, and corrosivity testing (pH, chloride, and resistivity). Descriptions of laboratory testing and the test results are presented in Appendix B and on the Exploration Logs in Appendix A.

3.0 GEOLOGIC CONDITIONS

3.1 SOIL CONDITIONS

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are comprised of reddish-brown clayey sand/sandy clay. A layer of clay and silty sand was observed below a depth of 6 feet. Deeper portions of the very old alluvium fan consist of clayey sand and silty sand with variable some inner layers of clay and silt. The surficial very old alluvial fan materials are typically very dense and hard.

3.2 GROUNDWATER

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet.

3.3 FAULTING

Geologic literature and field exploration do not indicate the presence of active faulting within the site. The site does not lie within an "Earthquake Fault Zone" as defined by the State of California in the Earthquake Fault Zoning Act. Table 3.1 presents a summary of all the known seismically active faults within 10 miles of the site.

TABLE 3.1
Summary of Active Faults

Name	Distance (miles)	Slip Rate (mm/yr.)	Preferred Dip (degrees)	Slip Sense	Rupture Top (km)	Fault Length (km)
San Joaquin Hills	0.18	0.5	23	thrust	2	27
Newport Inglewood Connected alt 1	9.66	1.3	89	strike slip	0	208
Newport Inglewood (Offshore)	9.66	1.5	90	strike slip	0	66
Newport Inglewood Connected alt 2	9.66	1.3	90	strike slip	0	208

4.0 ANALYSES

4.1 SEISMICITY

We have performed probabilistic seismic analyses utilizing the U.S. Seismic Design Maps web application by the U.S. Geological Survey (USGS). From our analyses, we obtain a PGA of 0.598g in accordance with Figure 22-7 of ASCE 7-10. The F_{PGA} factor for site class D with a PGA of 0.598g is 1.0. Therefore, the $PGA_M = 1.0 \times 0.598 = 0.598g$. The mean event associated with a probability of exceedance equal to 2% over 50 years has a moment magnitude of 6.65 with a mean distance to the seismic source of 6.76 miles.

4.2 STATIC SETTLEMENT

Analyses were performed to evaluate potential for static settlement of the underlying very old alluvial fan deposits. Our analyses were based on the results of consolidation tests performed on selected samples from our borings as well as the recorded blow counts during the exploration. Results of our testing indicate the site materials have low compressibility. Based on the data from field exploration and laboratory testing, settlement is estimated to be less than 1.0 inch in the site.

5.0 CONCLUSIONS

5.1 FEASIBILITY OF PROPOSED DEVELOPMENT

From a geotechnical point of view, the proposed site development is considered feasible provided the recommendations presented in this report are incorporated into the design and construction of the project. Furthermore, it is also our opinion that the proposed development will not adversely impact the stability of adjoining properties if the recommendations presented in this report are incorporated into site development. Key issues that could have significant fiscal impacts on the geotechnical aspects of the proposed site development are discussed in the following sections of this report.

5.2 GEOLOGIC HAZARDS

5.2.1 Ground Rupture

No active faults are known to project through the site nor does the site lie within the bounds of an "Earthquake Fault Zone" as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act. As such, the potential for ground rupture due to fault displacement beneath the site is considered very low.

5.2.2 Ground Shaking

The site is located in a seismically active area that has historically been affected by moderate to occasionally high levels of ground motion. The site lies in relatively close proximity to several seismically active faults; therefore, during the life of the proposed development, the property will probably experience moderate to occasionally high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the southern California region. Design of proposed structures in accordance with the current CBC is anticipated to adequately mitigate concerns with ground shaking.

5.2.3 Landsliding

Geologic hazards associated with landsliding are not anticipated at the site due to not being located within an area identified by the California Geologic Survey (CGS) as having potential for seismic slope instability.

5.2.4 Liquefaction

Engineering research of soil liquefaction potential (Youd, et al., 2001) indicates that generally three basic factors must exist concurrently in order for liquefaction to occur. These factors include:

- A source of ground shaking, such as an earthquake, capable of generating soil mass distortions.
- A relatively loose silty and/or sandy soil.
- A relative shallow groundwater table (within approximately 50 feet below ground surface) or completely saturated soil conditions that will allow positive pore pressure generation.

The liquefaction susceptibility of the onsite soils was evaluated by analyzing the potential of concurrent occurrence of the above-mentioned three basic factors. The liquefaction evaluation for the site was completed under the guidance of Special Publication 117A: Guidelines for Evaluating and Mitigating Seismic Hazards in California (CDMG, 2008).

Based on the fine-grained nature of subsurface materials, the potential for liquefaction at the site is considered to be low. Additionally, the site is underlain by Pleistocene aged deposits, typically not susceptible to liquefaction. Furthermore, the site is not located within a San Diego Seismic Study liquefaction zone.

5.3 STATIC SETTLEMENT

The existing artificial fills consist of variable materials are considered unsuitable for support of the proposed development in its current condition. Therefore, removal and recompaction of the existing surficial soils to provide a uniform compacted blanket will be necessary. Provided grading and construction are performed in accordance with the recommendations provided herein, estimated total and differential settlement of proposed site improvements are anticipated to be less than 1 inch and ½ inch over 30 feet, respectively. These magnitudes of settlement are considered within tolerable limits of proposed site development.

5.4 EARTHWORK AND MATERIAL CHARACTERISTICS

Subsurface soils are anticipated to be relatively easy to excavate with conventional heavy earthmoving equipment. Most of these materials are below optimum moisture content with a few localized layers above optimum moisture content. Blending and the addition of water will be required to achieve proper compaction. Various debris is anticipated within the artificial fill and will likely require of hand picking to remove deleterious materials.

Off-site improvements exist near the property lines. The presence of the existing improvements may limit removals of unsuitable materials adjacent the property lines. Special grading techniques, such as slot cutting, underpinning, or other acceptable criteria may be required when grading adjacent the property lines.

Onsite disposal systems, clarifiers and other underground improvements may be present beneath the site. If encountered during future rough grading, these improvements will require proper abandonment or removal.

5.5 SHRINKAGE AND SUBSIDENCE

Volumetric changes in earth quantities will occur when excavated onsite soil materials are replaced as properly compacted fill. We estimate that the existing artificial fill soils will shrink less than 5 percent to negligible. Subsidence due to reprocessing of removal bottoms is anticipated to be negligible. The estimates of shrinkage and subsidence are intended as an aid for project engineers in determining earthwork quantities. However, these estimates should be used with some caution since they are not absolute values. Contingencies should be made for balancing earthwork quantities based on actual shrinkage and subsidence that occurs during the grading process.

5.6 SOIL EXPANSION

Based on our laboratory test results and USCS visual manual classification, the near-surface soils within the site are generally anticipated to possess a **Low** expansion potential. Additional testing for soil expansion will be required subsequent to rough grading and prior to construction of foundations and other concrete flatwork to confirm these conditions.

6.0 RECOMMENDATIONS

6.1 EARTHWORK

6.1.1 General Earthwork and Grading Specifications

All earthwork and grading should be performed in accordance with all applicable requirements of the grading codes of the City of Lake Forest, California and CAL OSHA, in addition to recommendations presented herein.

6.1.2 Pre-Grade Meeting and Geotechnical Observation

Prior to commencement of earthwork operations and foundation installation, we recommend a meeting be held between the City Inspector, general contractor, civil engineer, and geotechnical consultant to discuss proposed earthwork and logistics.

We also recommend that a geotechnical consultant be retained to provide soil engineering and engineering geologic services during site development. This is to observe compliance with the design specifications and recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated. If conditions are encountered during construction that appears to be different than those indicated in this report, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

6.1.3 Site Clearing

All existing site improvements, including asphaltic concrete paving, structural foundations and underground utilities, should be removed from the areas to be developed prior to any grading activities. Existing underground utility lines within the project area that will be protected in place and that fall within a 1 to 1 (H:V) plane projected down from the edges of footings may be subject to surcharge loads. Under such conditions, this office should be made aware of these conditions for evaluation of potential surcharging. Supplemental recommendations may be required to protect such improvements in place.

The project geotechnical consultant should be notified at the appropriate times to provide observation services during clearing operations to verify compliance with the above recommendations. Voids created by clearing and excavation should be left open for observation by the geotechnical consultant. Should any unusual soil conditions or subsurface structures be encountered during site clearing or grading that are not described or anticipated herein, these conditions should be brought to the immediate attention of the project geotechnical consultant for corrective recommendations as needed.

Temporary construction equipment (office trailers, power poles, etc.) should be positioned to allow adequate room for clearing and recommended ground preparation to be performed for proposed structures, pavements, and hardscapes.

6.1.4 Site Preparation (Removals and Overexcavations)

In general, the upper 5 to 6 feet of earth materials are considered unsuitable for support of proposed engineered fill and site improvements. These materials as well as any additional artificial fill soils, should be removed from proposed building pads and site improvements, and replaced as engineered compacted fill. Within the limits of pavement and free-standing/retaining walls, the existing artificial

fill soils should be removed to a minimum depth of 2 foot below subgrade or footing, whichever is deeper. The actual depth of removal should be determined by the geotechnical consultant during grading.

The removals should extend laterally a distance of at least 5 feet beyond the limits of the proposed structures or a 1:1 projection down and away from the bottom of the footings, whichever is greater. Removals for roadways, retaining walls less than 3 feet in height and screen walls may be limited to the edge of the foundations or pavement. Upon review of more detailed site development plans, the depth of removals for roadways, short retaining walls, and screen walls may be lessened from the general removals described above.

Where removals are limited by existing structures, protected trees or property lines, special considerations may be required in the construction of affected improvements. Under such conditions, specific recommendations should be provided by this firm based on review of site-specific development plans.

Following removals/overexcavation, the exposed grade should first be scarified to a depth of 6 inches, brought to at least 110 percent of the optimum moisture content, and then compacted to at least 90 percent of the laboratory standard (ASTM D 1557).

6.1.5 Fill Placement

Materials excavated from the site may be reused as fill provided, they are free of deleterious materials and particles greater than 6 inches in maximum dimension (oversized materials). Asphaltic and concrete debris generated during site demolition or encountered within the existing fill can be incorporated within new fill soils during earthwork operations provided they are reduced to no more than 6 inches in maximum dimension. Such materials should be mixed thoroughly with fill soils to prevent nesting. All fill should be placed in lifts no greater than 8 inches in loose thickness, moisture conditioned to at least 110 percent of the optimum moisture content, then compacted in place to at least 90 percent of the laboratory standard. Each lift should be treated in a similar manner. Subsequent lifts should not be placed until the project geotechnical consultant has approved the preceding lift.

6.1.6 Import Materials

If import materials are required to achieve the proposed finish grades, the proposed import soils should have an Expansion Index (EI, ASTM D 4829) less than 30 and possess negligible soluble sulfate concentrations. Import sources should be indicated to the geotechnical consultant prior to hauling the materials to the site so that appropriate testing and evaluation of the fill materials can be performed in advance.

6.1.7 Temporary Excavations

Temporary construction slopes or trench excavations in site materials may be cut vertically up to a height of 4 feet provided that no surcharging of the excavations is present. Temporary slopes over 4 feet in height should be laid back to 1:1 (H:V) or flatter and evaluated by the geotechnical consultant.

Excavations should not be left open for prolonged periods of time. The project geotechnical consultant should observe all temporary cuts to confirm anticipated conditions and to provide alternate recommendations if conditions dictate. All excavations should conform to the requirements of CAL OSHA.

Where temporary excavations cannot accommodate a 1:1 layback or where surcharging occurs, shoring, slot cutting, underpinning, or other methods should be used. Specific recommendations for other options if considered should be provided by the geotechnical consultant based on review of the final design plans.

6.2 SEISMIC DESIGN PARAMETERS

For design of the project in accordance with Chapter 16 of the 2016 CBC, the table below presents the seismic design factors.

TABLE 6.1
CBC 2016 SEISMIC DESIGN PARAMETERS

Parameter	Value
Site Class	D
Mapped MCE Spectral Response Acceleration, short periods, S_S	1.466
Mapped MCE Spectral Response Acceleration, at 1-sec. period, S_1	0.546
Site Coefficient, F_a	1.0
Site Coefficient, F_v	1.5
Adjusted MCE Spectral Response Acceleration, short periods, S_{MS}	1.466
Adjusted MCE Spectral Response Acceleration, at 1-sec. period, S_{M1}	0.82
Design Spectral Response Acceleration, short periods, S_{DS}	0.977
Design Spectral Response Acceleration, at 1-sec. period, S_{D1}	0.546
MCE = Maximum Considered Earthquake	

6.3 FOUNDATION DESIGN

6.3.1 General

The following recommendations are provided for preliminary design purposes. These recommendations have been based on the site materials exposed during our investigation, our understanding of the proposed development, and the assumption that the recommendations presented herein are incorporated into the design and construction of the project. Final recommendations should be provided by the project geotechnical consultant following review of final foundation plans as well as observation and testing of site materials during grading. Depending upon the design plans and actual site conditions, the recommendations provided herein may require modification.

6.3.2 Soil Expansion

The recommendations presented herein are based on soils with a **Low** expansion potential ($EI \leq 40$, $PI \leq 18$). Following site grading, additional testing of site soils should be performed by the project geotechnical consultant to confirm the basis of these recommendations. If site soils with higher

expansion potentials are encountered or imported to the site, the recommendations contained herein may require modification.

6.3.3 Settlement

Under normal static conditions, the foundation system should be designed to tolerate a total settlement of 1 inch and a differential settlement of 1/2-inch over 30 feet. These estimated magnitudes of settlement should be considered by the structural engineer in design of the proposed structures at the site.

6.3.4 Allowable Bearing Value

Provided foundations are bearing into engineered fill, a bearing value of 2,700 pounds per square foot (psf) may be used for continuous and pad footings a minimum width of 12 inches and founded at a minimum depth of 12 inches below the lowest adjacent grade. This value may be increased by 200 psf and 500 psf for each additional foot in width and depth, respectively, up to a maximum value of 4,000 psf. Recommended allowable bearing values include both dead and live loads, and may be increased by one-third for wind and seismic forces.

6.3.5 Lateral Resistance

Provided site grading is performed and that foundations are founded in engineered fill, a passive earth pressure of 250 pounds per square foot per foot of depth (psf/ft) up to a maximum value of 2,200 pounds per square foot (psf) may be used to determine lateral bearing for footings. This value may be increased by one-third when designing for wind and seismic forces. A coefficient of friction of 0.37 times the dead load forces may also be used between concrete and the supporting soils to determine lateral sliding resistance. No increase in the coefficient of friction should be used when designing for wind and seismic forces.

The above values are based on footings placed directly against compacted fill or competent native soils. In the case where footing sides are formed, all backfill against the footings should be compacted to at least 90 percent of the laboratory standard.

6.3.6 Conventional Spread Foundations and Slabs on Grade

All exterior and interior continuous footings should have a minimum width of 12 inches and minimum embedment of 12 inches below lowest adjacent grade. All continuous footings for habitable structures should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom.

All spread footings used to support columns should have a minimum width of 18 inches and minimum embedment of 12 inches below lowest adjacent grade. All spread footings in habitable structures should be tied in both directions with a grade beam having a minimum depth and width of 12 inches. The grade beams should be reinforced with a minimum of one No. 4 bar on top and one No. 4 bar on the bottom. Reinforcing of the grade beams should hook into the footings.

Slabs on grade should have a minimum thickness of 4 inches and be reinforced with a minimum of No. 3 bars spaced at 18 inches center to center. Slabs on grade in habitable structures should be hooked to the underlying grade beams on a minimum spacing of 24 inches or poured monolithically with the grade beams.

Interior grade beams as required by the WRI method should be provided in both directions at a maximum spacing of 22 feet. Design of the slab in accordance with the WRI method may use an effective PI of 20. This value already accounts for the factors for ground slope and over-consolidation. All slabs on grade that may have moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. A minimum of four (4) inches of clean sand having a sand equivalent (SE) of at least 30 should be placed under the membrane. An additional one inch of the sand (SE>30) may be placed over the vapor barrier to aid in the uniform curing of the slab if preferred. This vapor barrier system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, the subgrade below all floor slab areas should be moisture-conditioned to achieve a moisture content that is at least 110 percent of the optimum moisture content. This moisture content should be maintained a minimum depth of 12 inches below the bottoms of the slabs.

6.3.7 Post-Tensioned Slab/Mat on grade

Alternatively, a post-tension slab may be utilized. Perimeter edge beams for the post-tensioned slabs should have a minimum effective width of 12 inches and be founded at a minimum depth of 18 inches below the lowest adjacent final ground surface. Interior beams may be founded at a minimum depth of 12 inches below the tops of the finish floor slabs. Where a post-tensioned mat is utilized, the exterior edge of the mat should be embedded at least 8 inches below the lowest adjacent grade. The thickness of the floor slab/mat should be determined by the project structural engineer; however, we recommend a minimum slab thickness of 5.0 inches.

Design of the mat may be based on a modulus of subgrade reaction (K_v) of 100 pounds per cubic inch (pci). The modulus is based on an effective loading area of 1 foot by 1 foot. The modulus may be adjusted for other effective loading areas using the equation provided below.

$$k_b(\text{pci}) = 100 \left\{ \frac{b + 1}{2b} \right\}^2$$

where “b” is the effective width of loading (minimum dimension) in feet.

Concrete floor slabs in areas to receive carpet, tile, or other moisture sensitive coverings should be underlain with a minimum of 10-mil moisture vapor retarder conforming to ASTM E 1745, Class A. The membrane should be properly lapped, sealed, and underlain within a layer of sand at least 4 inches thick. Where a mat is used and has a thickness of at least 8 inches, the sand may be limited to 2 inches. One inch of sand may be placed over the membrane to aid in the curing of the concrete. The sand should have a SE no less than 30. This vapor retarder system is anticipated to be suitable for most flooring finishes that can accommodate some vapor emissions. However, this system may emit more than 4 pounds of water per 1000 sq. ft. and therefore, may not be suitable for all flooring finishes. Additional steps should be taken if such vapor emission levels are too high for anticipated flooring finishes.

Prior to placing concrete, subgrade soils below slab-on-grade/mat areas should be thoroughly moistened to provide moisture contents at least 110 percent of the optimum moisture content to a depth of 12 inches.

Based on the guidelines provided in the “Design of Post-Tensioned Slabs-on-Ground” 3rd Edition by Post-Tensioning Institute, the e_m and y_m values are summarized in Table 6.2.

TABLE 6.2
PTI Design Parameters

Parameter	Value
Edge Lift Moisture Variation Distance, e_m	8.0 feet
Edge Lift, y_m	0.754 inches
Center Lift Moisture Variation Distance, e_m	4.2 feet
Center Lift, y_m	1.182 inches

6.3.8 Foundation Observations

Foundation excavation should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended above. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4 RETAINING AND SCREENING WALLS

6.4.1 General

The following preliminary design and construction recommendations are provided for general retaining and screen walls supported by engineered compacted fill or competent native soils. Final wall designs specific to the site development should be provided for review once completed. The structural engineer and architect should provide appropriate recommendations for sealing at all joints and applying moisture-proofing material on the back of the walls.

6.4.2 Allowable Bearing Value and Lateral Resistance

Design of retaining and screen walls may utilize the bearing and lateral resistance values provided in Section 6.3.4 and 6.3.5. Lateral resistance for walls along property lines, where lateral removals are restricted should be reduced by 50%.

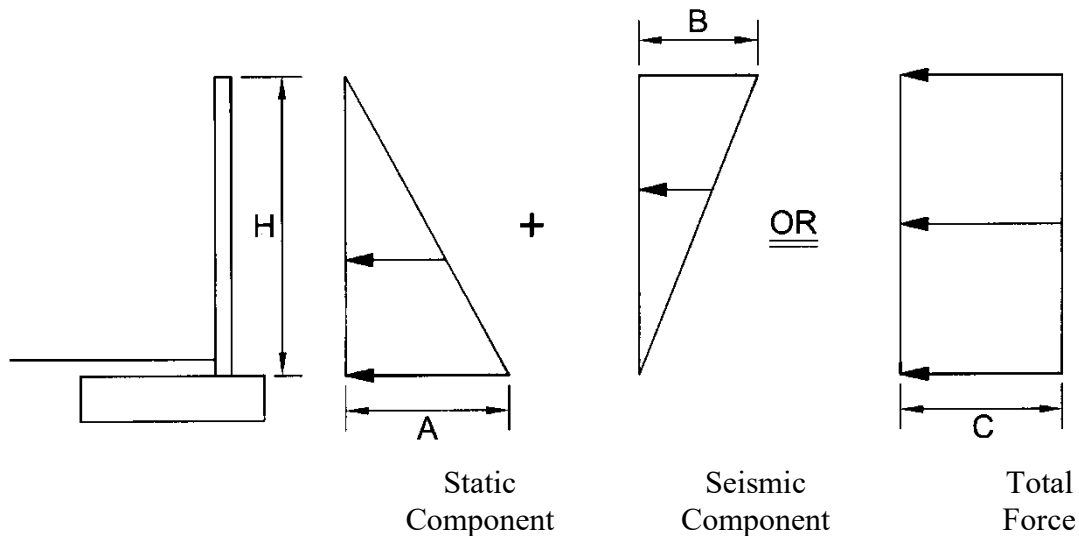
6.4.3 Active Earth Pressures

Static and seismic active earth pressures for level backfill and 2:1 (H:V) backfill conditions are provided in Table 6.3. Based on the 2016 CBC, walls that retain less than 6 feet need not be designed for seismic earth pressures. Seismic earth pressures provided herein are based on the method provided by Seed & Whitman (1970) using a peak ground acceleration (PGA) of 0.35 g, for 10% probability of exceedance in 50 years. The values provided in Table 6.4 are based on drained backfill conditions and do not consider

hydrostatic pressure. Furthermore, retaining walls should be designed to support adjacent surcharge loads imposed by other nearby footings or traffic loads in addition to the earth pressure.

TABLE 6.3

**SEISMIC EARTH PRESSURES
Pressure Diagram**



**Pressure Values
Walls Up To 10 Feet High**

Value	Backfill Condition	
	Level	2H:1V Slope
A	40H	68H
B	11H	11H
C	26H	40H

Note:
H is in feet and resulting pressure is in psf. Design may utilize either the sum of the static component and the seismic component force diagrams or the total force diagram above. SEAOSC has suggested using a load factor of 1.7 for the static component and 1.0 for the seismic component. The actual load factors should be determined by the structural engineer.

6.4.4 Drainage and Moisture-Proofing

Retaining walls should be constructed with a perforated pipe and gravel subdrain to prevent entrapment of water in the backfill. The perforated pipe should consist of 4-inch-diameter, ABS SDR-35 or PVC Schedule 40 with the perforations laid down. The pipe should be embedded in 3/4- to 1 1/2-inch open-graded gravel wrapped in filter fabric. The gravel should be at least one foot wide and extend at least one foot up the wall above the footing and drainage outlet. Drainage gravel and piping

should not be placed below outlets and weepholes. Filter fabric should consist of Mirafi 140N, or equal. Outlet pipes should be directed to positive drainage devices.

The use of weepholes may be considered in locations where aesthetic issues from potential nuisance water are not a concern. Weepholes should be 2 inches in diameter and provided at least every 6 feet on center. Where weepholes are used, perforated pipe may be omitted from the gravel subdrain.

Retaining walls supporting backfill should also be coated with a moisture-proofing compound or covered with such material to inhibit infiltration of moisture through the walls. Moisture-proofing material should cover any portion of the back of wall that will be in contact with soil and should lap over and onto the top of footing. A drainage panel should be provided between the soil backfill and water proofing. The panel should extend from the top of the backdrain gravel up to within 12 inches of finish grade. The top of footing should be finished smooth with a trowel to inhibit the infiltration of water through the wall. The project structural engineer should provide specific recommendations for moisture-proofing, water stops, and joint details.

6.4.5 Footing Reinforcement and Wall Jointing

All continuous footings should be reinforced with a minimum of two No. 4 bars, one top and one bottom. Walls should be provided with cold joints spaced no more than 40 feet apart. Wall finishes and capping materials should not extend across the cold joint. The structural engineer may require different reinforcement or jointing and should dictate if greater than the recommendations provided herein. Where recommended removals are limited due to space restrictions, greater reinforcement and closer jointing may be recommended. Specific recommendations should be provided by the geotechnical consultant during grading based on as-built conditions exposed in the field.

6.4.6 Footing Observations

Footing excavations should be observed by the project geotechnical consultant to verify that they have been excavated into competent bearing soils and to the minimum embedment recommended herein. These observations should be performed prior to placement of forms or reinforcement. The excavations should be trimmed neat, level and square. Loose, sloughed or moisture-softened materials and debris should be removed prior to placing concrete.

6.4.7 Retaining Wall Backfill

Onsite soils may generally be used for backfill of retaining walls. The project geotechnical consultant should approve all backfill used for retaining walls. Wall backfill should be moisture-conditioned to slightly over the optimum moisture content; placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. Hand-operated compaction equipment should be used to compact the backfill placed immediately adjacent the wall to avoid damage to the wall. Flooding or jetting of backfill material is not recommended.

6.5 EXTERIOR FLATWORK

Exterior flatwork should be a minimum 4 inches thick. Cold joints or saw cuts should be provided at least every 7 feet in each direction. Flatwork having a minimum dimension more than 7 feet should be reinforced with No. 3 bars spaced 18 inches center to center each way or 6-inch by 6-inch, W4 by W4 welded wire mesh. Special jointing detail should be provided in areas of block-outs, notches, or other irregularities to avoid cracking at points of high stress. Subgrade soils below flatwork should be thoroughly moistened to at least 110 percent of the optimum moisture content to a depth of 12 inches. Moistening should be accomplished by lightly spraying the area over a period of a few days just prior to pouring concrete. The geotechnical consultant should observe and verify the density and moisture content of subgrade soils prior to pouring concrete to ensure that the required compaction and pre-moistening recommendations have been met.

Drainage from flatwork areas should be directed to local area drains and/or other appropriate collection devices designed to carry runoff water to the street or other approved drainage structures. The concrete flatwork should also be sloped at a minimum gradient of 1 percent away from building foundations and retaining walls.

6.6 CONCRETE MIX DESIGN

Laboratory testing of onsite soil indicates **negligible** soluble sulfate content. Concrete designed to follow the procedures provided in ACI 318, Section 4.3, Table 4.3.1 for **negligible** sulfate exposure are anticipated to be adequate for mitigation of sulfate attack on concrete. Upon completion of rough grading, an evaluation of as-graded conditions and further laboratory testing will be required for the site to confirm or modify the conclusions provided in this section.

6.7 CORROSION

Results of preliminary testing of soils for pH, chloride, and minimum resistivity indicate the site is potentially **Corrosive** to metals that are in contact or close proximity to onsite soils. As such, specific recommendations should be obtained from a corrosion specialist if construction will include metals that will be near or in direct contact with site soils.

6.8 PRELIMINARY PAVEMENT DESIGN

6.8.1 Preliminary Pavement Structural Sections

Based on the soil conditions present at the site and estimated traffic index, preliminary pavement structural sections are recommended in the table below. An assumed “R-value” of 20 utilized for the near-surface soil in this preliminary pavement design. The sections provided in Table 6.4 are for planning purposes only and should be re-evaluated subsequent to site grading. Final pavement sections should be based on actual R-value testing of in-place soils and analysis of anticipated traffic.

6.8.2 Subgrade Preparation

Prior to placement of pavement elements, subgrade soils should be moisture-conditioned to at least 110 percent of the optimum moisture content then compacted to at least 90 percent of the laboratory determined maximum dry density. Areas observed to pump or yield under vehicle traffic should be removed and replaced with firm and unyielding compacted soil or aggregate base materials.

**TABLE 6.4
PRELIMINARY PAVEMENT STRUCTURAL SECTIONS**

Location	Traffic Index	AC (inches)	PCC (inches)	Concrete Pavers (mm)	AB (inches)
Entry and Main Driveway	5	3.0	--	--	8.0
		4.0	--	--	6.0
		--	6.5	--	--
		--	--	80.0	9.0
Parking Stalls	--	3.0	--	--	5.0

AC - Asphaltic Concrete

AB - Aggregate Base

6.8.3 Aggregate Base

Aggregate base should be moisture conditioned to slightly over the optimum moisture content, placed in lifts no greater than 6 inches in thickness, then compacted to at least 95 percent of the laboratory standard (ASTM D 1557). Aggregate base materials should be Class 2 Aggregate Base conforming to Section 26-1 of the latest edition of the Caltrans Standard Specifications, Crushed Aggregate Base conforming to Section 200-2.2 of the latest edition of the Standard Specifications for Public Works Construction (Greenbook) or Crushed Miscellaneous Base conforming to Section 200-2.4 of the Greenbook.

6.8.4 Asphaltic Concrete

Paving asphalt should be PG 64-10. Asphaltic concrete materials should conform to Section 203-6 of the Greenbook and construction should conform to Section 302 of the Greenbook.

6.8.5 Concrete Pavers

Concrete pavers should conform to the requirements of ASTM C 936. Construction of the pavers, including bedding sand, should follow manufacturer's specifications. Typical thickness of bedding sand is about 1 inch. The gradation of bedding sand should meet the requirement in Table 6.5.

Construction of edge restraints should also follow manufacturer's specifications. As a minimum, restraints should be provided along the perimeter of concrete pavers and where there is a change in the paving materials.

**TABLE 6.5
Gradation of Bedding for Pavers**

Sieve Size	Percent Passing
$\frac{3}{8}$ "	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	5 - 30
No. 100	0 - 10
No. 200	0 - 1

6.8.6 Portland Cement Concrete

Portland cement concrete used to construct concrete paving should conform to Section 201 of the Greenbook and should have a minimum compressive strength of 3,250 pounds per square inch (psi) at 28 days. Reinforcement and jointing of concrete pavement sections should be designed according to the minimum recommendations provided by the Portland Cement Association (PCA). For rigid pavement, transverse and longitudinal contraction joints should be provided at spacing no greater than 15 feet. Score joints may be constructed by saw cutting to a depth of $\frac{1}{4}$ of the slab thickness. Expansion/cold joints may be used in lieu of score joints. Such joints should be properly sealed and provided with a key or dowels. Where traffic will traverse over edges of concrete paving (not including joints), the edges should be thickened by 20% of the design thickness toward the edge over a horizontal distance of 5 feet.

Trash pickup areas should be provided with a concrete slab where the bins will be picked up and extend at least 3 feet past the front wheel landing areas. The slab should be at least 8 inches thick and be reinforced with No. 4 bars spaced at 24 inches on centers, both ways. The slabs should be provided transverse and longitudinal joints spacing as specified above. Dowels or a keyway should be provided at all cold joints.

6.9 POST GRADING CONSIDERATIONS

6.9.1 Site Drainage and Irrigation

The ground immediately adjacent to foundations should be provided with positive drainage away from the structures in accordance with 2016 CBC, Section 1804.3. No rain or excess water should be allowed to pond against structures such as walls, foundations, flatwork, etc.

Excessive irrigation water can be detrimental to the performance of the proposed site development. Water applied in excess of the needs of vegetation will tend to percolate into the ground. Such percolation can lead to nuisance seepage and shallow perched groundwater. Seepage can form on slope faces, on the faces of retaining walls, in streets, or other low-lying areas. These conditions could lead to adverse effects such as the formation of stagnant water that breeds insects, distress or damage of trees, surface erosion, slope instability, discoloration and salt buildup on wall faces, and premature

failure of pavement. Excessive watering can also lead to elevated vapor emissions within buildings that can damage flooring finishes or lead to mold growth inside the home.

Key factors that can help mitigate the potential for adverse effects of overwatering include the judicious use of water for irrigation, use of irrigation systems that are appropriate for the type of vegetation and geometric configuration of the planted area, the use of soil amendments to enhance moisture retention, use of low-water demand vegetation, regular use of appropriate fertilizers, and seasonal adjustments of irrigation systems to match the water requirements of vegetation. Specific recommendations should be provided by a landscape architect or other knowledgeable professional.

6.9.2 Utility Trenches

Trench excavations should be constructed in accordance with the recommendations contained in Section 6.1.7 of this report. Trench excavations must also conform to the requirements of Cal/OSHA.

Trench backfill materials and compaction criteria should conform to the requirements of the local municipalities. As a minimum, utility trench backfill should be compacted to at least 90 percent of the laboratory standard. Materials placed within the pipe zone (6 inches below and 12 inches above the pipe) should consist of particles no greater than $\frac{3}{4}$ inches and have a SE of at least 30. The materials within the pipe zone should be moisture-conditioned and compacted by hand-operated compaction equipment. Above the pipe zone (>1 foot above pipe), the backfill may consist of general fill materials. Trench backfill should be moisture-conditioned to slightly over the optimum moisture content, placed in lifts no greater than 12 inches in thickness, and then mechanically compacted with appropriate equipment to at least 90 percent of the laboratory standard. For trenches with sloped walls, backfill material should be placed in lifts no greater than 8 inches in loose thickness, and then compacted by rolling with a sheepsfoot roller or similar equipment. The project geotechnical consultant should perform density testing along with probing to verify that adequate compaction has been achieved.

Within shallow trenches (less than 18 inches deep) where pipes may be damaged by heavy compaction equipment, imported clean sand having a SE of 30 or greater may be utilized. The sand should be placed in the trench, thoroughly watered, and then compacted with a vibratory compactor. For utility trenches located below a 1:1 (H:V) plane projecting downward from the outside edge of the adjacent footing base or crossing footing trenches, concrete or slurry should be used as trench backfill.

6.10 PLAN REVIEW AND CONSTRUCTION SERVICES

We recommend *Albus-Keefe & Associates, Inc.* be engaged to review any future development plans, including foundation plans prior to construction. This is to verify that the assumptions of this report are valid and that the preliminary conclusions and recommendations contained in this report have been properly interpreted and are incorporated into the project plans and specifications. If we are not provided the opportunity to review these documents, we take no responsibility for misinterpretation of our preliminary conclusions and recommendations.

We recommend that a geotechnical consultant be retained to provide soil engineering services during construction of the project. These services are to observe compliance with the design, specifications or recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

If the project plans change significantly from the assumed development described herein, the project geotechnical consultant should review our preliminary design recommendations and their applicability to the revised construction. If conditions are encountered during construction that appear to be different than those indicated in this report or subsequent design reports, the project geotechnical consultant should be notified immediately. Design and construction revisions may be required.

7.0 LIMITATIONS

This report is based on the proposed development and geotechnical data as described herein. The materials encountered on the project site, described in other literature, and utilized in our laboratory testing for this investigation are believed representative of the total project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observation and testing by a geotechnical consultant during the grading and construction phases of the project are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty. This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.

This report has been prepared for the exclusive use of **National Community Renaissance** and their project consultants in the planning and design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes. This report is subject to review by the controlling governmental agency.

Respectfully submitted,

ALBUS-KEEFE & ASSOCIATES, INC



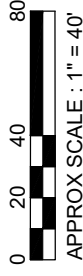
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8.0 REFERENCES

Publications

- California Geologic Survey, Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California, 2008.
- CDMG, “Seismic Hazard Zone Report for the Lake Forest 7.5-Minute Quadrangles, Orange County, California,” Seismic Hazard Zone Report 047, 2000.
- Ishihara, K., and Yoshimine, M., “Evaluation of Settlements in Sand Deposits Following Liquefaction During Earthquakes”, Soils and Foundations, Vol. 32, No. 1, 1992.
- NCEER, “Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils”, Technical Report NCEER-97-0022, December 31, 1997.
- Seed, HB, and Whitman, RV. "Design of Earth Retaining Structures for Dynamic Loads," ASCE Specialty Conference, Lateral Stresses in the Ground and Design of Earth Retaining Structures, Cornell Univ., Ithaca, New York, 103-147, 1970.
- Southern California Earthquake Center (SCEC), University of Southern California, “Recommended Procedures for Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating Liquefaction Hazards in California”, March 1999.
- U.S. Geologic Survey. Seismic Hazard Curve Application:
<http://geohazards.usgs.gov/hazardtool/application.php>
- U.S. Geologic Survey. 2008 Interactive Deaggregations, <http://geohazards.usgs.gov/deaggint/2008/>
- U.S. Geologic Survey. U.S. Seismic Design Maps,
<http://earthquake.usgs.gov/hazards/designmaps/usdesign.php>
- Tokimatsu, K. & Seed, H.B., “Evaluation of Settlement in Sands Due to Earthquake Shaking,” Journal of Geotechnical Engineering, Vol. 113, No. 8, August, 1987.
- Youd, T.L., Idriss, I.M., Andrus, R.D., Arango, I., Castro, G., Christian, J., Dobry, R., Finn, W.D.L., Harder, L.F., Hynes, M.E., Ishihara, K., Koester, J.P., Liao, S.S.C., Marcuson, W.F., Martin, G.R., Mitchell, J.K., Moriwaki, Y., Power, M.S., Robertson, P.K., Seed, R.B., and Stokoe, K.H., “Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils”, Journal of Geotechnical and Geoenvironmental Engineering, October, 2001.



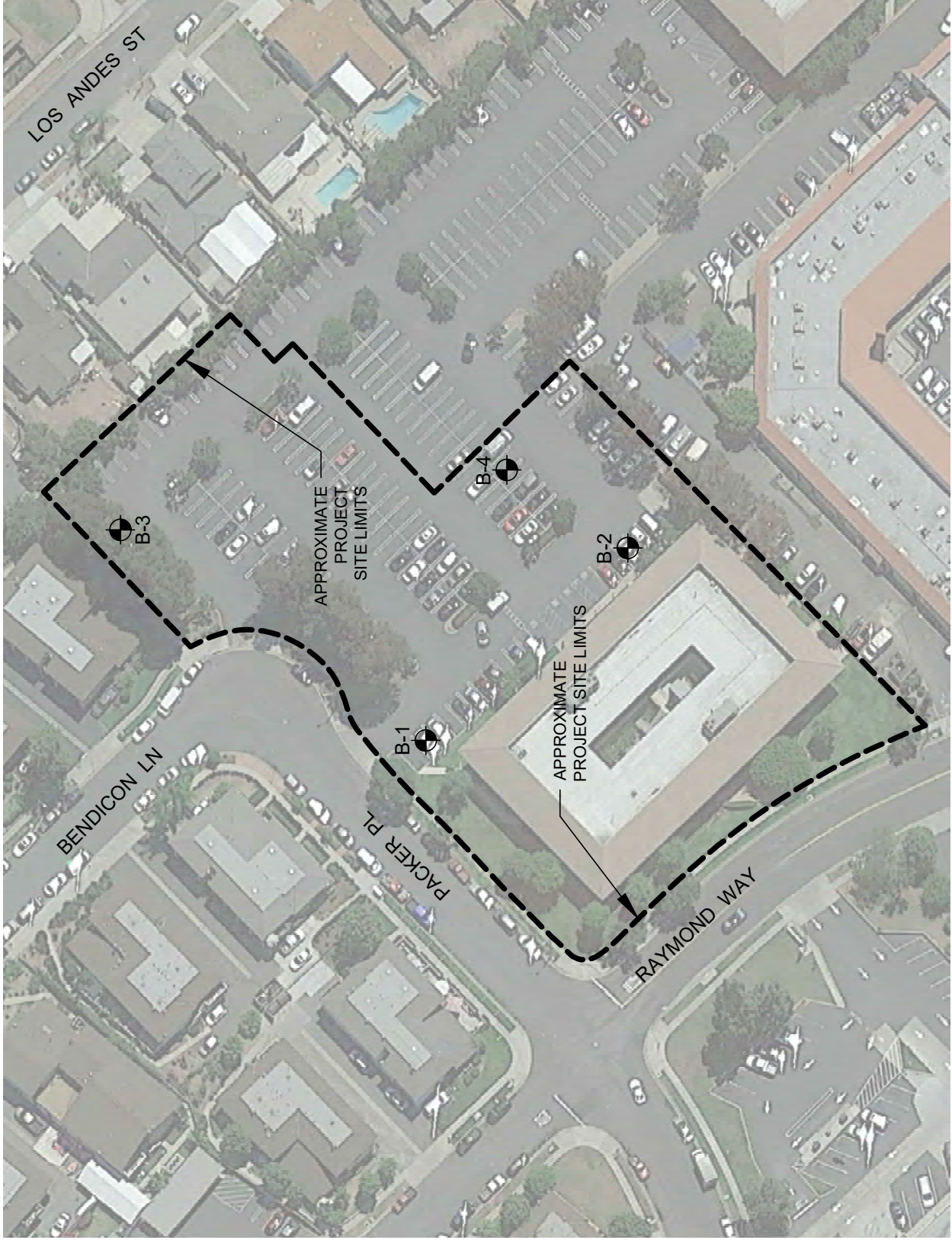
EXPLANATION
(Locations Approximate)

 - Exploratory Boring



GEOTECHNICAL MAP

Job No.: 2841.00 | Date: 10/23/19 | Plate: 1



APPENDIX A
EXPLORATION BORING LOGS

EXPLORATION LOG

Project:		Location:	
Address:		Elevation:	
Job Number:	Client:	Date:	
Drill Method:	Driving Weight:	Logged By:	

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests		
				Blows Per Foot	Core Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>EXPLANATION</u>						
		Solid lines separate geologic units and/or material types.						
5		Dashed lines indicate unknown depth of geologic unit change or material type change.						
		Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).			█			
		Double triangle in core column represents SPT sampler.			▲▼			
10		Vertical Lines in core column represents Shelby sampler.			▨			
		Solid black rectangle in Bulk column represents large bag sample.				█		
15		<u>Other Laboratory Tests:</u> Max = Maximum Dry Density/Optimum Moisture Content EI = Expansion Index SO4 = Soluble Sulfate Content DSR = Direct Shear, Remolded DS = Direct Shear, Undisturbed SA = Sieve Analysis (1" through #200 sieve) Hydro = Particle Size Analysis (SA with Hydrometer) 200 = Percent Passing #200 Sieve Consol = Consolidation SE = Sand Equivalent Rval = R-Value ATT = Atterberg Limits						
20								

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests		
				Blows Per Foot	Core Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC):</u> Black						
		ARTIFICIAL FILL (Af)						
		<u>Silty Sand (SM):</u> Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros		80/10"		11.1	116	SO4 DS pH Resist Ch
5		@ 4 ft, light gray, increased clay content		76/8"		10.2	111.2	Consol
		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof)						
		<u>Sandy Clay (CL):</u> Gray, moist, hard, fine grained sand		72/11"		12.8	118.2	
		<u>Clayey Sand (SC):</u> Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche						
10		<u>Clayey Sand/ Sandy Clay (SC/CL):</u> yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings		73/8"		11		
		<u>Clayey Sand (SC):</u> Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings						
15		@ 15 ft, reddish brown, moist		29				SA Hydro
		<u>Clayey Sand :</u> Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay		36				SA Hydro



EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests		
				Blows Per Foot	Core Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
30	@ 25 ft, caliche			43	▲▼			
35	@ 35 ft, , moist to very moist			45	▲▼			SA Hydro
40	@ 35 ft, , moist to very moist	<u>Silty Clay/ Clayey Silt (CL/ ML-CL):</u> Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide	▽	56	▲▼			
45				31	▲▼			
				37	▲▼			

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lith- ology	Material Description	Water	Samples		Laboratory Tests		
				Blows Per Foot	Core Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
35		End of boring at depth of 51.5 ft. Groundwater encountered at depth of 41 ft. Backfilled with soil cuttings and patched with asphalt.						

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)
		<u>Asphalt (AC):</u> Black						
		<u>Aggregate Base (AB):</u> Dark brown						
		ARTIFICIAL FILL (Af)						
		<u>Silty Sand (SM):</u> Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▲		12.8	109.1
5		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof)						
		<u>Clay (CL):</u> Reddish brown, slightly moist, hard		79	▲		11.2	111.3
		<u>Clayey Sand/ Sandy Clay (SC/CL):</u> Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▲		6.4	124.4
		<u>Silty Clay with Sand (CL-ML):</u> Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche						
10		<u>Sandy Silt (ML):</u> Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand		81	▲		13.5	105.6
		End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings and patched with asphalt.						

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests		
				Blows Per Foot	Core Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
	●●	<u>Asphalt (AC)</u> : Black						
	/ / / /	<u>Aggregate Base (AB)</u> : Dark brown						
	/ / / /	VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) <u>Clayey Sand/ Sandy Clay (SC/CL)</u> : Mottled brown, dark brown, reddish brown and gray, slightly moist to moist, very dense/hard, fine to coarse grained sand, caliche		72/8"		11.2	119.6	
5	<u>Silty Sand (SM)</u> : Light reddish brown, slightly moist to moist, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments		76/11"		7	113	
	@ 6 ft, dense		57		9.9	120.1	
	/ / / /	<u>Clayey Sand (SC)</u> : Gray, slightly moist to moist, very dense, fine to medium grained sand, caliche, rock fragments		75/8"		12.1	113.6	
10	<u>Sand (SP)</u> : Light brown, moist, dense, trace clay, clay nodules						
15			31	▼			
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings and patched with asphalt.			▼			

EXPLORATION LOG

Project: National Community Renaissance, Lake Forest		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests		
				Blows Per Foot	Core Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
	■	<u>Asphalt (AC):</u> Black						
	▨	<u>Aggregate Base (AB):</u> Dark brown						
	▧	VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) <u>Clayey Sand with Gravel (SC):</u> Dark gray, moist, dense, fine to coarse grained sand		62	■	11.9	118.9	
5	▧	<u>Silty Sand (SM):</u> Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79	■	7.8	127.9	Consol
		@ 6 ft, medium dense		25	■	15.8	114.9	Consol
	▧	<u>Silty Sand with Clay (SM):</u> Dark gray, moist, medium dense, trace gravel, caliche		36	■	13.8	117	
10		@ 11 ft, light reddish brown, decreased in clay content						
15		@ 15 ft, light brown, no gravel		20	▼			
				20	▼			
20		dense, End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings and patched with asphalt.						

APPENDIX B

LABORATORY TEST PROGRAM

LABORATORY TESTING PROGRAM

Soil Classification

Soils encountered within the exploratory borings were initially classified in the field in general accordance with the visual-manual procedures of the Unified Soil Classification System (ASTM D2488). The samples were re-examined in the laboratory and classifications reviewed and then revised where appropriate. The assigned group symbols are presented in the Boring Logs provided in Appendix A.

In Situ Moisture and Density

Moisture content and dry density of in-place soil materials were determined in representative strata. Test data are summarized on the Boring Logs provided in Appendix A.

Maximum Dry Density and Optimum Moisture Content

Maximum dry density and optimum moisture content of onsite soils were determined for one selected sample in general accordance with Method A of ASTM D1557. Pertinent test values are given on Table B.

Grain-Size Analyses

Grain size analyses were performed on selected samples of site materials. These tests were performed in accordance with ASTM D 422. Results are graphically presented on Plate B.

Consolidation

Consolidation tests were performed for selected soil samples in general conformance with ASTM D 2435. Axial loads were applied in several increments to a laterally restrained 1-inch-high sample. Loads were applied in geometric progression by doubling the previous load, and the resulting deformations were recorded at selected time intervals. The test samples were inundated at selected loads to evaluate the effects of a sudden increase in moisture content (hydro-consolidation potential). Results of the tests are graphically presented on Plates B-2 to B-5.

Direct Shear

The Coulomb shear strength parameters, angle of internal friction and cohesion, were determined for a bulk sample obtained from one our borings. The tests were performed in general conformance with Test Method ASTM D 3080. The sample was remolded to 90 percent of maximum dry density and at the optimum moisture content. Three specimens were prepared for each test, artificially saturated, and then sheared under varied loads at an appropriate constant rate of strain. Results are graphically presented on Plate B-6.

Expansion Potential

An Expansion Index test was performed on a selected sample in accordance with ASTM D 4829. The test result and expansion potential are presented on Table B.

Corrosion

Select samples were tested for minimum resistivity, chloride, and pH in accordance with California Test Method 643. Results of these tests are provided in Table B.

Soluble Sulfate Content

A chemical analysis was performed on a selected soil sample to determine soluble sulfate content. The test was performed in accordance with California Test Method (CTM) 417. The test result is included in Table B.

Percent Passing No. 200 Sieve

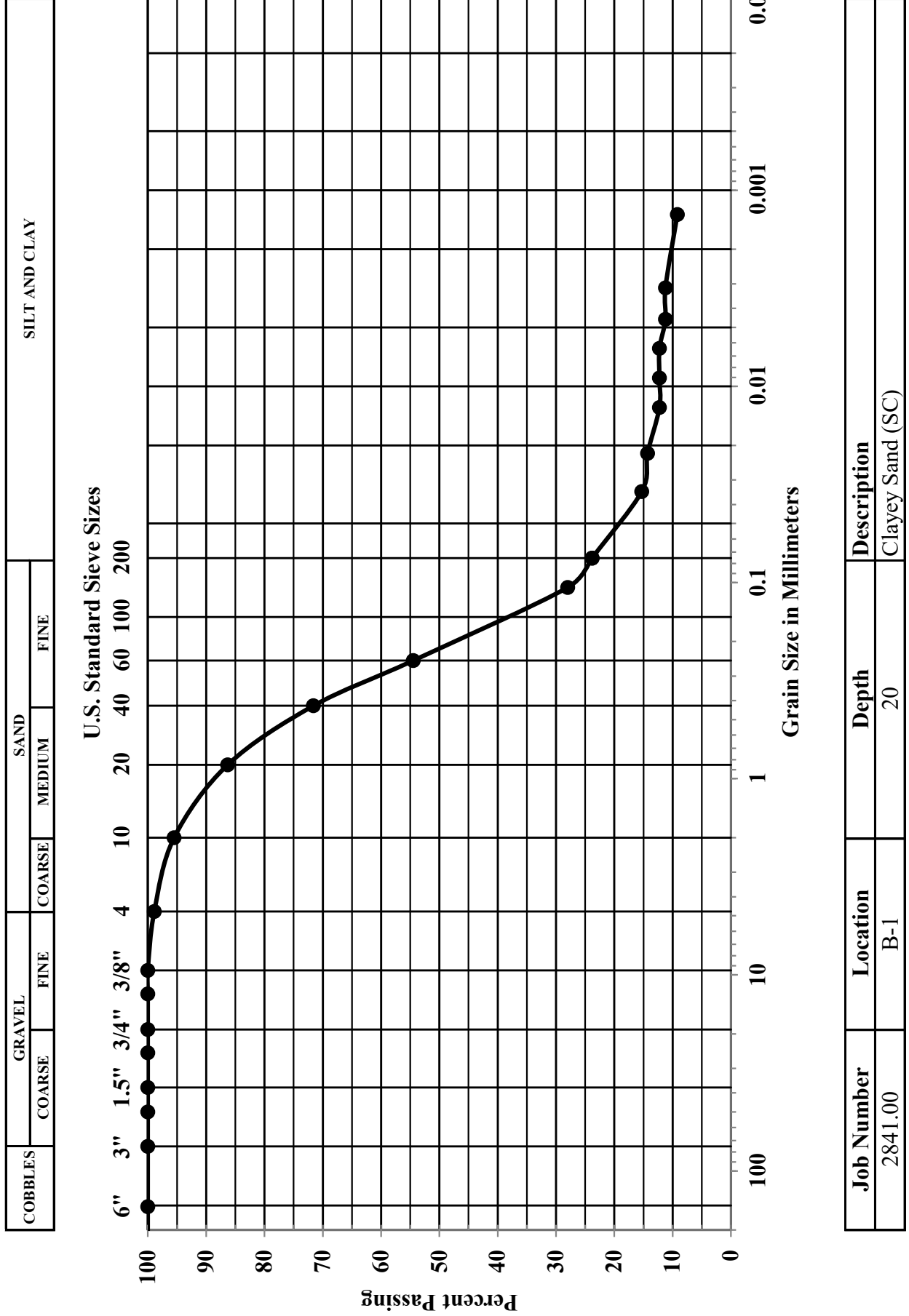
Percent of material passing the No. 200 sieve was determined on selected samples to verify visual classifications performed in the field. These tests were performed in accordance with ASTM D 1140. Test results are presented on Table B.

**TABLE B
SUMMARY OF LABORATORY TEST RESULTS**

Boring Number	Depth (feet)	Soil Type	Test Results	
B-1	0-5	Silty Sand (SM)	Maximum Dry Density (pcf):	124.5
			Optimum Moisture Content (%):	11.0
			Soluble Sulfate Content (%):	0.000
			Sulfate Exposure:	Negligible
			pH:	7.22
			Minimum Resistivity:	1700 Ohm-cm
			Chloride:	10.0 ppm
			Expansion Index:	30
			Expansion Potential:	Low
B-1	15	Clayey Sand (SC)	Percent Passing #200 Sieve:	16.3 %
B-1	20	Clayey Sand (SC)	Percent Passing #200 Sieve:	28.3%
B-1	30	Clayey Sand (SC)	Percent Passing #200 Sieve:	22.2%

Additional laboratory test results are provided on the boring logs provided in Appendix A and on the Plates that follow.

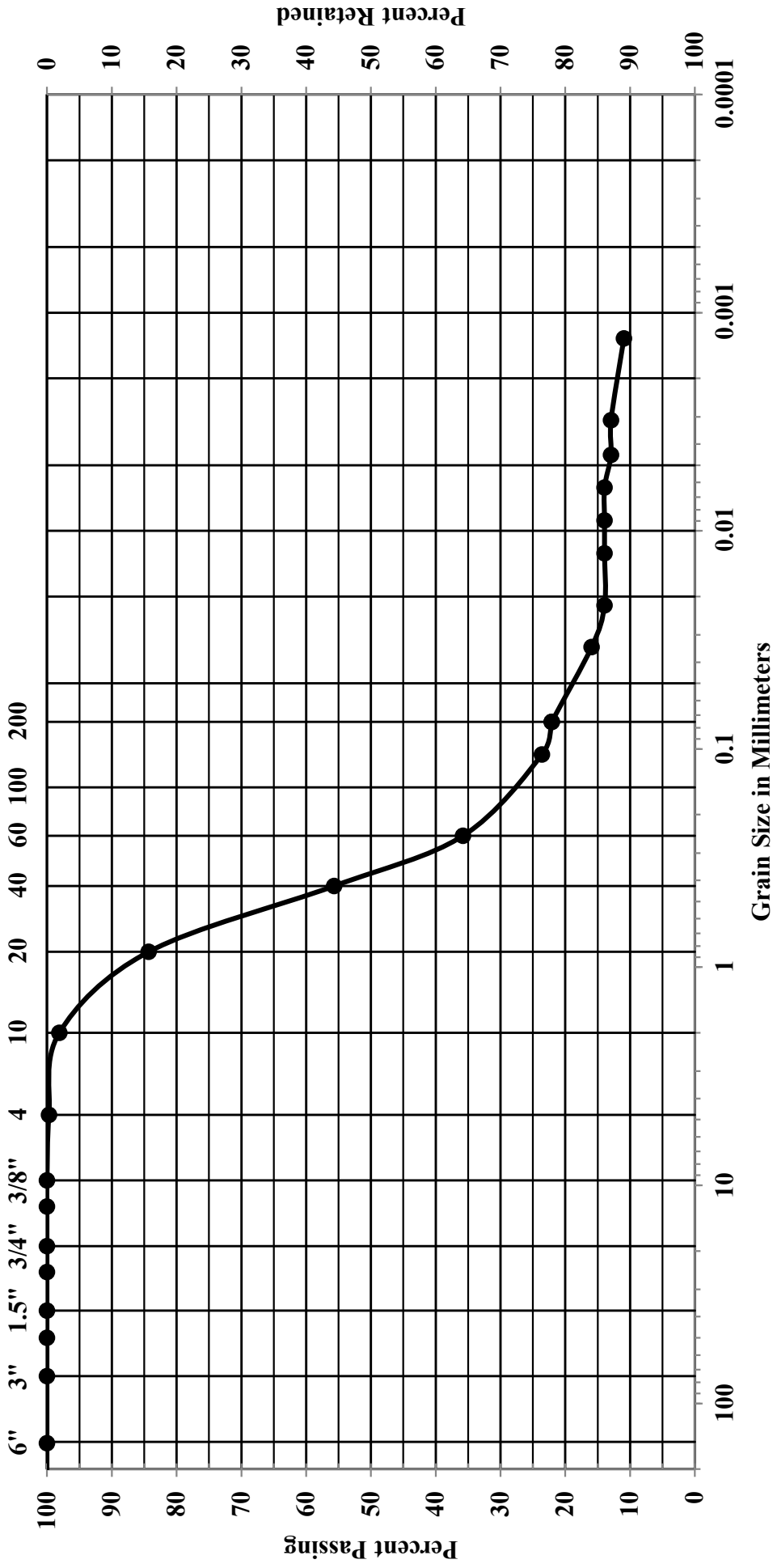
GRAIN SIZE DISTRIBUTION



GRAIN SIZE DISTRIBUTION

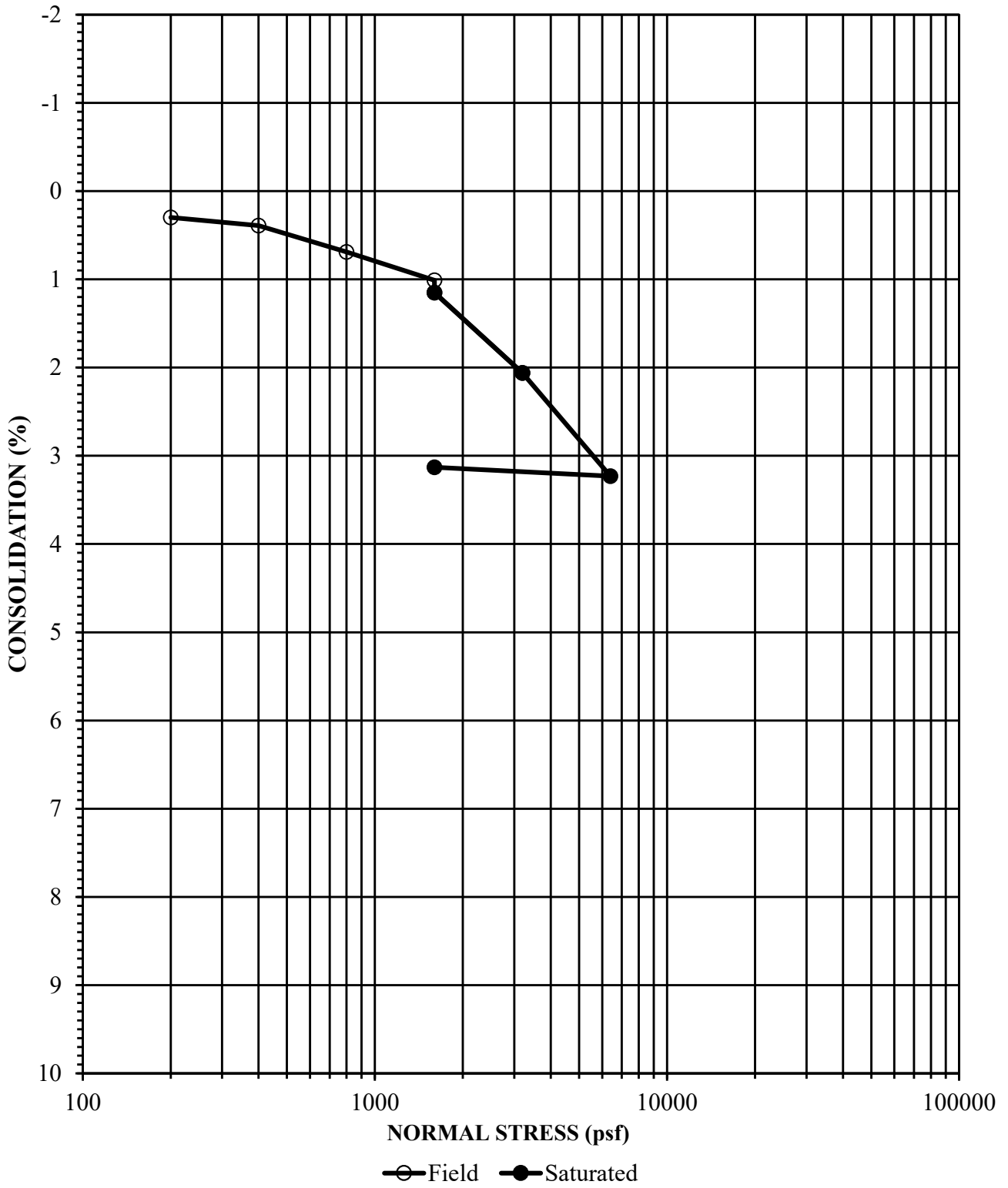
COBBLES	GRAVEL		SAND			SILT AND CLAY		
	COARSE	FINE	COARSE	MEDIUM	FINE			

U.S. Standard Sieve Sizes



Job Number	Location	Depth	Description
2841.00	B-1	30	Clayey Sand (SC)

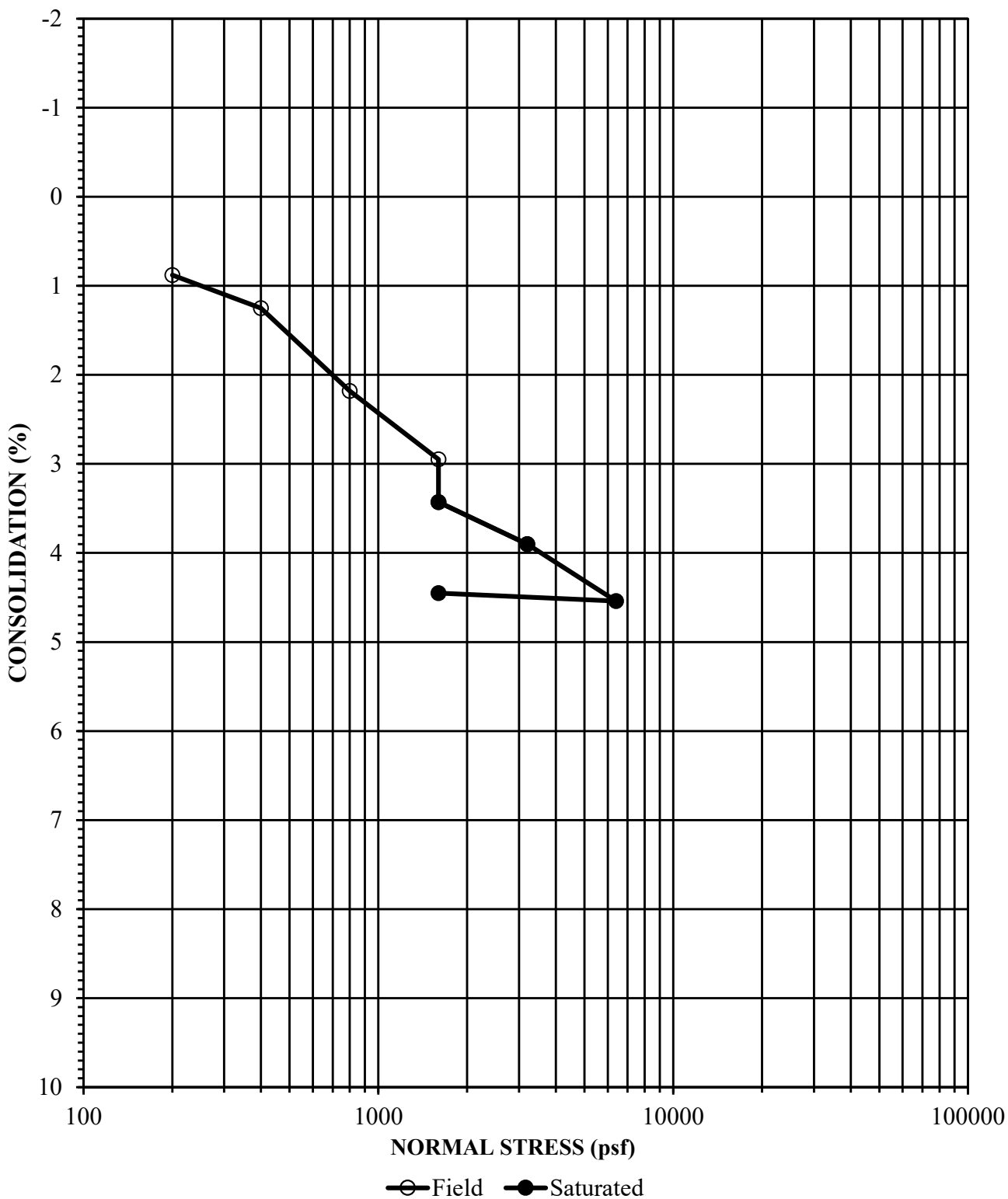
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-1	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
117.9	10.5	12.4

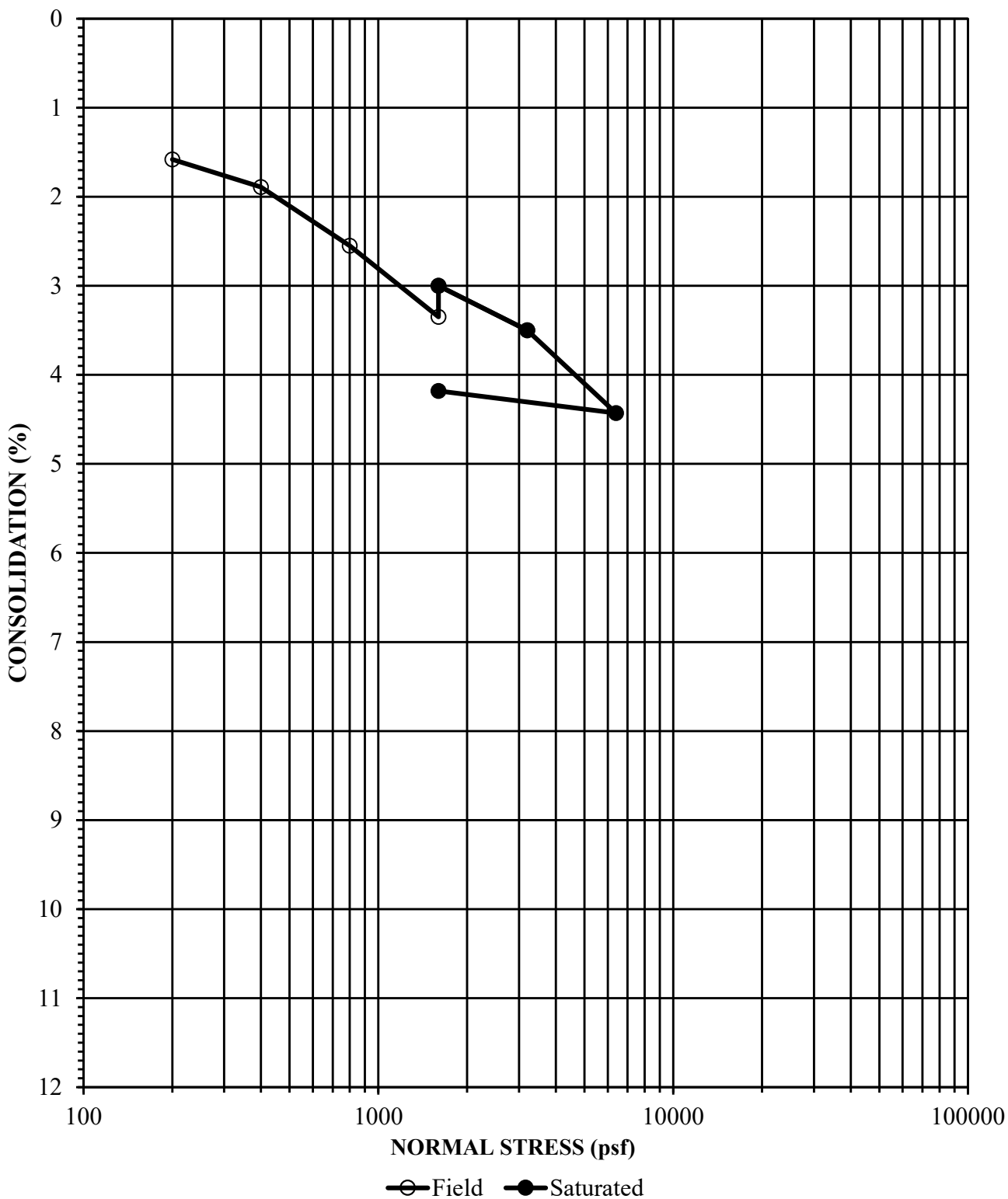
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-4	4	Silty Sand (SM)

Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
123.8	9.5	9.2

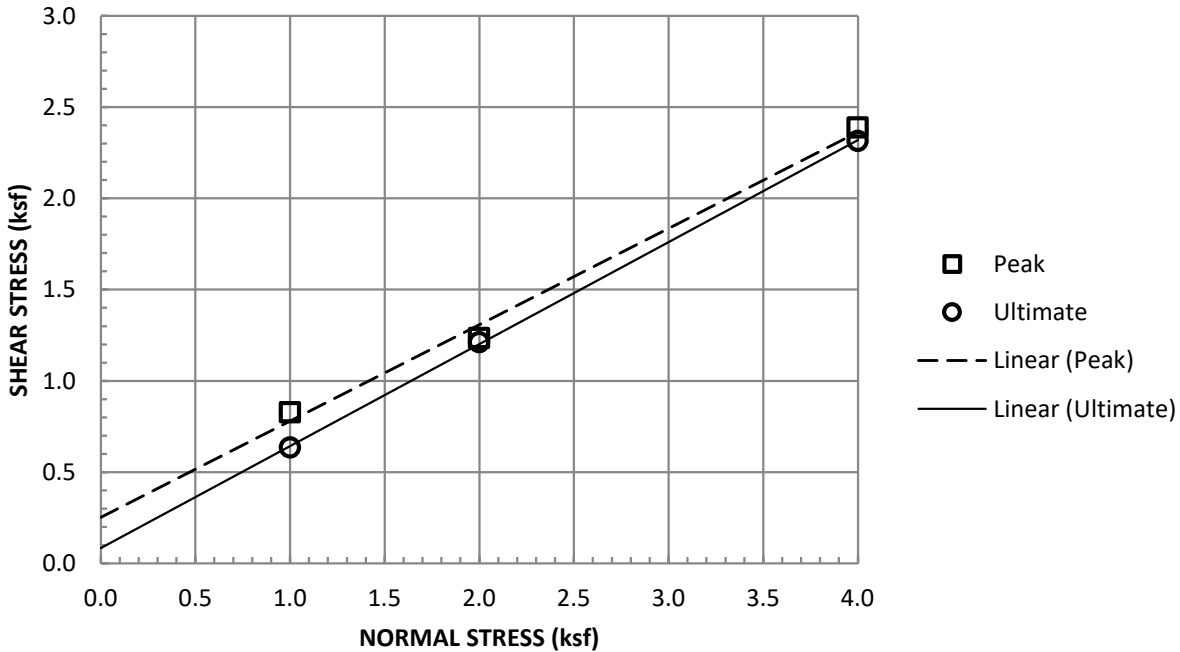
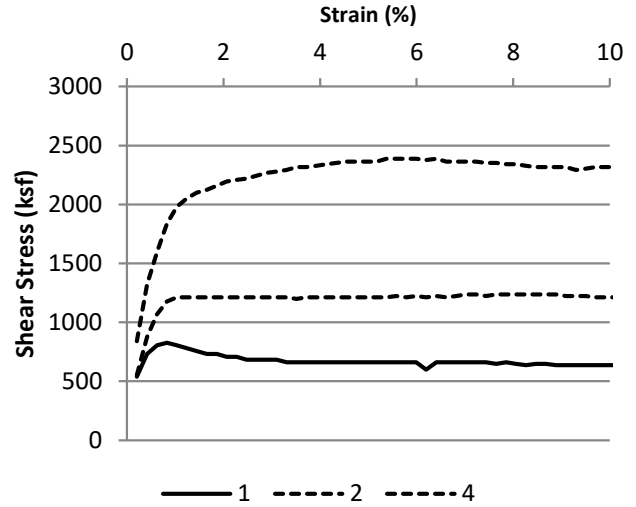
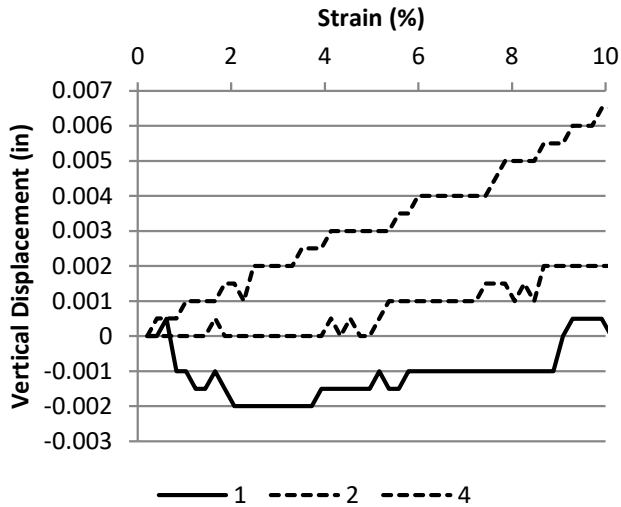
CONSOLIDATION



Job Number	Location	Depth	Description
2841.00	B-4	6	Silty Sand with Clay (SM)

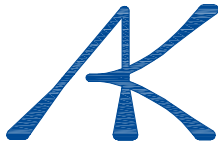
Initial Dry Density (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)
111.2	17.3	17.2

DIRECT SHEAR



Sample Type:	Remolded 90% of 124.5 @ 11%, Saturated		
Normal Stress (ksf)	1	2	4
Peak Shear Stress (ksf)	0.828	1.236	2.388
Peak Displacement (in)	0.002	0.002	0.007
Ultimate Shear Stress (ksf)	0.636	1.212	2.316
Ultimate Displacement (in)	0.25	0.25	0.25
Initial Dry Density (pcf)	112.1	112.1	112.1
Initial Moisture Content (%)	11	11	11
Final Moisture Content (%)	14.8	15.1	15.2
Strain Rate (in/min)	0.01		

Job Number	Location	Depth	Description
2841.00	B-1	0-5	Silty Sand (SM)



December 2, 2019
J.N.: 2841.00

Mr. Chris Killian
National Community Renaissance
9421 Haven Avenue
Rancho Cucamonga, CA 91730

**Subject: Preliminary Percolation Study, Proposed Multi-Family Residential Development,
24551 Raymond Way, Lake Forest, California.**

Dear Mr. Killan,

Albus-Keefe & Associates, Inc. has completed a geotechnical investigation of the site for evaluation of the percolation characteristics of the site soils. The scope of this investigation consisted of the following:

- Exploratory drilling, soil sampling and test well installation
- Field percolation testing
- Laboratory testing of selected soil samples
- Engineering analysis of the data
- Preparation of this report

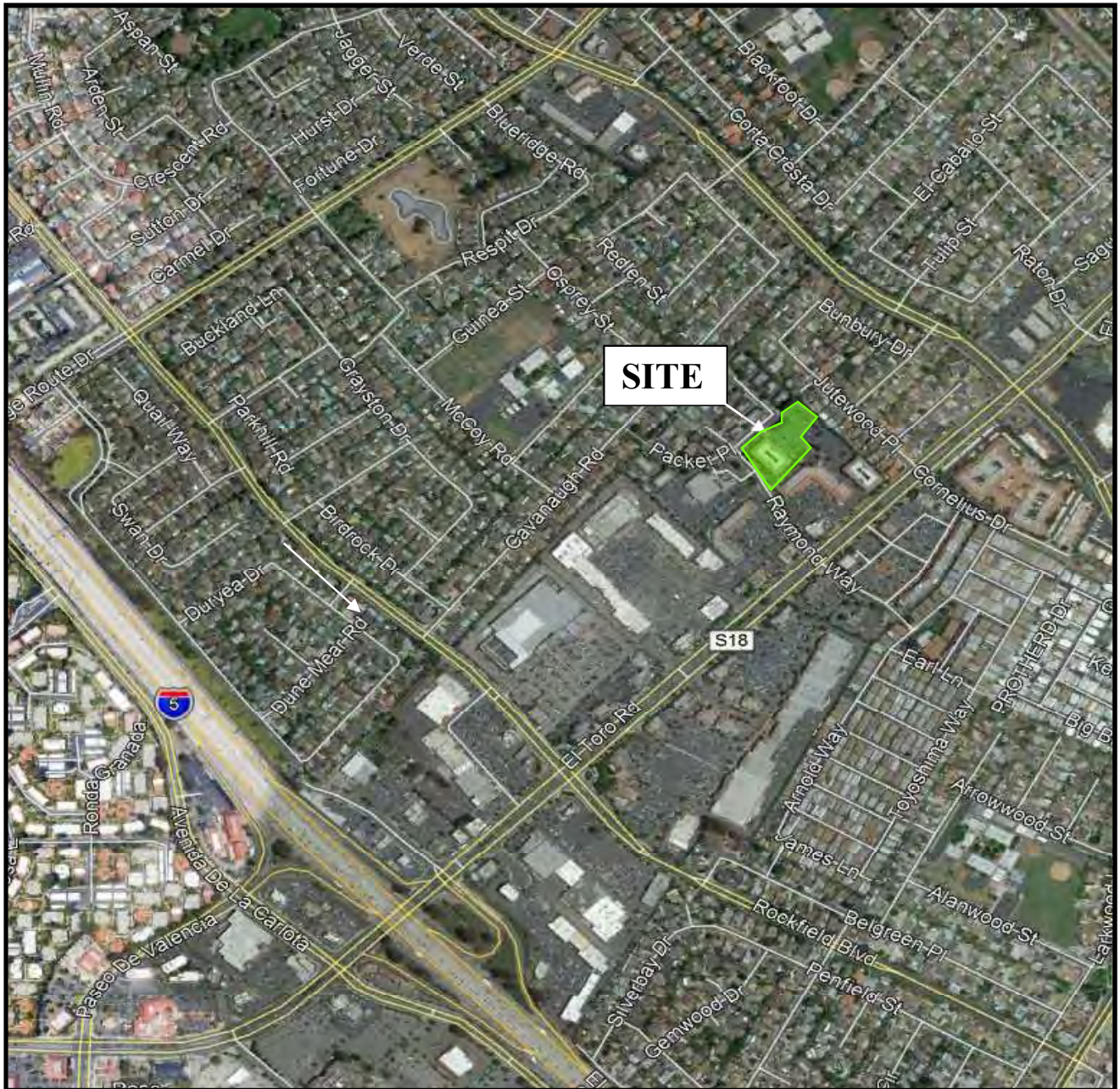
SITE DESCRIPTION AND PROPOSED DEVELOPMENT

Site Location and Description

The site is located at 24551 Raymond Way, within the city of Lake Forest, California. The property is bordered by Raymond Way to the southwest, Packer Place to northwest, single-family homes to northeast and northwest, a multi-tenant retail plaza to the southeast and a parking lot to the northeast. The location of the site and its relationship to the surrounding areas are shown on Figure 1, Site Location Map.

The site consists of an irregular-shaped property comprising approximately 1.9 acres of land. The site is relatively flat with elevations ranging from EL391 to EL396 above mean sea level (based on Google Earth). Drainage within the site is generally directed as a sheet flow towards Packer Place. The site is currently occupied by 2-story commercial building and asphaltic parking lot.

Vegetation within the site consists of grass turf adjacent to the existing building. Several small trees and bushes are present throughout the site within the islands of the parking lot, adjacent to the existing building, and along the perimeter.



© 2019 Google

SITE LOCATION MAP

**National Community Renaissance
Proposed Multi-Family Residential Development
24551 Raymond Way
Lake Forest, California**

NOT TO SCALE

FIGURE 1

Proposed Development

Based on the architectural site plans by RRM design group, the proposed development for the site will consist of a partial four-story residential building with an interior courtyard and playground area, on-grade parking lot, perimeter site walls, and underground utilities.

No grading or structural plans were available in preparation of this report. However, we anticipate that minor rough grading of the site will be required to achieve future surface configuration. We expect the proposed residential dwellings will be wood-framed structures with concrete slabs on grade yielding relatively light foundation loads.

SUMMARY OF FIELD AND LABORATORY WORK

Subsurface Investigation

Subsurface exploration for this investigation was conducted on October 2, 2019, and consisted of drilling four (4) soil borings to depths ranging from approximately 11.5 to 51.5 feet below the existing ground surface (bgs). The borings were drilled using a truck-mounted, continuous flight, hollow-stem-auger drill rig. A representative of Albus-Keefe & Associates, Inc. logged the exploratory borings. Visual and tactile identifications were made of the materials encountered, and their descriptions are presented in the Exploration Logs in Appendix A. Two additional borings were drilled near boring B-1 for use in percolation testing. These borings were not logged or sampled. Approximately 5 feet of well screening was installed at the bottom of each percolation well with solid pipe extending the remainder of the distance to the ground surface. The annular space of the well screen sections was filled with gravel. At the completion of all work, piping for the test wells were removed and the borings were backfilled with auger cuttings. The approximate locations of the exploratory excavations completed by this firm are shown on the enclosed Geotechnical Map, Plate 1.

Bulk, relatively undisturbed and standard penetration test (SPT) samples were obtained at selected depths within the exploratory borings for subsequent laboratory testing. Relatively undisturbed samples were obtained using a 3-inch O.D., 2.5-inch I.D., California split-spoon soil sampler lined with brass rings. SPT samples were obtained from the boring using a standard, unlined SPT soil sampler. During each sampling interval, the sampler was driven 18 inches with successive drops of a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampler was recorded for each six inches of advancement. The total blow count for the lower 12 inches of advancement per soil sample is recorded on the exploration log. Samples were placed in sealed containers or plastic bags and transported to our laboratory for analyses. The borings were backfilled with auger cuttings upon completion of sampling.

Percolation Testing

Percolation testing was performed on October 2, 2019, in general conformance with the constant-head test procedures outlined in the referenced Well Permeameter Method (USBR 7300-89). A water hose attached to a water source on site was connected to an inline flowmeter to measure the water flow. The flowmeter is capable of measuring flow rates up to 10 gallons per minute and as low as 0.06 gallons per minute. A valve was connected in line with the flowmeter to control the flow rate. A filling hose was used to connect the flowmeter and the test wells. Water was introduced by the filling

hose near the bottom of the test wells. A water level meter with 1/100-foot divisions was used to measure the depths to water surface from the top of well casings.

Flow to the wells was terminated upon either completion of testing of all the pre-determined water levels or the flow rate exceeded the maximum capacity of the flowmeter. Measurements obtained during the percolation testing are provided in Appendix C on Plates C-1 and C-2.

Laboratory Testing

Selected soil samples of representative earth materials were tested to assist in the formulation of conclusions and recommendations presented in this report. Tests consisted of in-situ moisture contents and dry densities, and sieve analyses. Results of laboratory testing relevant to percolation characteristics are presented in Appendix B and on the Exploration Logs in Appendix A.

ANALYSIS OF DATA

Subsurface Conditions

Descriptions of the earth materials encountered during our investigation are summarized below and are presented in detail on the Exploration Logs presented in Appendix A.

Soil materials encountered at the subject site consisted of approximately 6 feet of artificial fill over very old alluvial fan deposits. The artificial fill is predominately comprised of grayish brown and light brown silty sand. These fill materials typically were observed to be slightly moist and dense to very dense.

The very old alluvial fan deposits encountered are primarily comprised of reddish-brown clayey sand to a depth of approximately 35 feet. Below this depth, the very old alluvium becomes a silty clay/clayey silt that is slightly moist to moist and hard.

Groundwater

Groundwater was encountered during this firm's subsurface exploration at the depth of 41 feet. Based on a review of the referenced CDMG Special Report, the site is mapped with a historical groundwater depth between 10 and 20 feet. Research of groundwater data from the State Water Resources Control Board GeoTracker database, indicates groundwater levels as shallow as 20 feet. The shallower occurrences of ground water in other locations in the vicinity are likely due to localized perched conditions upon finer-grained soil layers within the granular zone. The finer-grained layers are likely lenticular and appear absent from the subject site within the upper 35 feet.

Percolation Data

Analyses were performed to evaluate permeability using the flow rate obtained at the end of the constant-head stage of field percolation testing. These analyses were performed in accordance with the procedures provided in the referenced USBR 7300-89. The procedure essentially uses a closed-form solution to the percolation out of a small-diameter well.

Using the USBR method, we calculated a composite permeability value for the head condition maintained in each well. The results are summarized in Table 1 below and the supporting analyses are included in Appendix C, Plates C-3 and C-4.

TABLE 1
Summary of Back-Calculated Permeability Coefficient

	Total Depth of Well (ft)	Depth to Water in Well (ft)	Height of Water in Well (ft)	Static Flow Rate (gal./min.)	Estimated Permeability, k_s (in/hr.)
P-1	20.0	15.0	5.0	1.5	2.27
P-2	25.0	20.0	5.0	0.75	1.13

Design of Dry Well

The *infiltration rate* in a dry well is dependent upon several factors including the soil permeabilities of the various soil layers throughout the soil mass, hydraulic gradient of water pressure head in the soil mass, and depth to groundwater. The infiltration rate is related to the permeability by Darcy's equation:

$$V = ki$$

Where:

V= water velocity (infiltration rate)

k= permeability

i=hydraulic gradient

The presence of differing soil layers with differing permeabilities, the variable head condition in the well shaft, and presence of ground water are factors that make determining the effective infiltration rate of the dry well somewhat complicated. We have performed the Well Permeameter tests in accordance with the test method. This test provides a means to estimate the *Permeability Rate* of the soils influencing the dry well, not the infiltration rate. Therefore, the effective infiltration rate must be determined using the relationship between permeability and infiltration rate as expressed by Darcy's equation. Solution of the Darcy equation essentially requires solving a differential mass balance equation. Due to these complications, the infiltration characteristics of the proposed dry well were modeled using a computer program.

Infiltration in a dry well was modeled using the software Seep/W, version 2007, by Geo-Slope International. The program allows for modeling of both partially-saturated and saturated porous medium using a finite element approach to solve Darcy's Law. The program can evaluate both steady-state and transient flow in planar and axisymmetric cases. Boundaries of the model can be identified with various conditions including fix total head, fix pressure head, fix flow rate, and head as a function of flow. Soil conductivity properties can be modeled with either Fredlund et al (1994), Green and

Corey (1971), Van Genuchten (1980), or Saxton et al. (1986). The parameters suggested by Van Genuchten (1980) were selected for use in our model and were based on test results of particle-size analyses and estimated in-place densities.

A Seep/W model was setup with the bottom of the dry well at a depth of 30 feet below ground surface. The top 20 feet of the dry well assumed a shaft that is 6 feet in diameter and contains a settling chamber having an inside diameter of 4 feet, outside diameter of 4.5 feet, and length of 18 feet. Below 20 feet, the shaft diameter was 4 feet in diameter. The annular space around the chamber between the depths of 0 and 13 feet was assumed to consist of a cement slurry. Below a depth of 13 feet, the annular space around the chamber and below the chamber is assumed to consist of gravel. A more detailed model of the dry well design can be found on Plate 2.

The model consisted of three zones of material to represent the general soil profile. The upper zone (depth 0 to 10 feet) was represented by a set of input parameters to practically make it impermeable due to the fine-grained nature of the material. For the second layer (depth 10 to 35 feet), the saturated conductivity was modeled to represent the clayey sand observed predominantly in this depth range. The properties of this layer were selected based on the coefficient of permeability estimated from percolation tests as well as laboratory gradation test results (Plates B-1 through B-3). The third layer (below depth 35 feet) was estimated from laboratory gradation test results. The soil parameters are summarized in Table 2.

Groundwater was set at a depth of 40 feet using a fix-head boundary which was set on the outside boundary of the problem. Water in the well was assumed to be at a depth of 7 feet below the ground surface so a fix-head boundary was set with a total head elevation of 93 feet around the edge of the well.

TABLE 2
Summary of Characteristic Curve Parameters

Material No.	Material Type	Depth (ft)	Sat. Perm., Ks (in/hr)	Van Genuchten Parameters				
				a (psf)	n	m	Sat. Water Content	Residual Water Content
1	Imperm.	0 – 10	0.001	196	1.21	0.17	0.40	0.010
2	SC/SP	10 – 35	1.0	28	1.17	0.14	0.42	0.010
3	ML/CL	>35	0.05	32	1.32	0.24	0.36	0.025

A steady state analysis was performed to estimate the maximum inflow that the well can accommodate. Using a well as described above, we obtain a static total flow of 0.018 ft³/sec. A plot depicting the resulting pressure head contours and flow vectors for the model is provided on Plate C-5. The average infiltration rate can be determined by taking the flow rate divided by the wetted surface area. The surface area is equal to 258 square feet which includes the side and bottom area. Based on the above flow rate and surface area, the average “measured” infiltration rate across the wetted surface area is 3.0 in/hr.

To evaluate the time required to empty the well once no more water is introduced, the model was reanalyzed with a variable head condition that was dependent upon the volume of water leaving the well. As water infiltrates into the surrounding soil, the volume of water remaining in the well is reduced as well as the resulting water head. A graph of the well head versus exit volume is provided in Figure 2. The function assumes a void ratio of 0.4 within the zones occupied by gravel. If some other well configuration is used, then the analyses will require updating.

The analysis was performed as a transient case over a total time of 13 hours. The conditions in the model were evaluated in 12 increments of time over the total duration. From our analyses, the water is evacuated from the chamber in approximately 8.5 hours. Plots depicting the resulting pressure head contours and flow vectors at selected times are provided in Appendix C on Plates C-6 through C-10. A plot of time versus water height in the well is shown on Figure 3.

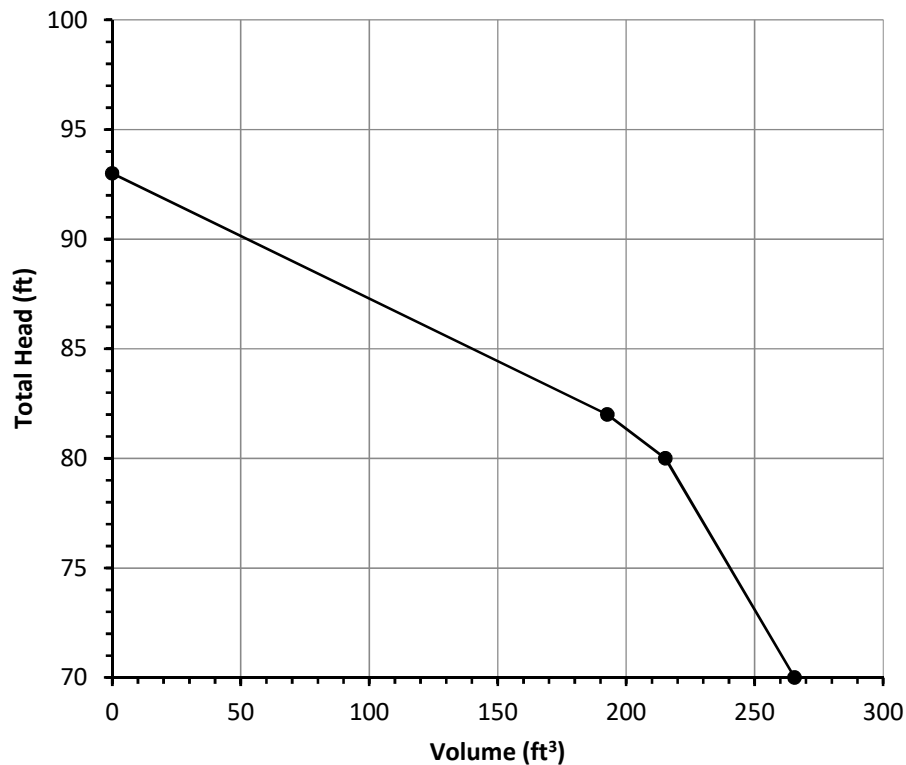


FIGURE 2- Well Head versus Exit Volume

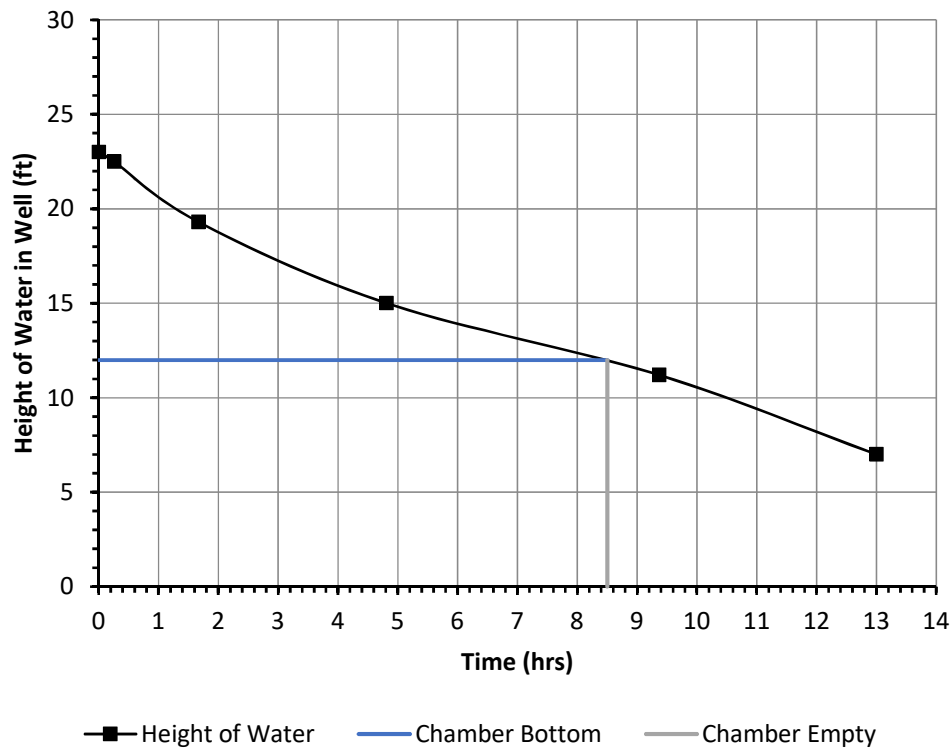


FIGURE 3- Water Head Versus Time

CONCLUSIONS AND RECOMMENDATIONS

Results of our work indicate a storm water disposal system consisting of a dry well is feasible at the site. The use of a dry well is not anticipated to result in worsening any adverse conditions or hazards that may be present for the proposed site development or adjacent properties including subsidence, landsliding, or liquefaction. As discussed above, the groundwater level in this area is approximately 41 feet below ground surface. Therefore, a dry well having a total depth of 30 will maintain a clearance above groundwater greater than the minimum required clearance of 10 feet.

Based on the results of percolation testing and analyses, the well configuration as depicted on Plate 2 may utilize a “measured” peak flow rate of 0.018 ft³/sec. This flow rate corresponds to an average peak infiltration rate of 3.0 in./hr. This flow rate and infiltration rate only apply to the well configuration evaluated and will differ for other configurations. These values are “measured” values and as such, an appropriate factor of safety should be applied to determine the “design” rates.

The “measured” infiltration rates reported above should be adjusted by applying an appropriate factor of safety. Table 3 includes the details of estimating this factor of safety for Factor Category A per requirements of the Santa Ana Regional Water Quality Control Board. The civil engineer should assign appropriate factor values for Factor Category B to obtain the overall factor of safety.

TABLE 3
Factor Values for Factor Category A

Infiltration Facility Safety Factor Determination Worksheet					
Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) $p = w * v$
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	1	0.25
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	3	0.75
		Suitability Assessment Safety Factor, $S_A = \sum p$			

Once water flow to the well has ceased, it is estimated to require approximately 8.5 hours to empty the chamber. As such, the time to empty for the dry well should be considered in the overall draw down time of the storm system.

Should you require multiple dry wells across the site, the wells should be spaced at least 120 feet, center to center, to avoid cross influence. The wells should be located at least 10 feet horizontally from any habitable structure or property line.

The actual flow capacity of the dry well could be less or more than the estimated value. As such, provisions should be made to accommodate excess flow quantities in the event the dry well does not infiltrate the anticipated amount. The design also assumes that sediments will be removed from the inflowing water through an upper chamber or other device. Sediments that are allowed to enter the dry well will tend to degrade the flow capacity by plugging up the infiltration surfaces.

In general, the dry well shaft is anticipated to be adequately stable under temporary construction conditions for uncased drilling. However, layers or lenses of granular materials are present and may be prone to sloughing and caving. In the event of caving, casing will be required to install the well. Workers should not enter the shaft unless the excavation is laid back or shored in accordance with OSHA requirements. The placement and compaction of backfill materials, including the gravel and slurry, should be observed by the project geotechnical consultant.

LIMITATIONS

This report is based on the geotechnical data as described herein. The materials encountered in our boring excavations and utilized in our laboratory testing for this investigation are believed representative of the project area, and the conclusions and recommendations contained in this report are presented on that basis. However, soil and bedrock materials can vary in characteristics between points of exploration, both laterally and vertically, and those variations could affect the conclusions and recommendations contained herein. As such, observations by a geotechnical consultant during the construction phase of the storm water infiltration systems are essential to confirming the basis of this report.

This report has been prepared consistent with that level of care being provided by other professionals providing similar services at the same locale and time period. The contents of this report are professional opinions and as such, are not to be considered a guaranty or warranty.

This report should be reviewed and updated after a period of one year or if the site ownership or project concept changes from that described herein.


This report has been prepared for the exclusive use of **National Community Renaissance** to assist the project consultants in the design of the proposed development. This report has not been prepared for use by parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

This report is subject to review by the controlling governmental agency.

We appreciate this opportunity to be of service to you. If you should have any questions regarding the contents of this report, please do not hesitate to call.

Sincerely,

ALBUS-KEEFE & ASSOCIATES, INC.


David E. Albus
Principal Engineer
GE 2455



Enclosures: Plate 1- Geotechnical Map
Plate 2- Dry Well Diagram
Appendix A - Exploratory Logs
Appendix B – Laboratory Testing
Appendix C - Percolation Testing and Analyses

REFERENCES

Publications and Reports

CDMG, "Seismic Hazard Zone Report for the Lake Forest 7.5-Minute Quadrangles, Orange County, California," Seismic Hazard Zone Report 047, 2000.

Californian Department of Water Resources Water Data Library (accessed 2019):
<http://wdl.water.ca.gov/waterdatalibrary/>

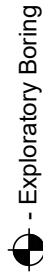
Procedure for Performing Field Permeability Testing by the Well Permeameter Method, by United States Department of The Interior, Bureau of Reclamation (USBR 7300-89).

Saxton, K.E., W.J. Rawls, J.S. Romberger, and R.I. Papendick. 1986. Estimating generalized soil-water characteristics from texture. *Soil Sci. Soc. Am. J.* 50(4):1031-103

Department of The Navy, (1982), *Soil Mechanics, Design Manual 7.1*, Naval Facilities Engineering Command (NAVFAC)



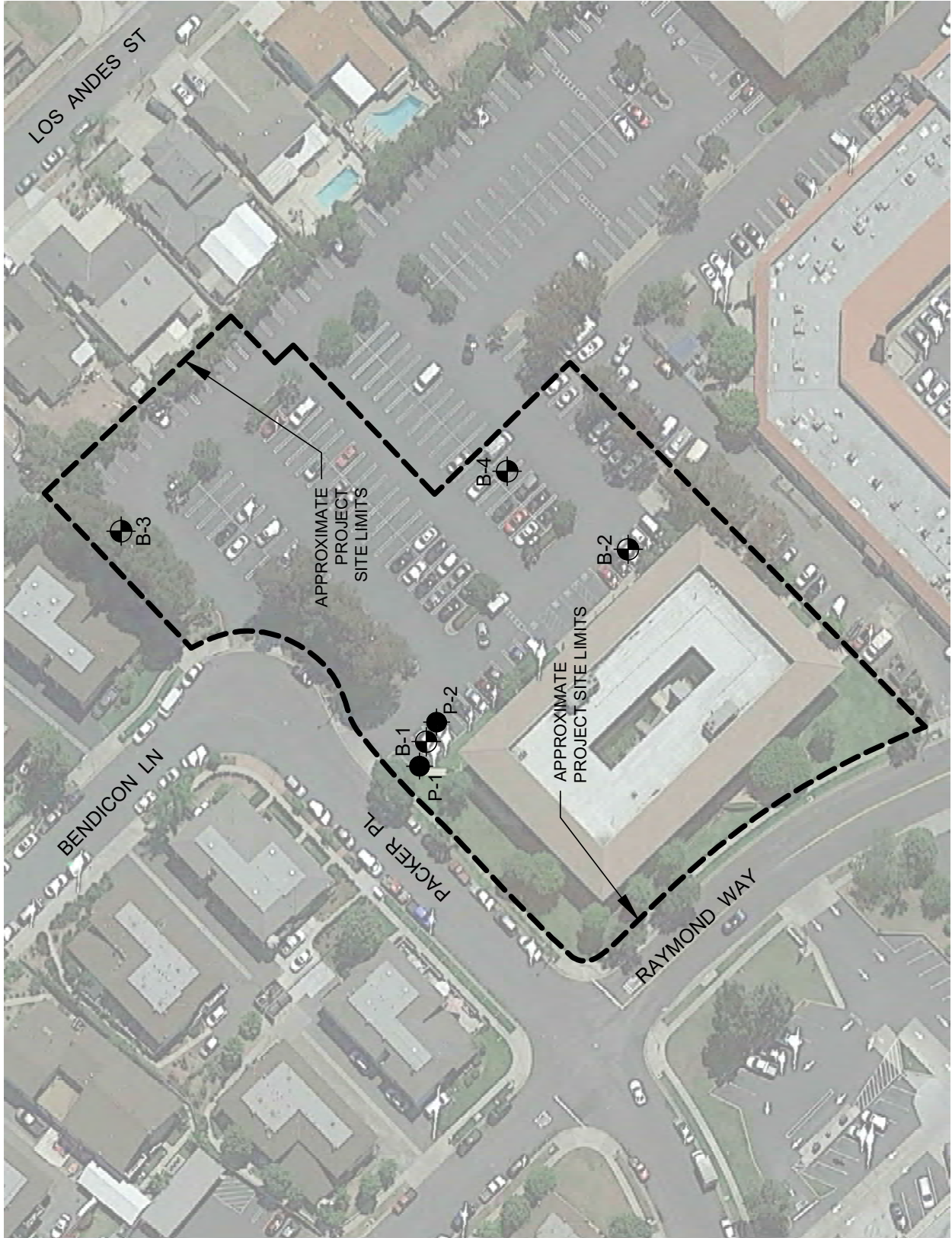
EXPLANATION
(Locations Approximate)



ALBUS-KEEFE & ASSOCIATES, INC.
GEOTECHNICAL CONSULTANTS

GEOTECHNICAL MAP

Job No.: 2841.00 | Date: 12/2/19 | Plate: 1



MAXWELL® IV DRAINAGE SYSTEM DETAIL AND SPECIFICATIONS

ITEM NUMBERS

1. Manhole Cone – Modified Flat Bottom.
2. Moisture Membrane – 6 Mil. Plastic. Applies only when native material is used for backfill. Place membrane securely against eccentric cone and hole sidewall.
3. Bolted Ring & Grate – Diameter as shown. Clean cast iron with wording "Storm Water Only" in raised letters. Bolted in 2 locations and secured to cone with mortar. Rim elevation $\pm 0.02'$ of plans.
4. Graded Basin or Paving (by Others).
5. Compacted Base Material – 1-Sack Slurry except in landscaped installations with no pipe connections.
6. PureFlo® Debris Shield – Rolled 16 ga. steel X 24" length with vented anti-siphon and Internal .265" Max. SWO flattened expanded steel screen X 12" length. Fusion bonded epoxy coated.
7. Pre-cast Liner – 4000 PSI concrete 48" ID. X 54" OD. Center in hole and align sections to maximize bearing surface.
8. Min. 6" \emptyset Drilled Shaft.
9. Support Bracket – Formed 12 Ga. steel. Fusion bonded epoxy coated.
10. Overflow Pipe – Sch. 40 PVC mated to drainage pipe at base seal.
11. Drainage Pipe – ADS highway grade with TRI-A coupler. Suspend pipe during backfill operations to prevent buckling or breakage. Diameter as noted.
12. Base Seal – Geotextile or concrete slurry.
13. Rock – Washed, sized between 3/8" and 1-1/2" to best complement soil conditions.
14. FloFast® Drainage Screen – Sch. 40 PVC 0.120" slotted well screen with 32 slots per row/ft. Diameter varies 120" overall length with TRI-B coupler.
15. Min. 4' \emptyset Shaft – Drilled to maintain permeability of drainage soils.
16. Fabric Seal – U.V. resistant geotextile – to be removed by customer at project completion.
17. Absorbent – Hydrophobic Petrochemical Sponge. Min. to 128 oz. capacity.
18. Freeboard Depth Varies with inlet pipe elevation. Increase settling chamber depth as needed to maintain all inlet pipe elevations above overflow pipe inlet.
19. Optional Inlet Pipe (Maximum 4", by Others). Extend moisture membrane and compacted base material or 1 sack slurry backfill below pipe invert.

The referenced drawing and specifications are available on CAD either through our office or web site. This detail is copyrighted (2004) but may be used as is in construction plans without further release. For information on product application, individual project specifications or site evaluation, contact our Design Staff for no-charge assistance in any phase of your planning.

CALCULATING MAXWELL IV REQUIREMENTS

The type of property, soil permeability, rainfall intensity and local drainage ordinances determine the number and design of Maxwell Systems. For general applications draining retained stormwater, use one standard **MaxWell IV** per the instructions below for up to 3 acres of landscaped contributory area, and up to 1 acre of paved surface. For larger paved surfaces, subdivision drainage, nuisance water drainage, connecting pipes larger than 4" \emptyset from catch basins or underground storage, or other demanding applications, refer to our **MaxWell® Plus** System. For industrial drainage, including gasoline service stations, our **Envibro® System** may be recommended. For additional considerations, please refer to "Design Suggestions For Retention And Drainage Systems" or consult our Design Staff.

COMPLETING THE MAXWELL IV DRAWING

To apply the **MaxWell IV** drawing to your specific project, simply fill in the blue boxes per instructions below. For assistance, please consult our Design Staff.

ESTIMATED TOTAL DEPTH

The Estimated Total Depth is the approximate depth required to achieve 10 continuous feet of penetration into permeable soils. Torrent utilizes specialized "crowd" equipped drill rigs to penetrate difficult, cemented soils and to reach permeable materials at depths up to **180 feet**. Our extensive database of drilling logs and soils information is available for use as a reference. Please contact our Design Staff for site-specific information on your project.

SETTLING CHAMBER DEPTH

On MaxWell IV Systems of over 30 feet overall depth and up to 0.25cfs design rate, the **standard** Settling Chamber Depth is **18 feet**. For systems exposed to greater contributory area than noted above, extreme service conditions, or that require higher design rates, chamber depths up to 25 feet are recommended.

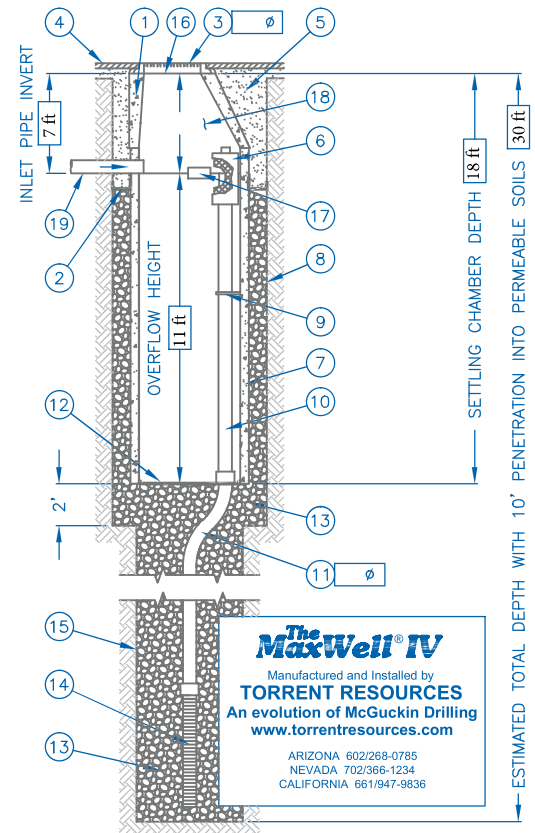
OVERFLOW HEIGHT

The Overflow Height and Settling Chamber Depth determine the effectiveness of the settling process. The higher the overflow pipe, the deeper the chamber, the greater the settling capacity. For normal drainage applications, an overflow height of **13 feet** is used with the standard settling chamber depth of **18 feet**. Sites with higher design rates than noted above, heavy debris loading or unusual service conditions require greater settling capacities

TORRENT RESOURCES INCORPORATED

1509 East Elwood Street, Phoenix Arizona 85040-1391
phone 602-268-0785 fax 602-268-0820
Nevada 702-366-1234

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CA Lic. 528080 A, C-42, HAZ - NV Lic. 0035350 A - NM Lic. 90504 GF04



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CA Lic. 528080, C-42, HAZ
NV Lic. 0035350 A - NM Lic. 90504 GF04
U.S. Patent No. 4,923,330 - TM Trademark 1974, 1990, 2004

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An evolution of McGuckin Drilling
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DRAINAGE PIPE

This dimension also applies to the **PureFlo®** Debris Shield, the **FloFast®** Drainage Screen, and fittings. The size selected is based upon system design rates, soil conditions, and the need for adequate venting. Choices are 6", 8", or 12" diameter. Refer to "Design Suggestions for Retention and Drainage Systems" for recommendations on which size best matches your application.

BOLTED RING & GRATE

Standard models are quality cast iron and available to fit 24" \emptyset or 30" \emptyset manhole openings. All units are bolted in two locations with wording "Storm Water Only" in raised letters. For other surface treatments, please refer to "Design Suggestions for Retention and Drainage Systems."

INLET PIPE INVERT

Pipes up to 4" in diameter from catch basins, underground storage, etc. may be connected into the settling chamber. Inverts deeper than 5 feet will require additional settling chamber depth to maintain effective overflow height.

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Plate 2



APPENDIX A
EXPLORATORY LOGS

EXPLORATION LOG

Project:		Location:	
Address:		Elevation:	
Job Number:	Client:	Date:	
Drill Method:	Driving Weight:	Logged By:	

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>EXPLANATION</u>							
		Solid lines separate geologic units and/or material types.							
5		Dashed lines indicate unknown depth of geologic unit change or material type change.							
		Solid black rectangle in Core column represents California Split Spoon sampler (2.5in ID, 3in OD).			■				
		Double triangle in core column represents SPT sampler.			▲▼				
10		Vertical Lines in core column represents Shelby sampler.							
		Solid black rectangle in Bulk column represents large bag sample.				■			
15		<u>Other Laboratory Tests:</u> Max = Maximum Dry Density/Optimum Moisture Content EI = Expansion Index SO4 = Soluble Sulfate Content DSR = Direct Shear, Remolded DS = Direct Shear, Undisturbed SA = Sieve Analysis (1" through #200 sieve) Hydro = Particle Size Analysis (SA with Hydrometer) 200 = Percent Passing #200 Sieve Consol = Consolidation SE = Sand Equivalent Rval = R-Value ATT = Atterberg Limits							
20									

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC):</u> Black ARTIFICIAL FILL (Af) <u>Silty Sand (SM):</u> Mottled olive brown, reddish brown, and light brown, slightly moist, very dense, fine to medium grained sand, clay nodules, trace pin-hole poros @ 4 ft, light gray increased clay content		80/ 10"			11.1	116	SO4 DS pH Resist Ch
5		VERY OLD ALLUVIAL FAN DEPOSITS (Qvof) <u>Sandy Clay (CL):</u> Gray, moist, hard, fine grained sand <u>Clayey Sand (SC):</u> Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche		76/ 8"			10.2	111.2	Consol
		<u>Clayey Sand (SC):</u> Mottled gray and reddish gray, slightly moist, very dense, fine to medium grained sand, caliche <u>Clayey Sand/ Sandy Clay (SC/CL):</u> yellowish gray, slightly moist, very dense/ hard, trace coarse grained sand, iron oxide stainings <u>Clayey Sand (SC):</u> Light brown, slightly moist, dense, fine to coarse grained sand, iron oxide stainings		72/ 11"			12.8	118.2	
10		@ 15 ft, reddish brown, moist		73/ 8"			11		
15		<u>Clayey Sand :</u> Mottled olive brown and gray, moist, very dense, fine to coarse grained sand, increased medium grained sand, some silt inner layers, increased clay		29	▼	▼			SA Hydro
20				36	▼	▼			SA Hydro



EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
30	@ 25 ft, caliche			43	▲▼				
35	@ 35 ft, , moist to very moist			45	▲▼				SA Hydro
35	@ 35 ft, , moist to very moist			56	▲▼				
40	@ 35 ft, , moist to very moist	<u>Silty Clay/ Clayey Silt (CL/ ML-CL):</u> Light brown, slightly moist to moist, hard, iron oxide stainings, trace magnesium oxide	▽	31	▲▼				
45	@ 35 ft, , moist to very moist			37	▲▼				

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-1
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 395
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
35		End of boring at depth of 51.5 ft. Groundwater encountered at depth of 41 ft. Backfilled with soil cuttings and patched with asphalt.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-2
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 399
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples			Laboratory Tests		
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
		<u>Asphalt (AC)</u> : Black							
		<u>Gravel wth Silt and Sand (CAB)</u> : Dark brown							
		ARTIFICIAL FILL (Af)							
		<u>Silty Sand (SM)</u> : Light brown, moist, dense, fine to medium grained sand, some clay, iron oxide stainings, caliche		35	▲		12.8	109.1	
5		Very Old Alluvium fan Deposits (Qovf)							
		<u>Clay (CL)</u> : Reddish brown, slightly moist, hard		79	▲		11.2	111.3	
		<u>Clayey Sand/ Sandy Clay (SC/CL)</u> : Mottled dark brown and reddish brown, slightly moist to moist, very dense/hard, trace silt, caliche		81	▲		6.4	124.4	
		<u>Silty Clay with Sand (CL-ML)</u> : Reddish brown, moist, hard, fine to medium sand, pin-hole poros, caliche							
10		<u>Sandy Silt (ML)</u> : Light brown, slightly moist to moist, hard, some clay, caliche, trace fine grained sand		81	▲		13.5	105.6	
		End of boring at depth of 11.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

EXPLORATION LOG

Project: 4-Story Multi-Family Housing Development		Location: B-3
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 394
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
	••••	<u>Asphalt (AC):</u> Black							
	/ / / /	<u>Gravel with Silt and Sand (CAB):</u> Dark brown							
	/ / / /	Very Old Alluvium fan Deposits (Qovf) <u>Clayey Sand/ Sandy Clay (SC/CL):</u> mottled brown, dark brown, reddish brown and gray, slightly moist to mosit, very dense/hard, fine to coarse grained sand, caliche, brick			72/ 8"	█		11.2	119.6
5	••••	<u>Silty Sand (SM):</u> Light reddish brown, slightly moist to mosit, very dense, fine to coarse sand, some clay, iron oxide stainings, caliche, rootlets, rock fragments			76/ 11"	█		7	113
	••••	@ 6 ft, dense			57	█		9.9	120.1
	/ / / /	<u>Clayey Sand (SC):</u> Gray, slightly moist to mosi, very dense, fine to medium sand, caliche, rock fragments			75/ 8"	█		12.1	113.6
15	••••	<u>Sand (SP):</u> Light brown, moist, dense, trace clay, clay nodules			31	▼			
		End of boring at depth of 16.5 ft. No groundwater encountered. Backfilled with soil cuttings.				▼			

EXPLORATION LOG

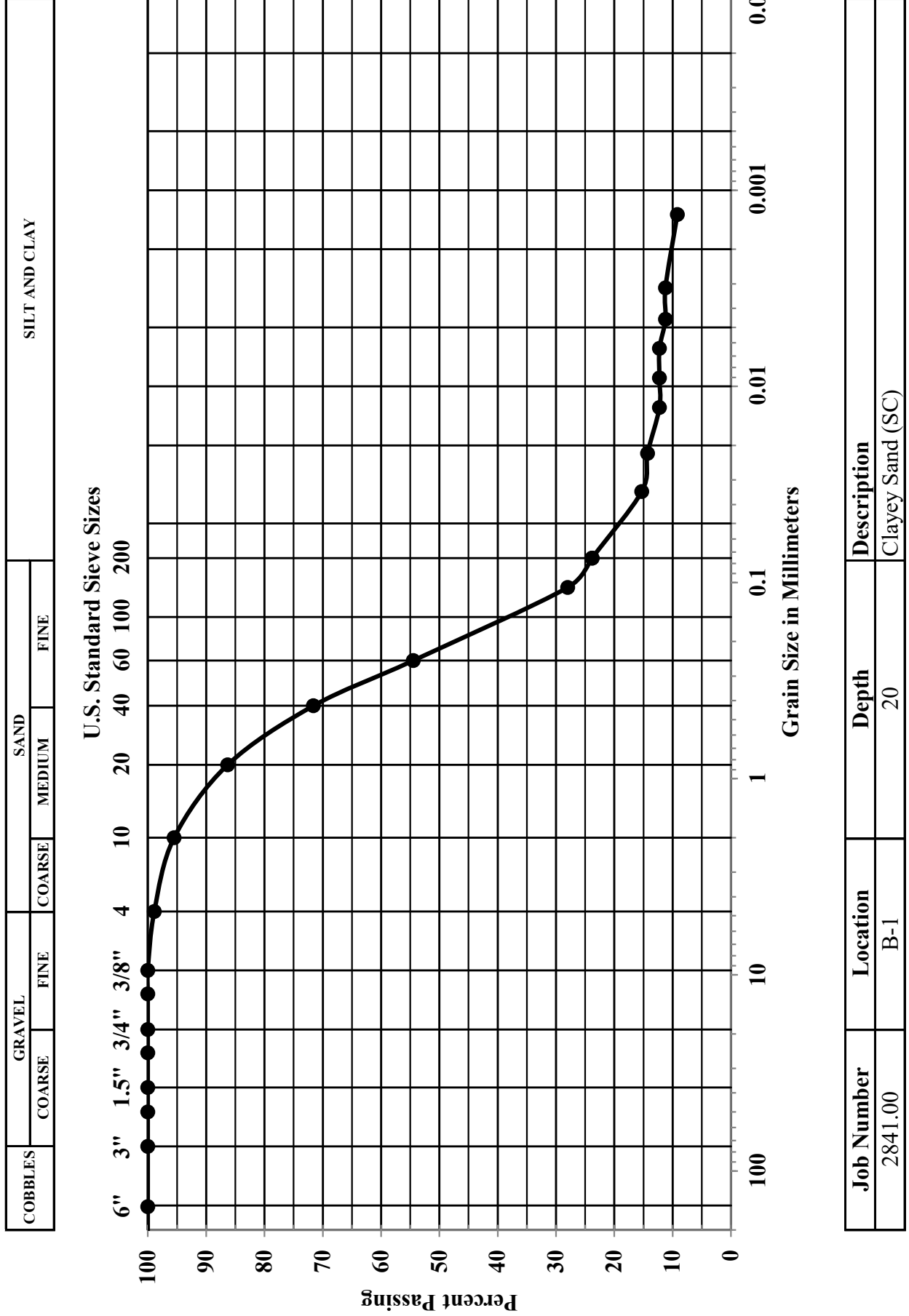
Project: 4-Story Multi-Family Housing Development		Location: B-4
Address: 24551 Raymond Way, Lake Forest, CA 92630		Elevation: 401
Job Number: 2841.00	Client: National Community Renaissance	Date: 10/2/2019
Drill Method: Hollow-Stem Auger	Driving Weight: 140 lbs / 30 in	Logged By: SD

Depth (feet)	Lithology	Material Description	Water	Samples		Laboratory Tests			
				Blows Per Foot	Core	Bulk	Moisture Content (%)	Dry Density (pcf)	Other Lab Tests
	■	<u>Asphalt (AC):</u> Black							
	▨	<u>Gravel with Silt and Sand (CAB):</u> Dark brown							
	▨	Very Old Alluvium fan Deposits (Qovf) <u>Clayey Sand with Gravel (SC):</u> Dark gray, moist, dense, fine to coarse grained sand		62	■		11.9	118.9	
5	▨	<u>Silty Sand (SM):</u> Dark gray, moist, very dense, fine grained sand, some gravel, rootlets, mica present, pin-hole poros		79	■		7.8	127.9	Consol
		@ 6 ft, medium dense		25	■		15.8	114.9	Consol
	▨	<u>Silty Sand with Clay (SM):</u> Dark gray, moist, medium dense, trace gravel, caliche							
10		@ 11 ft, Light reddish brown decreased in clay content		36	■		13.8	117	
15		@ 15 ft, Light brown no gravel		20	▼				
20				20	▼				
		End of boring at depth of 21.5 ft. No groundwater encountered. Backfilled with soil cuttings.							

APPENDIX B

LABORATORY TEST PROGRAM

GRAIN SIZE DISTRIBUTION



APPENDIX C
PERCOLATION TESTING AND ANALYSES

Field Percolation Testing - Constant Head

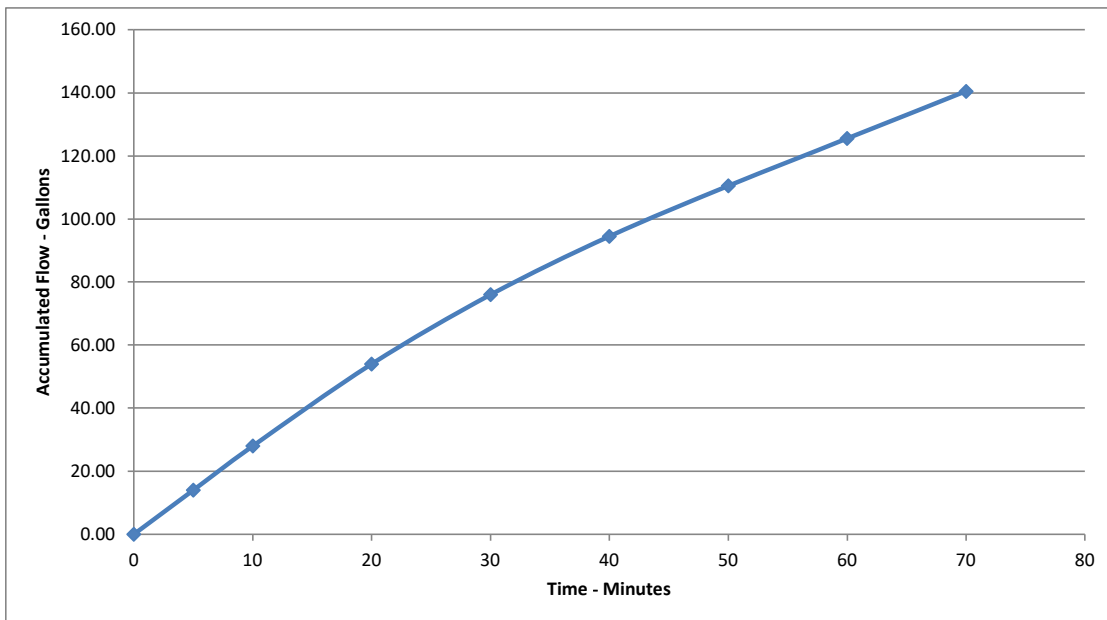
Client: National Core
 Date Tested: 10/2/2019
 Location: P-1

Job. No.: 2841.00
 Test by: SD

Top of Casing to Bottom of Well (ft): 20.3
 Elev. of Ground Surface (ft): _____
 Diam. of Test Hole (in): 8
 Diam. of Casing (in): 3
 Ht. to Top of Casing (ft): 0.3
 Water Temperature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H ₂ O used (gal)
0	14:40	15.3		0.00
5	14:45	15.3	2.80	14.00
10	14:50	15.3	2.40	28.00
20	15:00	15.3	2.00	54.00
30	15:10	15.3	1.70	76.00
40	15:20	15.3	1.50	94.50
50	15:30	15.3	1.50	110.50
60	15:40	15.3	1.50	125.50
70	15:50	15.3	1.50	140.50



Field Percolation Testing - Constant Head

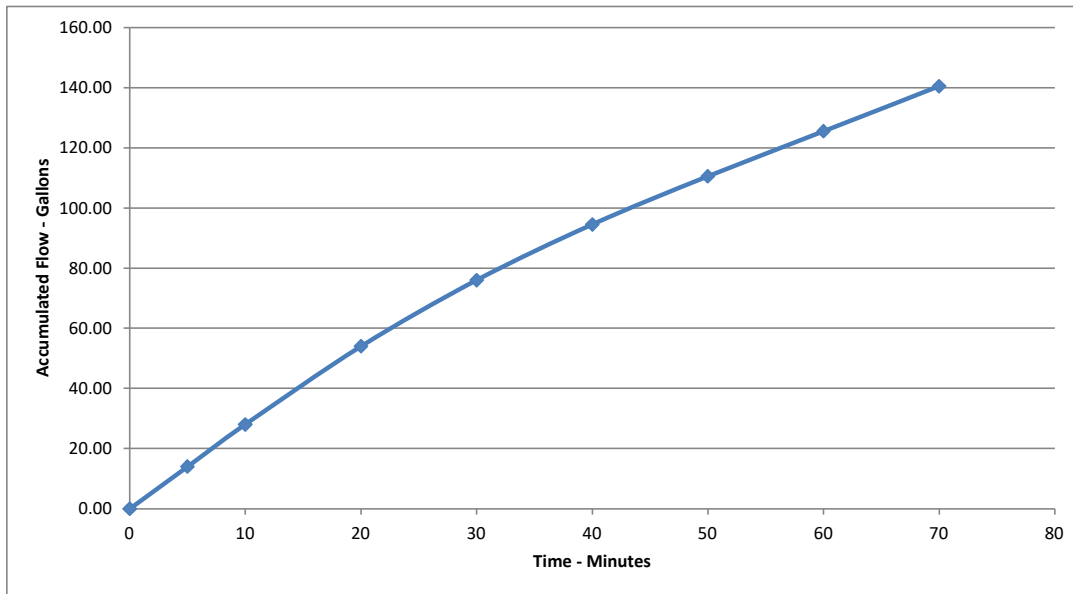
Client: National Core
 Date Tested: 10/2/2019
 Location: P-2

Job. No.: 2841.00
 Test by: SD

Top of Casing to Bottom of Well (ft): 25.4
 Elev. of Ground Surface (ft): _____
 Diam. of Test Hole (in): 8
 Diam. of Casing (in): 3
 Ht. to Top of Casing (ft): 0.4
 Water Temperature (C°): 20

Constant Head

Elapsed Time (minutes)	Time	Depth to H2O (ft)	Flow Rate (gal./min.)	Total H ₂ O used (gal)
0	16:00	20.4		0.00
5	16:05	20.4	2.40	12.00
10	16:10	20.4	1.80	24.00
20	16:20	20.4	1.40	45.00
30	16:30	20.4	1.10	61.00
40	16:40	20.4	0.90	73.50
50	16:50	20.4	0.75	83.50
60	17:00	20.4	0.75	91.75
70	17:10	20.4	0.75	99.25
80	17:20	20.4	0.75	106.75



INFILTRATION WELL DESIGN

Constant Head

USBR 7300-89 Method

J.N.: 2841.00

Client: National Core

Well No.: P-1

Low Water Table	Condition 1	
High Water Table & Water Below Bottom of Well	Condition 2	
High water Table with Water Above the Well Bottom	Condition 3	
Units:		
Enter Condition (1, 2 or 3):	1	
Ground Surface to Bottom of Well (h_1):	20	feet
Depth to Water (h_2):	15	feet
Height of Water in the Well ($h_1-h_2=h$):	5	feet
Radius of Well (r):	4.0	Inches
Minimum Volume Required:	1473.4	Gal.
Discharge Rate of Water Into Well for Steady-State Condition (q):	1.5	Gal/min.
Temperature (T):	20	Celsius
(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (V):	0.9889	ft ³ /min.
Unsaturated Distance Between the Water Surface in the Well and the Water table (T_u):		Ignore T_u
Factor of Safety:	1	
Coefficient of Permeability @ 20° C (k_{20}):	3.15E-03	ft/min.
Design k_{20}:	2.27	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condition III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test purposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

INFILTRATION WELL DESIGN

Constant Head

USBR 7300-89 Method

J.N.: 2841.00

Client: National Core

Well No.: P-2

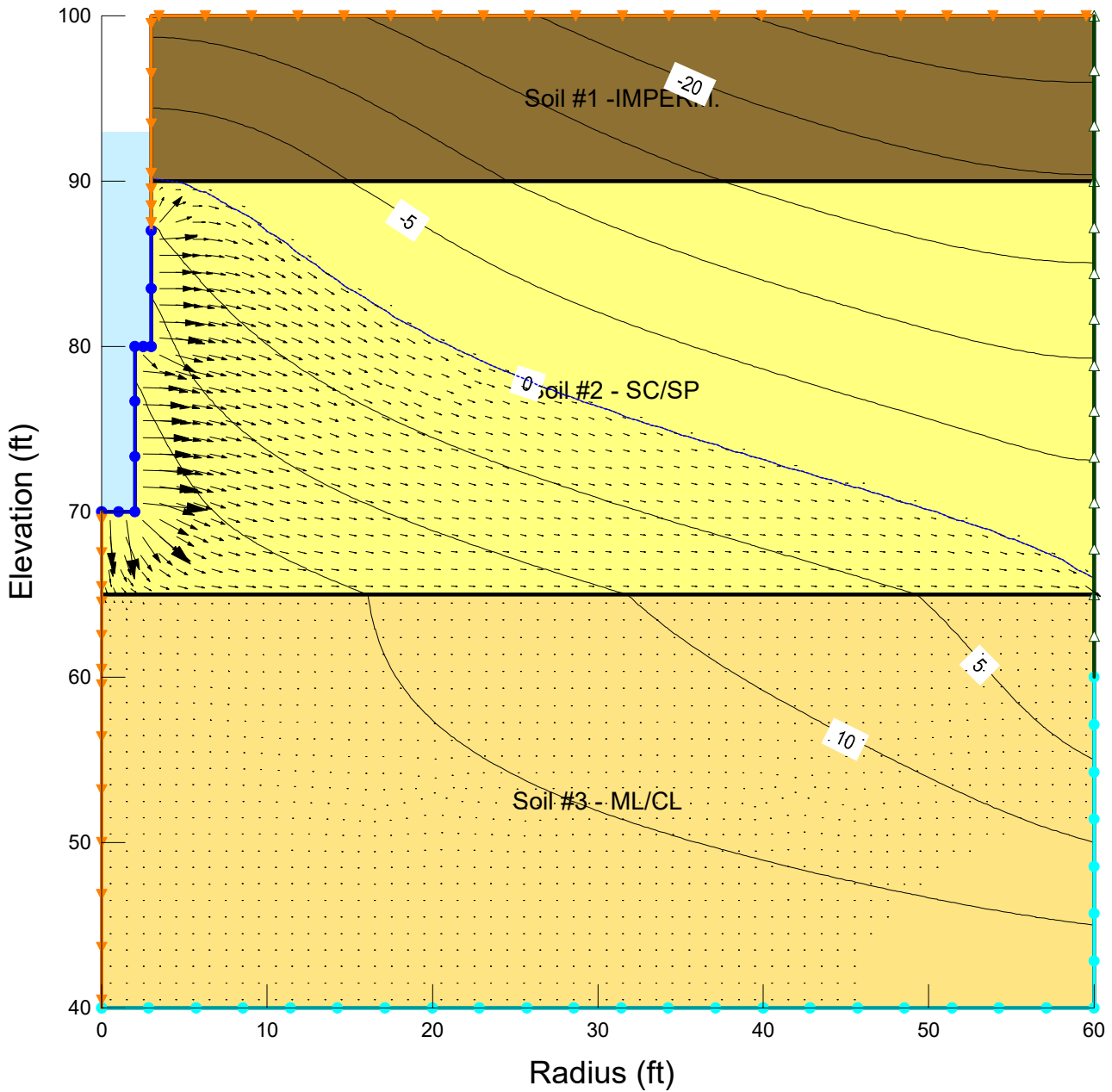
	Low Water Table	Condition 1	
	High Water Table & Water Below Bottom of Well	Condition 2	
	High water Table with Water Above the Well Bottom	Condition 3	
			Units:
	Enter Condition (1, 2 or 3):	1	
	Ground Surface to Bottom of Well (h_1):	25	feet
	Depth to Water (h_2):	20	feet
	Height of Water in the Well ($h_1-h_2=h$):	5	feet
	Radius of Well (r):	4.0	Inches
	Minimum Volume Required:	1473.4	Gal.
	Discharge Rate of Water Into Well for Steady-State Condition (q):	0.75	Gal/min.
	Temperature (T):	20	Celsius
	(Viscosity of Water @ Temp. T) / (Viscosity of water @ 20° C) (V):	0.9889	ft ³ /min.
	Unsaturated Distance Between the Water Surface in the Well and the		
	Water table (T_u):		Ignore T_u
	Factor of Safety:	1	
	Coefficient of Permeability @ 20° C (k_{20}):	1.57E-03	ft/min.
	Design k_{20}:	1.13	in./hr.

The presence or absence of a water table or impervious soil layer within a distance of less than three times that of the water depth in the well (measured from the water surface) will enable the water table to be classified as **Condition I**, **Condition II**, **Condition III**.

Low Water Table-When the distance from the water surface in the test well to the ground water table, or to an impervious soil layer which is considered for test puposes to be equivalent to a water table, is greater than three times the depth of water in the well, classify as **Condition I**.

High Water Table-When the distance from the water surface in the test well to the ground water table or to an impervious layer is less than three times the depth of water in the well, a high water table condition exists. Use **Condition II** when the water table or impervious layer is below the well bottom. Use **Condition III** when the water table or impervious layer is above the well bottom.

STEADY STATE CASE

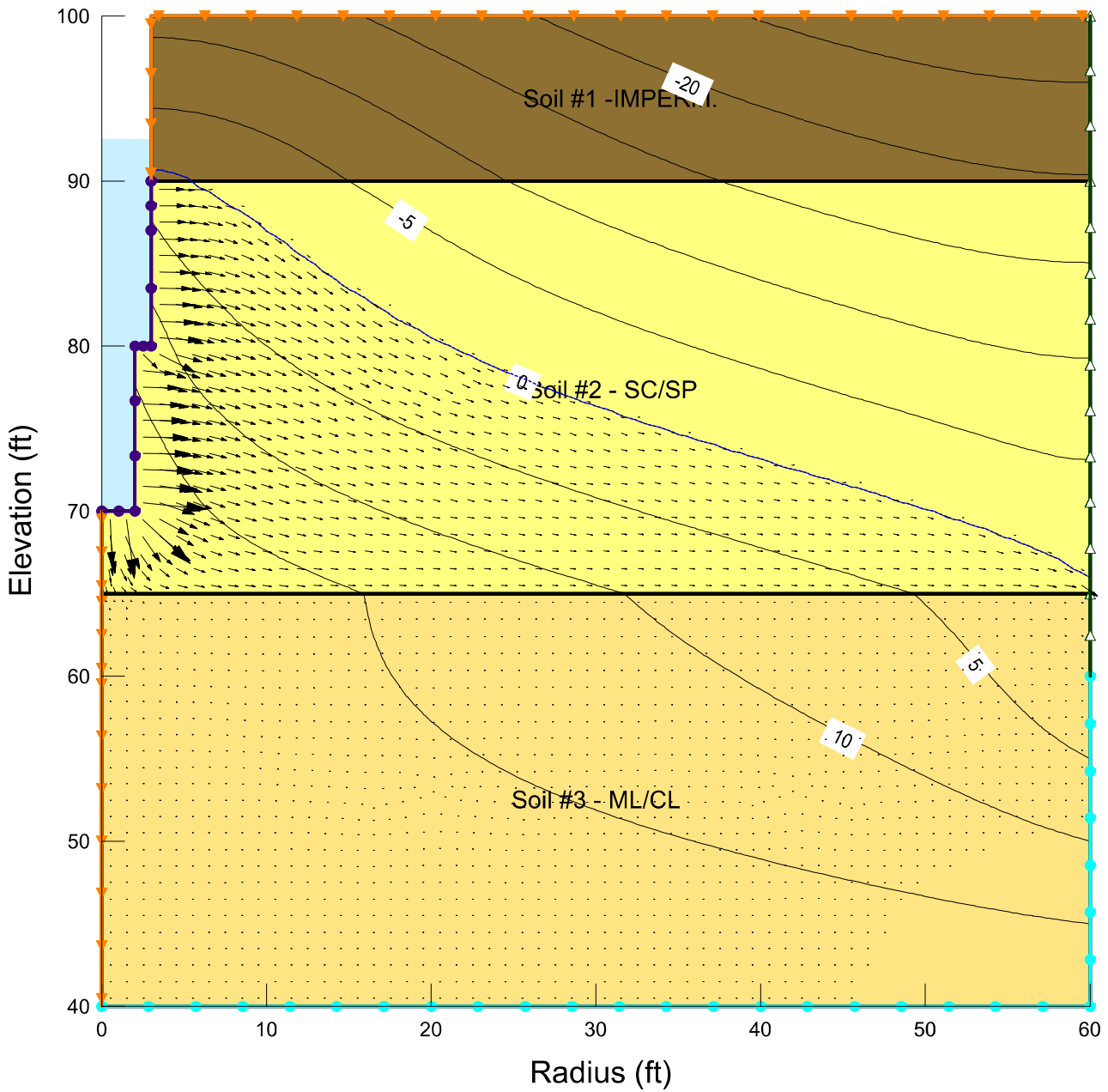


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE- TIME=0.26 HR

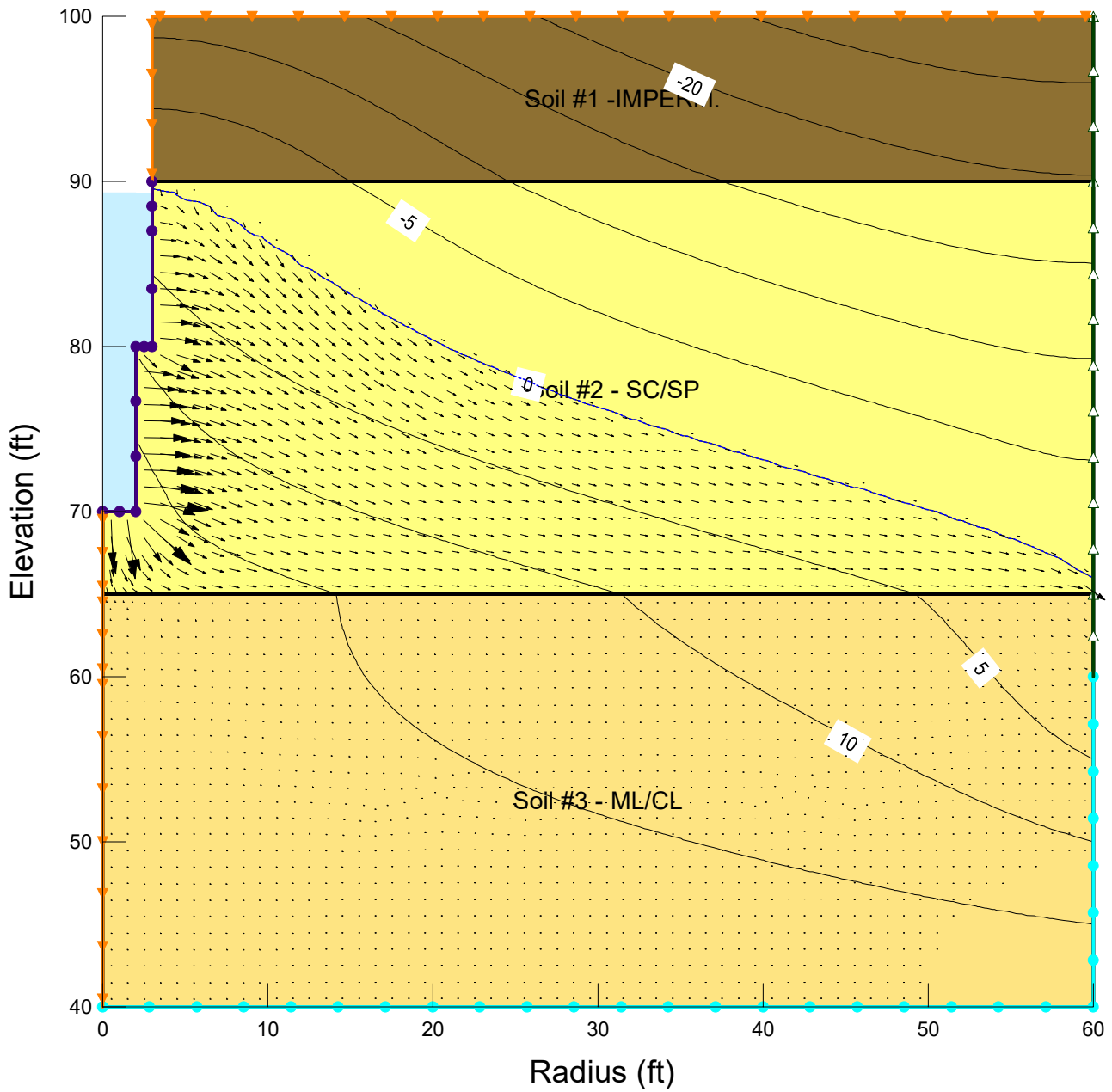


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

- LEGEND**
- Zero Flux
 - Potential Seepage Face
 - Well Head Function
 - Fixed Total Head = **60 ft**

TRANSIENT CASE T=1.7 HR.

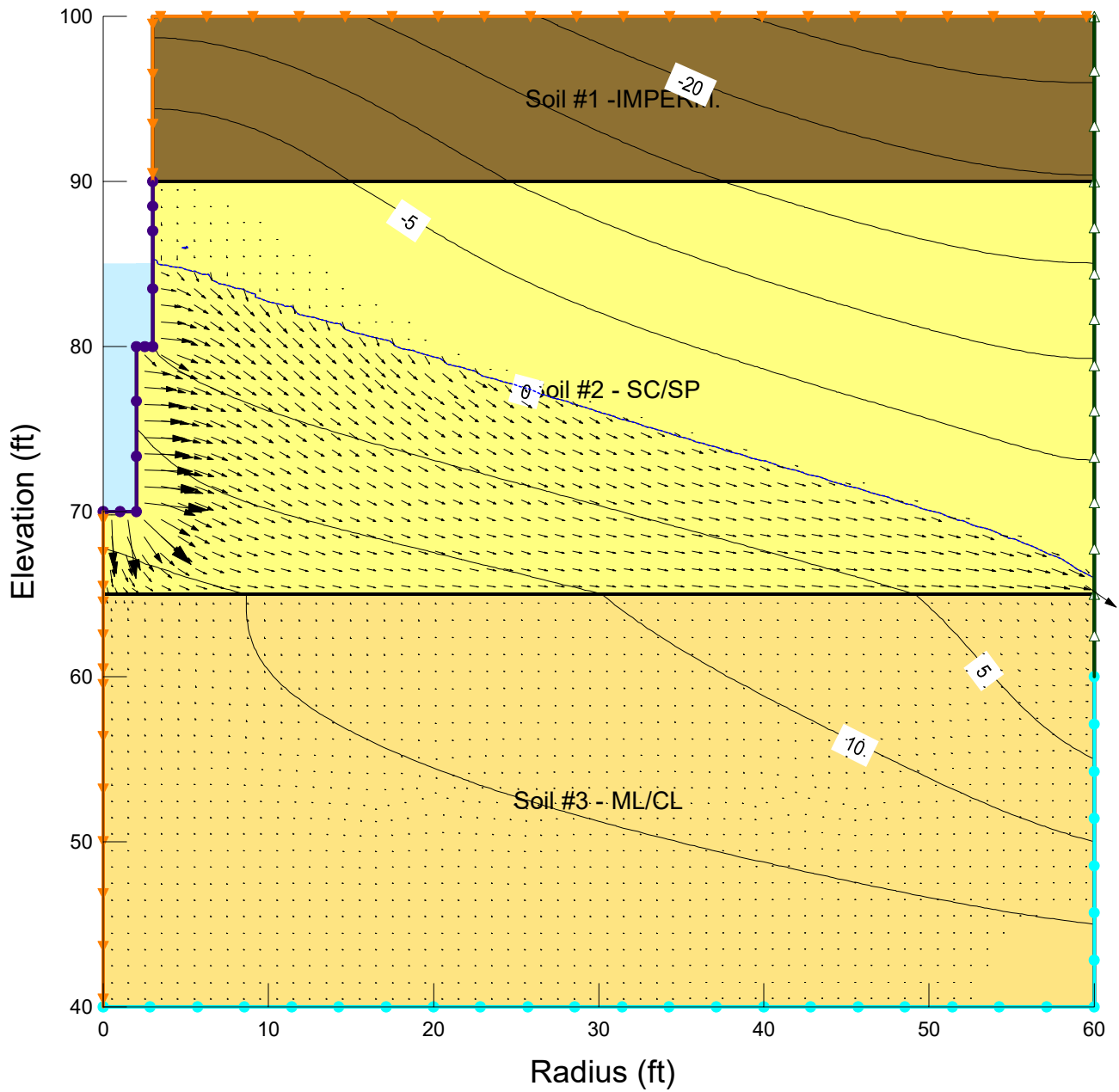


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE T=4.8 HR.

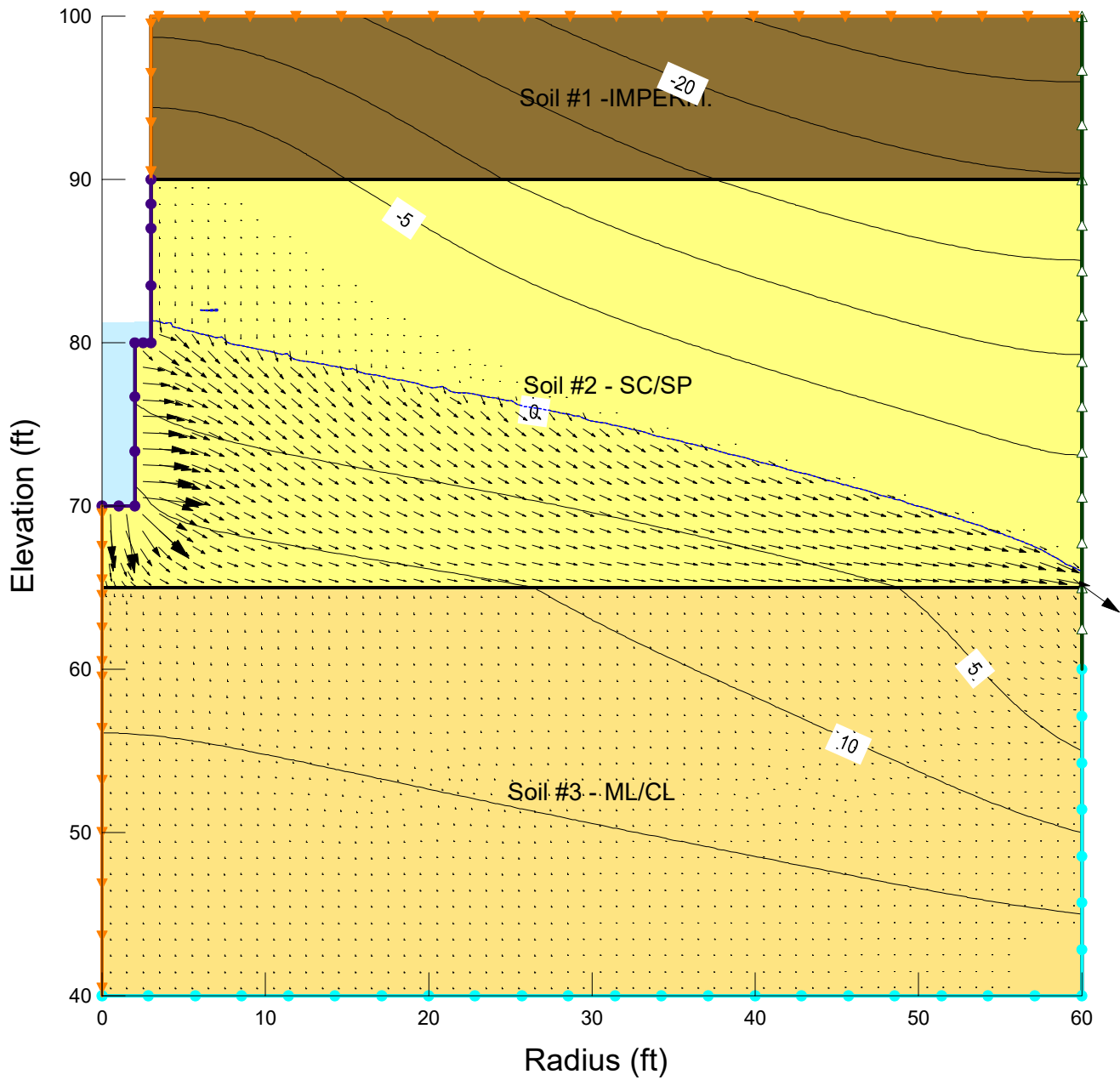


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.

LEGEND	
	Zero Flux
	Potential Seepage Face
	Well Head Function
	Fixed Total Head = 60 ft.

TRANSIENT CASE T=9.4 HR.

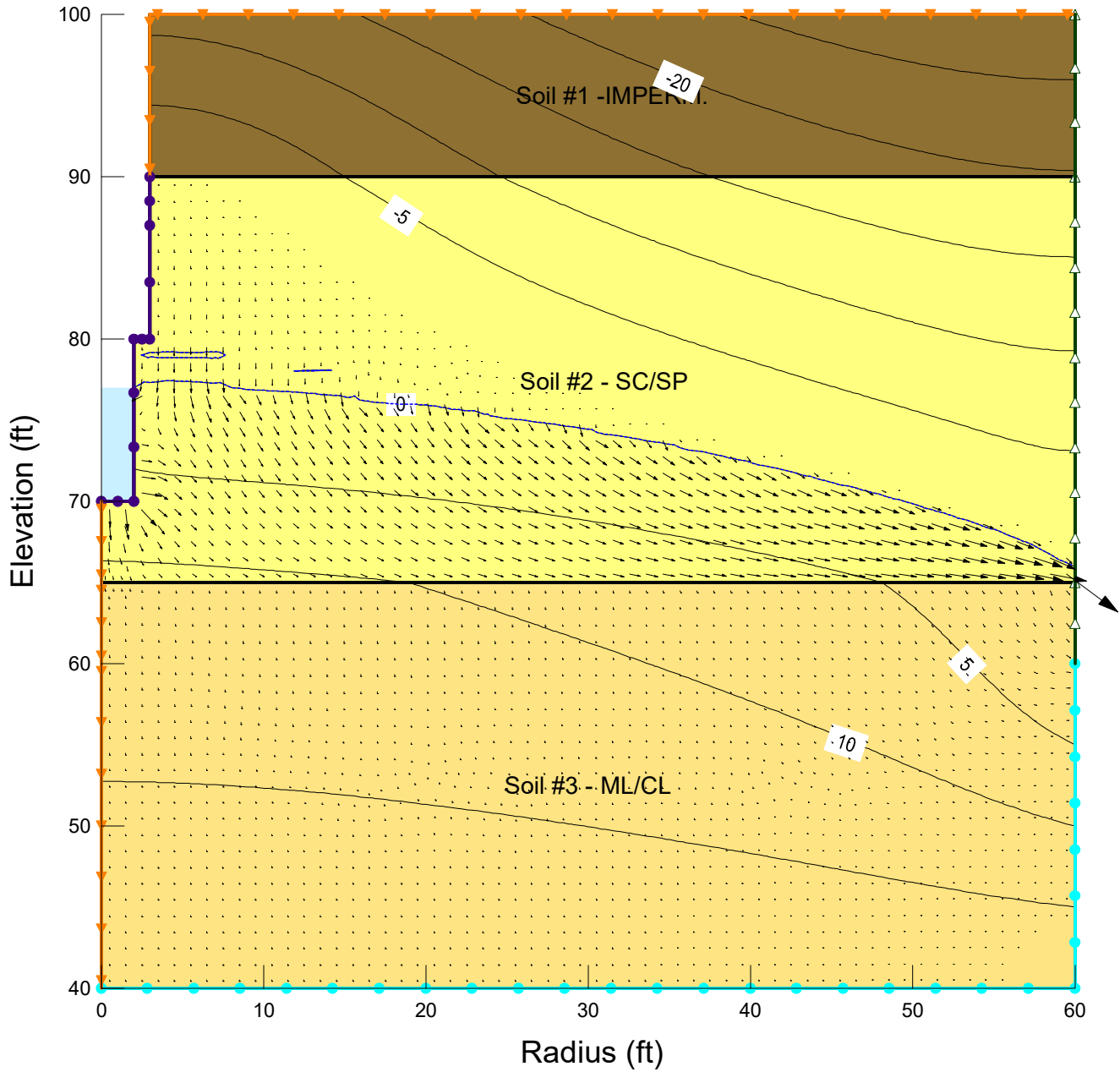


Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



TRANSIENT CASE T=13.0 HR.



Contours are Pressure Head in Feet.

Arrows indicate direction of flow and relative magnitude of velocity.



APPENDIX H – NOISE ANALYSIS





Mountain View Affordable Housing Community

NOISE IMPACT ANALYSIS

CITY OF LAKE FOREST

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APRIL 20, 2020

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HUD	Department of Housing and Urban Development
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Mountain View Affordable Housing Community
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this Noise Impact Analysis to determine the potential impacts and the necessary mitigation measures for the proposed Mountain View Affordable Housing Community development (“Project”). The Project site is located at 24551 Raymond Way in the City of Lake Forest. The Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing office building on 1.95 acres. This study has been prepared consistent with applicable City of Lake Forest noise standards to address Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1) consistent with the City of Lake Forest CEQA Significance Thresholds Guide (1) as well as The Noise Guidebook, prepared by the Department of Housing and Urban Development (HUD). (3)

ON-SITE TRAFFIC NOISE ANALYSIS

A noise impact analysis has been completed to determine the future noise levels in the Project study area, and to identify potential noise mitigation measures that would achieve acceptable Project exterior and interior noise levels. The primary source of traffic noise affecting the Project site is anticipated to be from Packer Place and Raymond Way. The Project will also experience some background traffic noise impacts from other local streets, however, traffic noise from these roadways will not be expected to make a significant contribution to the noise environment.

EXTERIOR NOISE LEVELS

The future exterior traffic noise levels are shown to range from 63.2 to 65.0 dBA CNEL at the residential building facades for units facing Parker Place Raymond Way and El Toro Road. Therefore, no exterior noise mitigation measures are required to satisfy the HUD Acceptable noise level of not exceeding 65 dB at the proposed housing and City of Lake Forest 65 dBA CNEL exterior noise level standards for the residential land use and the on-site traffic noise impacts are considered *less than significant*.

INTERIOR NOISE LEVELS

This noise analysis evaluates the interior noise levels at the Project buildings based on the City of Lake Forest and HUD 45 dBA CNEL interior noise level standards. The Project buildings are shown to require a Noise Reduction (NR) of up to 20.0 dBA and a windows-closed condition requiring a means of mechanical ventilation (e.g. air conditioning). With the following standard building construction noise reduction measures, the Project will satisfy the interior noise level standards:

- Windows/Sliding Glass Doors: All units require windows and sliding glass doors that have well-fitted, well-weather-stripped assemblies, and minimum sound transmission class (STC) ratings of 27.
- Exterior Doors (Non-Glass): All exterior doors shall be well weather-stripped and have well-sealed perimeter gaps to achieve minimum sound transmission class (STC) ratings of 27. (3)

- **Exterior Walls:** At any penetrations of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked or filled with mortar to form an airtight seal.
- **Roof:** Roof sheathing of wood construction shall be per manufacturer's specification or caulked plywood of at least one-half inch thick. Ceilings shall be per manufacturer's specification or well-sealed gypsum board of at least one-half inch thick. Insulation with at least a rating of R-19 shall be used in the attic space.
- **Ventilation:** Arrangements for any habitable room shall be such that any exterior door or window can be kept closed when the room is in use and still receive circulated air. A forced air circulation system (e.g. air conditioning) or active ventilation system (e.g. fresh air supply) shall be provided which satisfies the requirements of the Uniform Building Code.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected noise sources from the Mountain View Affordable Housing Community site, this analysis estimates the Project-related stationary-source noise levels at nearby off-site sensitive receiver locations. The normal activities associated with the proposed Mountain View Affordable Housing Community are anticipated to include a tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units. The operational noise analysis shows that the Project-related stationary-source noise levels at the nearby sensitive receiver locations will satisfy the City of Lake Forest exterior noise level standards. Therefore, the operational noise level impacts associated with the proposed Project activities, such as the tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units, are considered *less than significant*.

CONSTRUCTION NOISE ANALYSIS

Construction-related noise impacts are expected to create short-term and intermittent high-level noise conditions at receivers surrounding the Project site when certain activities occur at the closest point to the nearby receiver locations from primary Project construction activity. Using sample reference noise levels to represent the planned construction activities of the Mountain View Affordable Housing Community site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. Since the City of Lake Forest General Plan, Municipal Code, and *CEQA Significance Thresholds Guide* do not identify specific construction noise level thresholds, a threshold is identified based on the National Institute for Occupational Safety and Health (NIOSH) limits for construction noise. The results of the analysis show that the Project-related short-term construction noise levels are expected to range from 56.2 to 73.7 dBA L_{eq} and will satisfy the 85 dBA L_{eq} threshold identified by NIOSH at all receiver locations.

CONSTRUCTION VIBRATION ANALYSIS

At distances ranging from 67 to 204 feet from primary Project construction activity area, construction vibration velocity levels are expected to range from 0.004 to 0.020 in/sec PPV. Based on the results of the analysis, the Project construction vibration levels will remain below

the Caltrans building damage threshold of 0.3 in/sec PPV and human annoyance threshold of 0.04 in/sec PPV at all receiver locations. The Project-related vibration impacts at the nearby sensitive receiver locations, therefore, represent a *less than significant* impact Project construction activities.

CONSTRUCTION NOISE AND VIBRATION BEST PRACTICES

Though construction noise and vibration are temporary, intermittent, will be short in duration, and will not present any long-term impacts, the following best practices, while not required, would further reduce noise and vibration levels produced by the construction equipment to the nearby sensitive residential land uses. The following best practices are consistent with measures identified in the *City of Lake Forest CEQA Significance Thresholds Guide*, as follows:

- *Use noise control devices such as equipment mufflers, enclosures, and barriers. Natural and artificial barriers such as ground elevation changes and existing buildings can shield construction noise. Stage construction operations as far from noise sensitive uses as possible.*
- *Avoid residential areas when planning haul truck routes.*
- *Maintain all sound-reducing devices and restrictions throughout the construction period.*
- *Change the timing and/or sequence of the noisiest construction operations to avoid sensitive times of day.*

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Mountain View Affordable Housing Community Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (2) Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
On-Site Traffic Noise Levels	8	<i>Less Than Significant</i>	<i>n/a</i>
Operational Noise Levels	10	<i>Less Than Significant</i>	<i>n/a</i>
Construction Noise Levels	11	<i>Less Than Significant</i>	<i>n/a</i>
Construction Vibration Levels		<i>Less Than Significant</i>	<i>n/a</i>

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Mountain View Affordable Housing Community (“Project”). This report briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for transportation noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational noise and short-term construction noise and vibration impacts.

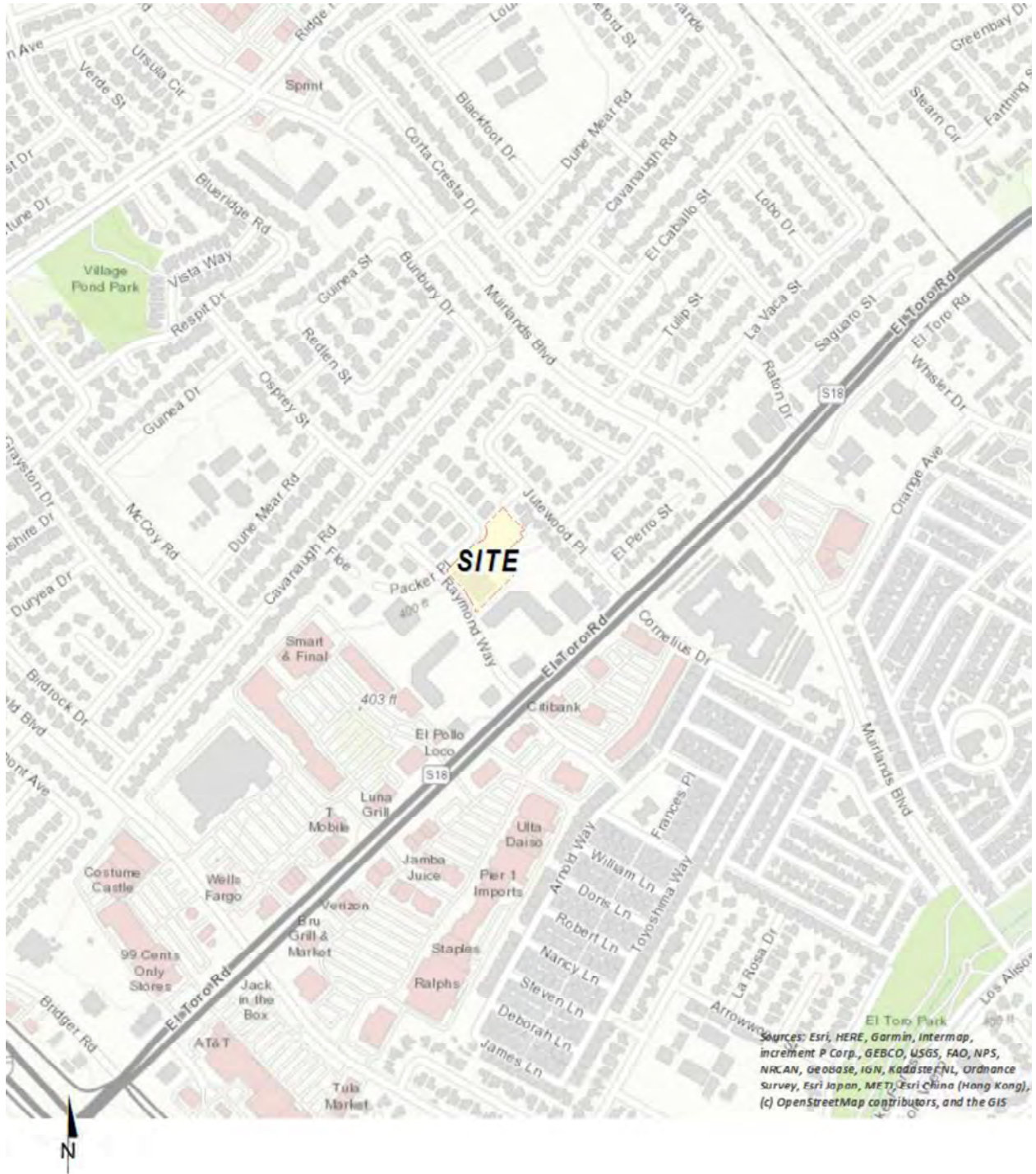
1.1 SITE LOCATION

The proposed Mountain View Affordable Housing Community Project is located at 24551 Raymond Way in the City of Lake Forest as shown on Exhibit 1-A. The Project site is currently occupied by the Mountain View Business Center. Existing residential uses are located west and north of the Project site, with office and commercial retail uses located east and south of the Project site.

1.2 PROJECT DESCRIPTION

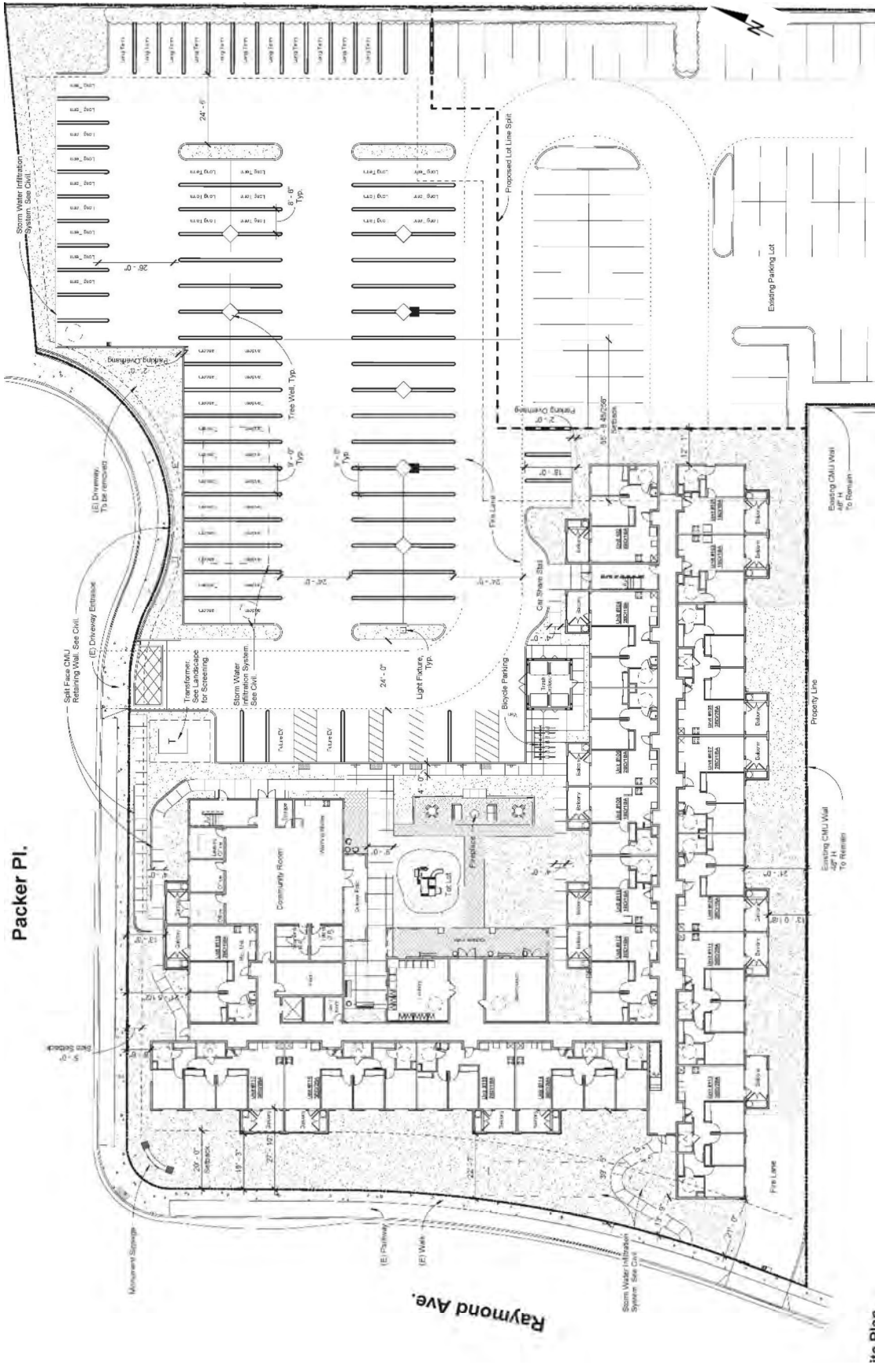
As indicated on Exhibit 1-B, the Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing office building on 1.95 acres. The on-site Project-only operational noise sources are expected to include: tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units.

EXHIBIT 1-A: LOCATION MAP



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GEBCO, IGN, Kadastre NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS

EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	SPEECH INTERFERENCE
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80	LOUD	
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60	MODERATE	SLEEP DISTURBANCE
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40	FAINT	NO EFFECT
QUIET SUBURBAN NIGHTTIME	LIBRARY	30		
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10		
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERY FAINT	

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (4) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. (5) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the “average” noise levels within the environment.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{50} , L_{25} , L_8 and L_2 , are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded during 50 percent, 25 percent, 8 percent and 2 percent of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. The City of Lake Forest relies on the percentile noise levels to describe the stationary source noise level limits. While the L_{50} describes the noise levels occurring 50 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour. Therefore, the L_{eq} noise descriptor is generally 1-2 dBA higher than the L_{50} noise level.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Lake Forest and HUD relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (4)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (6)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (4)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure. (6)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or

receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (6)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (7)

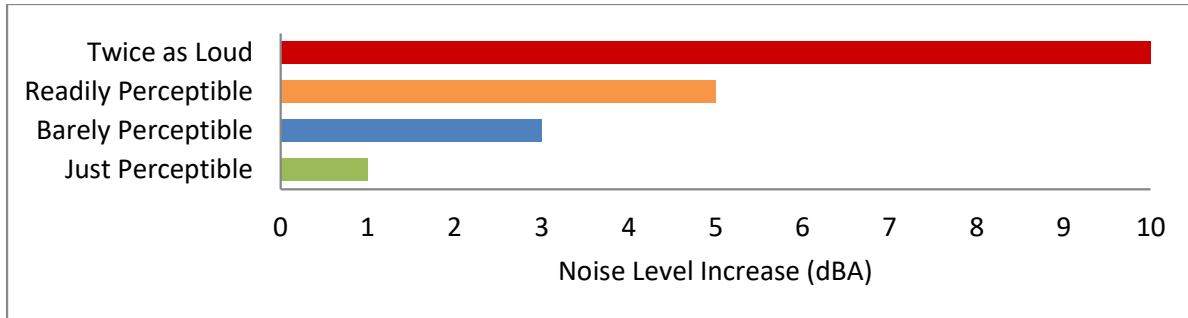
2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (8) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (8) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments (4), a change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (6)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



2.8 EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (9)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. This noise study does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational and construction noise levels at the nearby sensitive receiver locations in the Project study area.

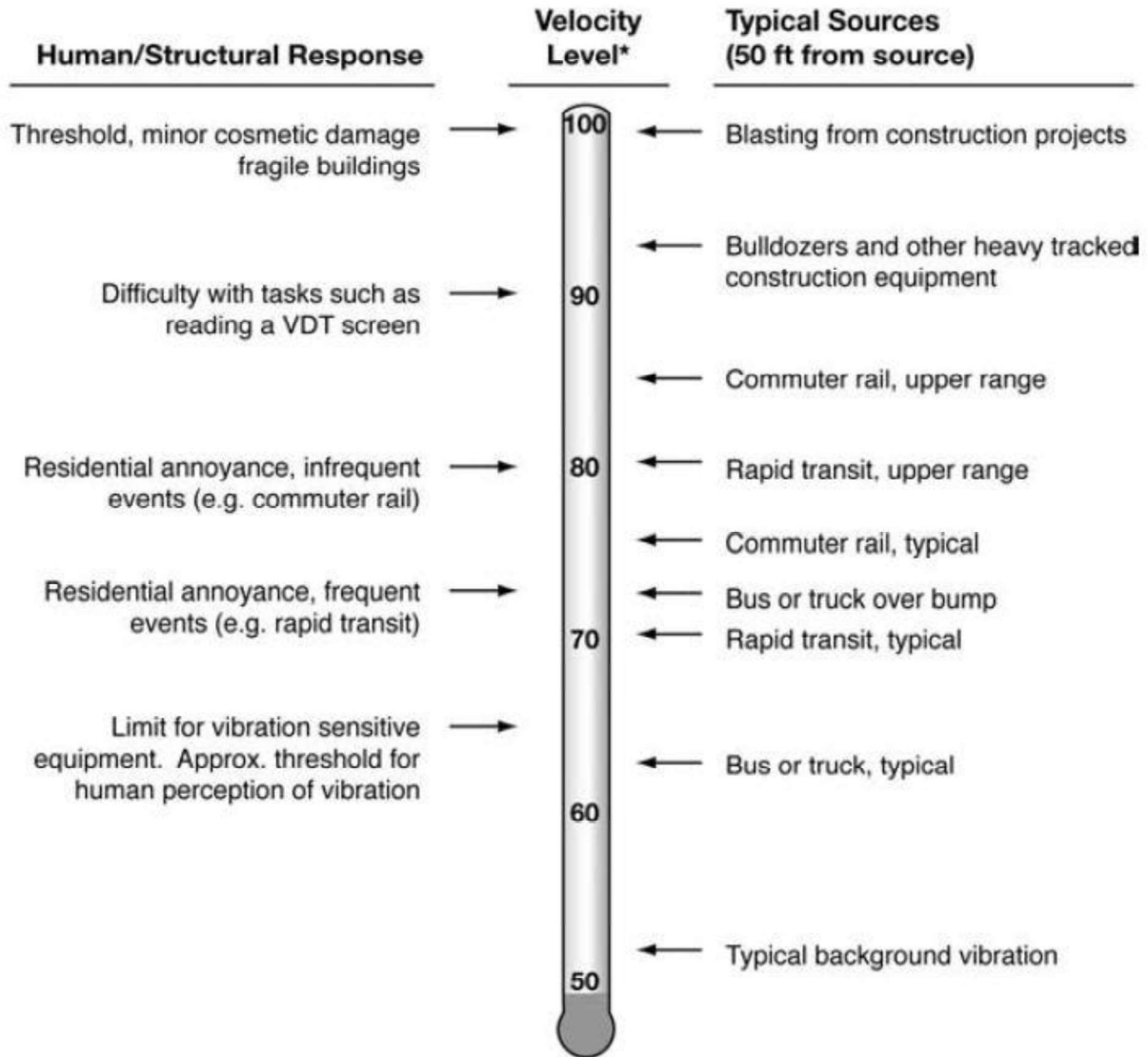
2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (10), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), vibration-sensitive equipment and/or activities

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

Source: Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment.

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3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT STANDARDS

The Department of Housing and Urban Development (HUD) noise standards are used in this report to evaluate Project compliance with exterior and interior noise level standards as a requirement of Project financing. The Code of Federal Regulation (CFR) identifies *Environmental Criteria and Standards* in Section 24 CFR Part 51. (9) Section 51.101(a)(8) identifies the exterior noise goal of 65 dBA CNEL or below for new developments, and an interior noise level goal of 45 dBA CNEL in Section 51.101(a)(9). Further, Section 51.103(c) includes the *Site Acceptability Standards* consistent with the exterior and interior noise goals which are used in this analysis.

Based on the residential land use noise criteria and the HUD transportation noise standards, this noise study has been prepared to satisfy an exterior noise level of less than 65 dBA CNEL and an interior noise level of less than 45 dBA CNEL. The 65 dBA CNEL exterior noise standards typically apply to outdoor areas where people congregate. In the case of residential projects, the standards typically apply to private yards of single-family homes and first floor patio areas for multi-family units. Appendix 3.1 includes the HUD noise standards used in this report.

3.2 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research. (11) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts. The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher.

Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.3 CITY OF LAKE FOREST GENERAL PLAN SAFETY AND NOISE ELEMENT

The City of Lake Forest has adopted a Safety and Noise Element of the General Plan to address public safety and quality of life issues. (12) The Safety and Noise Element specifies the maximum exterior and interior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Safety and Noise Element identifies noise standards designed to protect, create, and maintain an environment free from noise that may jeopardize the health or welfare of sensitive receivers, or degrade quality of life.

3.3.1 LAND USE COMPATIBILITY

The noise criteria identified in the City of Lake Forest Safety and Noise Element are guidelines to evaluate the land use compatibility of transportation related noise. The land use compatibility criteria, shown on Exhibit 3-A, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Noise/Land Use Noise Compatibility Matrix* (Table SN-3) in the City of Lake Forest General Plan provides guidelines to evaluate the acceptability of transportation related noise level impacts.

These guidelines are based on the Governor’s Office of Planning and Research and are used to assess the long-term traffic noise impacts on land uses. Noise-sensitive land uses such as single-family residential homes and schools are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 65 dBA CNEL. For *conditionally acceptable* land use, *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.* (12)

EXHIBIT 3-A: NOISE/LAND USE NOISE COMPATIBILITY MATRIX

Land Use Categories	Community Noise Equivalent Level (CNEL)						
	55	60	65	70	75	80	
Residential - Single Family, Multi-family, duplex	A	A	B	C	C		
Residential - Mobile Homes	A	A	B	C	C		
Transient Lodging - Motels, Hotels	A	A	B	B	C	C	
Schools, Libraries, Churches, Hospitals, Nursing/Convalescent Homes, Preschools, Day Care Centers(1)	A	A	B	C	C		
Auditoriums, Concert Halls, Amphitheaters, Meeting Halls	B	B	C	C			
Sports Arenas, Outdoor Spectator Sport, Amusement Parks	A	A	A	B	B		
Playgrounds, Neighborhood Parks	A	A	A	B	C		
Golf Courses, Riding Stables, Cemeteries	A	A	A	A	B	C	C
Office and Professional Buildings	A	A	A	B	B	C	
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Wholesale, Service Stations	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

Zone A - Normally Acceptable

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Zone B - Conditionally Acceptable

New construction or development should be undertaken only after detailed analysis of the noise reduction requirement is made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Zone C - Normally Unacceptable

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.

Notes:

- (1) Religious institutions (Churches, synagogues, temples and other places of worship) of a small size (occupancy of 100 persons or less) may occupy existing buildings within areas of exterior noise levels ranging from 65 to 75 dB CNEL without providing additional noise insulation for the building.
- (2) Shaded areas indicate new construction or development should generally not be undertaken.

3.3.2 TRANSPORTATION NOISE STANDARDS

The City of Lake Forest has published the *CEQA Significance Thresholds Guide* that identifies exterior and interior noise level standards, as shown on Exhibit 3-B. (1) The City of Lake Forest General Plan and *CEQA Significance Thresholds Guide* provides specific noise level standards for all land use categories that are used to regulate transportation-related noise levels for noise sensitive uses.

EXHIBIT 3-B: INTERIOR AND EXTERIOR NOISE STANDARDS

Land Use Categories	Noise Standards ¹	
	Interior ^{2,3}	Exterior
Residential - Single Family, multi-family, duplex, mobile home	CNEL 45 dB	CNEL 65 dB ⁴
Residential - Transient lodging, hotels, motels, nursing homes, hospitals	CNEL 45 dB	CNEL 65 dB ⁴
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	L _{eq} (12) 45 dB(A) ^{2,6}	-
Schools	L _{eq} (12) 45 dB(A)	CNEL 65 dB ⁵
General offices, reception, clerical, etc.	L _{eq} (12) 50 dB(A)	-
Bank lobby, retail store, restaurant, typing pool, etc.	L _{eq} (12) 55 dB(A)	-
Manufacturing, kitchen, warehousing, etc.	L _{eq} (12) 65 dB(A)	-
Parks, playgrounds	-	CNEL 65 dB ⁵
Golf courses, outdoor spectator sports, amusement parks	-	CNEL 70 dB ⁵

¹"CNEL" = Community Noise Equivalent Level; "L_{eq}(12)" = The A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).

²Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.

³Indoor environment excluding bathrooms, toilets, closets, and corridors.

⁴Outdoor environment limited to rear yard of single-family homes, multi-family patios and balconies (with a depth of 6' or more) and common recreation areas.

⁵Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.

⁶Religious institutions (Churches, temples, and other places of worship) of a small size (occupancy of 100 persons or less) may occupy existing buildings within areas of exterior noise levels ranging from 65 to 75 dB CNEL without providing additional noise insulation for the building.

For noise-sensitive land uses such as the residential homes of the Project, the Safety and Noise Element and *CEQA Significance Thresholds Guide* requires an exterior noise level not to exceed 65 dBA CNEL within outdoor living areas (e.g., rear yards, patios and balconies 6-feet or greater, or common recreation areas). Further, school uses within the proposed Project are required to comply with an exterior noise level of 65 dBA CNEL at outdoor environments (e.g., playground areas, picnic areas, and other areas of frequent human use). This approach is consistent with Tables SN-2 and SN-3 of the General Plan Safety and Noise Element and the *CEQA Significance Thresholds Guide*.

3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Project, stationary-source (operational) noise such as the proposed tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units are typically evaluated against standards established under a jurisdiction’s Municipal Code.

The Project operational noise impacts are governed by the City of Lake Forest Municipal Code, Title 11 – *Peace and Safety*, Division II – *Offenses Against Public Peace*, Chapter 11.16 – *Noise Control*, included in Appendix 3.2. The Municipal Code indicates the *Noise Standards* outlined in Section 11.16.040(A) shall apply to all residential property. The *Noise Standards* limit the allowable exterior noise level to 55 dBA during the daytime hours (7:00 a.m. to 10:00 p.m.), and 50 dBA during the nighttime hours (10:00 p.m. to 7:00 a.m.), as shown on Table 3-1. (13) To assess the stationary noise sources in the Project study area, the Municipal Code, Sections 11.16.040(B)(1-5), identify percentile noise level standards. The percentile noise levels represent the noise level standard (as show on Table 3-1) for residential land use for a cumulative period of more than thirty minutes (L₅₀) in any hour. These standards shall not be exceeded for a cumulative period of 30 minutes (L₅₀), or the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L₂₅) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L₈) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L₂) in any hour, or the standard plus 20 dBA at any time (L_{max}). (13) These standards are consistent with those identified for operational noise in the *CEQA Significance Thresholds Guide*.

TABLE 3-1: STATIONARY-SOURCE NOISE LEVEL STANDARDS

Land Use	Time Period	Maximum Permissible Exterior Noise Levels ²				
		L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
Residential ¹	Daytime (7:00 a.m. - 10:00 p.m.)	55	60	65	70	75
	Nighttime (10:00 p.m. - 7:00 a.m.)	50	55	60	65	70

¹ Source: Sections 11.16.040(A) & (B) of the City of Lake Forest Municipal Code.

² The percent noise level is the level exceeded "n" percent of the time during the measurement period. L₂₅ is the noise level exceeded 25% of the time.

3.5 CONSTRUCTION NOISE STANDARDS

Noise from construction activities are typically limited to the hours of operation established under a City’s Municipal Code. However, both the City of Lake Forest Municipal Code and *CEQA Significance Thresholds Guide* consider construction noise exempt from the Municipal Code stationary-source noise level standards (Section 11.16.060 of the Municipal Code), and do not establish a numeric maximum acceptable construction-source noise level threshold for potentially affected receivers, which would allow for a quantified determination of potential

impacts under CEQA. Therefore, the following construction noise level threshold is used in this noise study.

To evaluate whether the Project will generate potentially significant construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is adopted from the *Criteria for Recommended Standard: Occupational Noise Exposure* prepared by the National Institute for Occupational Safety and Health (NIOSH). (14) A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3 dBA increase, the exposure time is cut in half. This results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. (14) For the purposes of this analysis, the lowest, more conservative construction noise level threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time, they are expressed as L_{eq} noise levels. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential Project-related construction noise level impacts at the nearby sensitive receiver locations.

The 85 dBA L_{eq} threshold is also consistent with the FTA *Transit Noise and Vibration Impact Assessment* criteria for construction noise which identifies an hourly construction noise level threshold of 90 dBA L_{eq} during daytime hours, and 80 dBA L_{eq} during nighttime hours for construction for general assessment at noise-sensitive uses (e.g., residential, medical/hospital, school, etc.). (10) Detailed assessment, according to the FTA, identifies an 8-hour dBA L_{eq} noise level threshold specific to noise-sensitive uses of 80 dBA L_{eq} . Therefore, the Noise Study relies on the NIOSH 85 dBA L_{eq} threshold, consistent with FTA general and detailed assessment criteria for noise-sensitive uses and represents an appropriate threshold for construction noise analysis.

3.6 CONSTRUCTION VIBRATION STANDARDS

The City of Lake Forest General Plan and Municipal Code do not identify specific vibration level standards. Therefore, applicable vibration standards identified by the California Department of Transportation (“Caltrans”) *Transportation and Construction Vibration Guidance Manual* are used in this report. (16) According to the Caltrans vibration manual, large bulldozers, and loaded trucks used during construction activities can produce vibration which can potentially cause annoyance at sensitive land uses within the Project study area, or damage to adjacent structures. The Caltrans vibration manual establishes thresholds for determining potential vibration impacts resulting in building damage for older residential structures of 0.3 in/sec PPV, and for human annoyance of 0.04 in/sec PPV. These Caltrans thresholds are used in this analysis to assess potential impacts at the adjacent sensitive uses to the Project site.

4 SIGNIFICANCE CRITERIA

The following significance criteria from California Environmental Quality Act (CEQA) and the Housing and Urban Development (HUD) have been used to assess the potential Project noise level impacts.

4.1 CEQA GUIDELINES

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (2) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

While HUD and the City of Lake Forest General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Guideline A. CEQA Appendix G Guideline C applies to nearby public and private airports, if any, and the Project's land use compatibility.

The closest airport to the Project site is John Wayne Airport which is located approximately 10 miles northwest of the Project site, and therefore, the Project site is not located within two miles of a public airport or within an airport land use plan; nor is the Project within the vicinity of a private airstrip. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is provided under Guideline C.

4.2 HUD GUIDELINES

The Housing and Urban Development (HUD) Builder's Certificate of Plan, Specifications, & Site details identify the following noise-related checklist items:

- Is the property located within 1000 feet of a highway, freeway or heavily traveled road?
- Is the property located within 3000 feet of a railroad?
- Is the property located within one mile of a civil airfield or 5 miles of a military airfield.

This Noise Impact Analysis describes the potential noise level impacts associated with the nearby roadways within 1000 feet of the Project site. This includes the El Toro Road, Packer Place and Raymond Way. The nearest rail line is located approximately 2,400 feet northeast of the Project site. However, the rail line is located below grade and there is substantial existing residential

development between the Project site and rail line. Therefore, since there is no direct line of sight to the rail line, the potential rail noise levels are considered *less than significant* and will be overshadowed by the traffic noise levels on nearby roads. The closest airport to the Project site is John Wayne Airport which is located approximately 10 miles northwest of the Project site, and therefore, the Project site is not located within one mile of a civil airfield or 5 miles of a military airfield. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*

4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

ON-SITE TRAFFIC NOISE

- If the on-site noise levels:
 - exceed the exterior noise level standard of 65 dBA CNEL for outdoor areas (e.g., rear yard of single-family homes, multi-family patios and balconies (with a depth of six feet or more), common recreation areas, playgrounds, or picnic areas); or
 - exceed an interior noise level of 45 dBA CNEL for noise-sensitive uses (HUD and City of Lake Forest CEQA Significance Thresholds Guide, Table 3-1).

OPERATIONAL NOISE

- If Project-related operational (stationary source) noise levels exceed the exterior 55 dBA L_{50} daytime or 50 dBA L_{50} nighttime noise level standards for sensitive land uses. These standards shall not be exceeded for a cumulative period of 30 minutes (L_{50}), or the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes (L_{25}) in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes (L_8) in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute (L_2) in any hour, or the standard plus 20 dBA at any time (L_{max}) (Sections 11.16.040(A) & (B) of the City of Lake Forest Municipal Code, and Table 3-2 of the City of Lake Forest CEQA Significance Thresholds Guide).

CONSTRUCTION NOISE AND VIBRATION

- If Project-related construction activities create noise levels which exceed the 85 dBA L_{eq} acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure); or
- If Project-related construction activities generate vibration levels which exceed the Caltrans building damage vibration level threshold for older residential structures of 0.3 in/sec PPV, or the *distinctly perceptible* human annoyance vibration level threshold of 0.04 in/sec PPV at nearby sensitive receiver locations (Caltrans Transportation and Construction Vibration Guidance Manual, Tables 19 & 20).

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
On-Site Traffic Noise ¹	Residential & School	Exterior Noise Level Standard	65 dBA CNEL	
		Interior Noise Level Standard	45 dBA CNEL	
Operational Noise ¹	Noise-Sensitive	Exterior Noise Level Standards	See Table 3-1.	
Construction Noise & Vibration	Noise-Sensitive	Noise Level Threshold ²	85 dBA Leq	n/a
		Vibration Level Threshold (Building Damage) ³	0.3 in/sec PPV	n/a
		Vibration Level Threshold (Distinctly Perceptible) ³	0.04 in/sec PPV	n/a

¹ Source: HUD and the City of Lake Forest CEQA Thresholds Guide.

² Source: NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.

³ Source: Caltrans Transportation and Construction Vibration Guidance Manual, September 2013, Tables 19 & 20.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "n/a" = No nighttime construction activity is permitted, so no nighttime construction noise level limits are identified; "PPV" = peak particle velocity

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Monday, December 16th, 2019. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (16)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources.* (4) Further, FTA guidance states, *that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community.* (10)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (10) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels by the northern corner of the Project site near existing single-family residential homes. The noise levels at this location consist primarily of parking lot vehicle movements and traffic on Packer Place. The noise level measurements collected show an overall 24-hour exterior noise level of 59.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.0 dBA L_{eq} with an average nighttime noise level of 51.9 dBA L_{eq} .
- Location L2 represents the noise levels on east of the Project site near Montessori Children's School House. The noise levels at this location consist primarily of parking lot vehicle movements as well as activity from children playing at Montessori Children's School House. The noise level measurements collected show an overall 24-hour exterior noise level of 58.8 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 52.7 dBA L_{eq} with an average nighttime noise level of 52.0 dBA L_{eq} .
- Location L3 represents the noise levels west of the Project site near existing multi-family homes. The noise level measurements collected show an overall 24-hour exterior noise level of 62.5 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.8 dBA L_{eq} with an average nighttime noise level of 55.5 dBA L_{eq} . The noise levels at this location consist primarily of traffic noise from Packer Place.
- Location L4 represents the noise levels northwest of the Project site on Packer Place near existing multi-family residential homes. The 24-hour CNEL indicates that the overall exterior noise level is 58.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.6 dBA L_{eq} with an average nighttime noise level of 49.8 dBA L_{eq} . Traffic on Packer Place represents the primary source of noise at this location.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1 , L_2 , L_5 , L_8 , L_{25} , L_{50} , L_{90} , L_{95} , and L_{99} percentile noise levels observed during the daytime and nighttime periods. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets as well as parking lot vehicle movements from nearby businesses. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 5-1.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹	Description	Energy Average Noise Level (dBA L _{eq}) ²		CNEL
		Daytime	Nighttime	
L1	Located by the northern corner of the Project site near existing single-family residential homes.	54.0	51.9	59.0
L2	Located east of the Project site near Montessori Children's School House.	52.7	52.0	58.8
L3	Located west of the Project site near existing multi-family homes.	57.8	55.5	62.5
L4	Located northwest of the Project site on Packer Place near existing multi-family residential homes.	54.6	49.8	58.0

¹ See Exhibit 5-A for the noise level measurement locations.

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



LEGEND:
▲ Measurement Locations

6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the potential future Project-related impacts related to the future traffic noise environment.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (17) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (18) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

The on-site roadway parameters including the average daily traffic (ADT) volumes used for this study are presented on Table 6-1. Future traffic volumes on City of Lake Forest roadways were estimated based on General Plan Circulation Element roadway capacity volumes by classification. (19) Soft site conditions were used to analyze the traffic noise impacts within the Project study area which account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. Research by Caltrans shows that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (20)

TABLE 6-1: ON-SITE ROADWAY PARAMETERS

Roadway Segment	Lanes	Classification ¹	Future ADT Volume ²	Speed (mph)	Site Conditions
Packer Pl.	2	Collector	10,000	40	Soft
Raymond Way	2	Collector	10,000	40	Soft
El Toro Road	8	Principal Arterial	70,000	40	Soft

¹ Road classifications based upon the City of Lake Forest General Plan Circulation Element, Figure C-1.

² Roadway volumes were estimated from the City of Lake Forest General Plan Circulation Element Representative Roadway Capacities.

Table 6-2 presents the time of day vehicle splits and Table 6-3 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.

TABLE 6-2: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits ¹			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

¹ Source: Typical Southern California vehicle mix & County of Orange Land Use/Noise Compatibility Manual, December 1993. "Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-3: DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways ¹	97.42%	1.84%	0.74%	100.00%

¹ Source: County of Orange Land Use/Noise Compatibility Manual, December 1993.

To predict the future noise environment at the Project site, coordinate information was collected to identify the noise transmission path between the noise source and the receiver. The coordinate information is based on the Project site plan and its relationship to the adjacent roadways. The site plan is used to identify the relationship between the roadway centerline elevation, the pad elevation and the centerline distance to any intervening noise barriers, and the building façade. The exterior noise level receivers are placed five feet above the pad elevation in outdoor living areas or at the proposed building façade for first-floor exterior noise level analysis. Second-floor receivers are located at a height of 15 feet, third-floor receivers are located at a height of 25 feet and fourth-floor receivers are located a height of 35 feet.

6.4 CONSTRUCTION VIBRATION ASSESSMENT METHODOLOGY

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

While vehicular traffic is rarely perceptible, construction activity has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-4. Based on the reference vibration levels provided by the Federal Transit Administration (FTA) for various construction equipment types, it is possible to estimate the potential building damage and human response (annoyance) using the following vibration assessment methods defined by the FTA and Caltrans. To describe the potential vibration impacts, the following equation is used: $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$

TABLE 6-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment

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7 ON-SITE TRAFFIC NOISE IMPACTS

A noise impact analysis has been completed to determine the noise exposure levels that would result from adjacent and dominant traffic noise sources in the Project study area, and to identify potential noise mitigation measures that would achieve acceptable Project exterior and interior noise levels. The primary source of traffic noise affecting the Project site is anticipated to be from Packer Place, Raymond Way and El Toro Road. The Project will also experience some background traffic noise impacts from other local streets, however traffic noise from these roadways is not expected to make a significant contribution to the noise environment.

7.1 EXTERIOR NOISE ANALYSIS

Using the FHWA traffic noise prediction model, and the parameters outlined in Section 6, the expected future exterior noise levels are calculated at the noise-sensitive residential uses within the Project site. Table 7-1 presents a summary of future exterior noise level impacts at the first, second, third and fourth floor building façade. The on-site traffic noise analysis calculations are provided in Appendix 7.1. The future unmitigated exterior traffic noise levels are shown to range from 58.9 to 65.0 dBA CNEL at the residential building facades for units facing Parker Place Raymond Way, and El Toro Road. Therefore, no exterior noise mitigation measures are required to satisfy HUD and the City of Lake Forest 65 dBA CNEL exterior noise level standards for the residential land use and the on-site traffic noise impacts are *less than significant*.

TABLE 7-1: UNMITIGATED EXTERIOR TRAFFIC NOISE LEVELS AT BUILDING FACADES

Unit	Roadway	Unmitigated Exterior Noise Level (dBA CNEL) ¹			
		1st Floor	2nd Floor	3rd Floor	4th Floor
118	Packer Pl.	65.0	64.9	64.5	64.0
116	Raymond Way	64.4	64.3	64.0	63.6
115	Raymond Way	64.0	63.9	63.6	63.2
101	El Toro Road	58.9	58.9	58.9	58.9

¹ Exterior noise calculations at the building façade are shown in Appendix 7.1.

7.2 INTERIOR NOISE ANALYSIS

To ensure that the interior noise levels comply with the interior noise level standards, future exterior noise levels were calculated at the first, second, third and fourth floor building façades where residential units are located.

7.2.1 NOISE REDUCTION METHODOLOGY

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (6) (21) However, sound leaks, cracks and openings within the

window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: [1] weather-stripped solid core exterior doors; [2] upgraded dual glazed windows; [3] mechanical ventilation/air conditioning; and [4] exterior wall/roof assemblies free of cut outs or openings.

7.2.2 INTERIOR NOISE LEVEL ASSESSMENT

Table 7-2 shows that the Project buildings will require a windows-closed condition and a means of mechanical ventilation (e.g. air conditioning). Table 7-2 shows that the future exterior noise levels at the building façades are expected to range from 58.9 to 65.0 dBA CNEL. The interior noise level analysis shows that the HUD and City of Lake Forest 45 dBA CNEL residential interior noise level standard can be satisfied using standard windows and sliding glass doors with minimum STC ratings of 27. The interior noise level assessment shows that interior noise levels will be *less than significant*.

TABLE 7-1: INTERIOR NOISE IMPACTS (CNEL)

Unit	Floor	Noise Level at Façade ¹	Required Interior NR ²	Minimum Interior NR ³	Upgraded Windows ⁴	Interior Noise Level ⁵	Threshold	Threshold Exceeded?
118	1	65.0	20.0	25	No	40.0	45	No
	2	64.9	19.9	25	No	39.9	45	No
	3	64.5	19.5	25	No	39.5	45	No
	4	64.0	19.0	25	No	39.0	45	No
116	1	64.4	19.4	25	No	39.4	45	No
	2	64.3	19.3	25	No	39.3	45	No
	3	64.0	19.0	25	No	39.0	45	No
	4	63.6	18.6	25	No	38.6	45	No
115	1	64.0	19.0	25	No	39.0	45	No
	2	63.9	18.9	25	No	38.9	45	No
	3	63.6	18.6	25	No	38.6	45	No
	4	63.2	18.2	25	No	38.2	45	No
101	1	58.9	13.9	25	No	33.9	45	No
	2	58.9	13.9	25	No	33.9	45	No
	3	58.9	13.9	25	No	33.9	45	No
	4	58.9	13.9	25	No	33.9	45	No

¹ Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).

² Noise reduction required to satisfy the 45 dBA CNEL interior noise standard for residential uses.

³ Minimum interior noise reduction with standard building construction.

⁴ Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

⁵ Estimated interior noise level with minimum STC rating for all windows.

"NR" = Noise Reduction

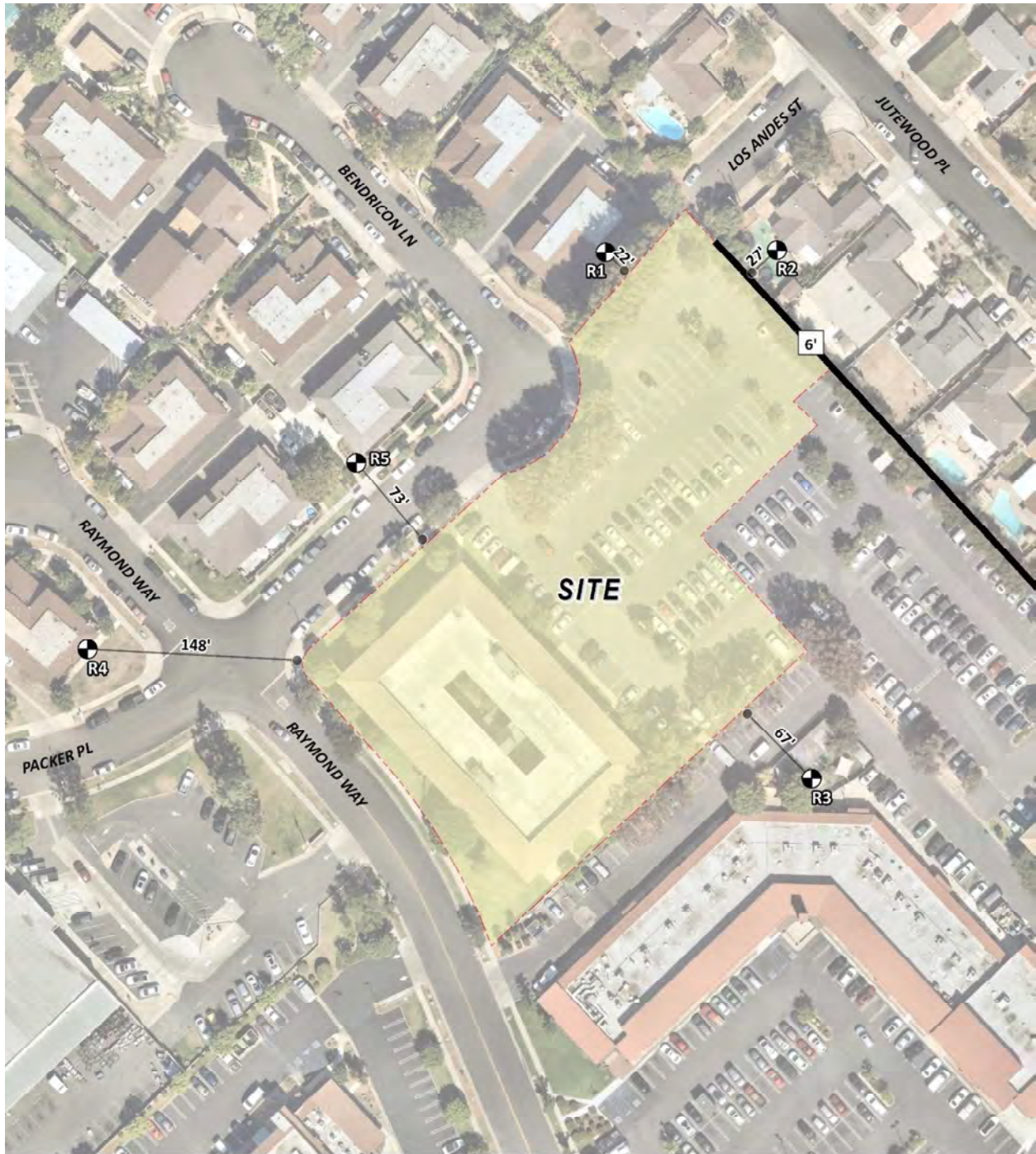
8 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following receiver locations as shown on Exhibit 9-A were identified as representative locations for focused analysis based on the *City of Lake Forest CEQA Significance Thresholds Guide* which defines noise-sensitive uses as *residential (single-family, multi-family, mobile home); hotels; motels; nursing homes; hospitals; parks, playgrounds and recreation areas; and schools*. (1) Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Sensitive receivers near the Project site include existing nearby residential homes, as described below. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this report will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures.

- R1: Located approximately 22 feet from the Project site, R1 represents existing residential homes on Bendricon Lane. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing residential homes located at 24592 Jutewood Place approximately 27 feet from the Project site boundary. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing Montessori Children's School House east of Raymond Way approximately 67 feet from the Project site boundary. A 24-hour noise measurement near this location, L2, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the existing multi-family residential homes at 23421 Packer Place approximately 148 feet from the Project site. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.
- R5: Location R5 represents the existing multi-family residential homes at 24532 Bendricon Lane approximately 73 feet from the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



LEGEND:

- Site Boundary
- Receiver Locations
- Existing Barrier
- Distance from receiver to Project site boundary (in feet)
- Existing Barrier Height (in feet)

9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from the operation of the proposed Mountain View Affordable Housing Community Project. Exhibit 9-A identifies the noise source locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE SOURCES

It is expected the on-site Project-related noise sources will include: tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units. This noise analysis is intended to describe noise level impacts associated with the typical operational activities at the Project site.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units all operating at the same time. These noise level impacts will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using Larson Davis Lxt Type 1 and Piccolo Type 2 integrating sound level meters and dataloggers. All sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (16)

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

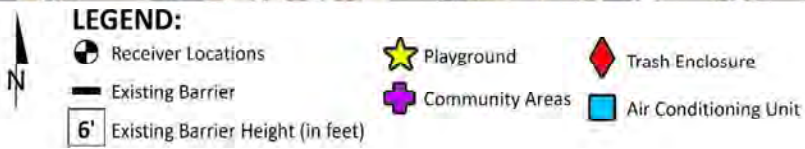
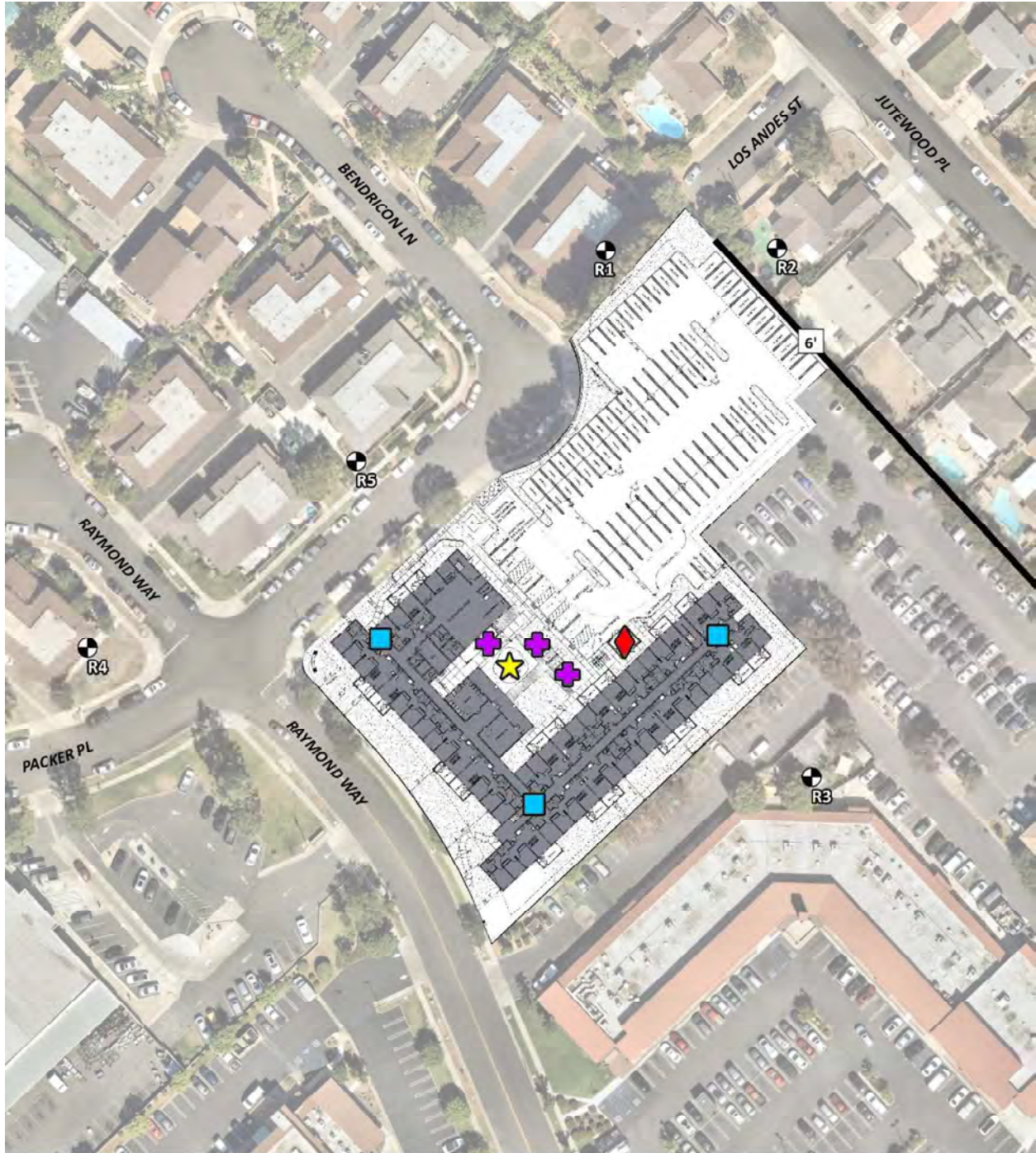


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Min./Hour ⁵		Reference Noise Level (dBA L _{eq})		Sound Power Level (dBA) ⁶
				Day	Night	@ Ref. Dist.	@ 50 Feet	
Playground Activities ¹	00:15:00	5'	4'	60	0	63.4	43.4	75.1
Community Area ²	00:08:00	10'	5'	60	0	73.8	59.8	91.5
Trash Enclosure ³	00:00:32	5'	5'	20	20	77.3	57.3	89.0
Air Conditioning Unit ⁴	96:00:00	5'	5'	39	28	77.2	57.2	88.9

¹ As measured by Urban Crossroads, Inc. at the Founder's Park in Ladera Ranch.

² As measured by Urban Crossroads, Inc. on the Patio at Louie's by the Bay in the City of Newport Beach.

³ As measured by Urban Crossroads, Inc. at a commercial and office park trash enclosure in the City of Costa Mesa.

⁴ As measured by Urban Crossroads, Inc. at the Santee Walmart located at 170 Town Center Parkway.

⁵ Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site.

"Day" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

⁶ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

9.2.2 PLAYGROUND ACTIVITIES

To represent the potential noise level impacts associated with the Project's tot lot playground area, a reference noise level measurement was collected on Wednesday, October 8th, 2014 at the Founders Park in the unincorporated community of Ladera Ranch in the County of Orange. The reference noise levels collected at the Founders Park are expected to reflect the noise level activities within the playgrounds and tot lots at the Project site, since the reference noise level measurement includes parents speaking on cell phones, kids playing on swing sets, and background girls youth soccer games, with coaches shouting instructions and people cheering and clapping. Using the uniform reference distance of 50 feet, the reference playground activity noise level is 43.4 dBA L_{eq}. The playground activities are estimated to occur for 60 minutes during the peak hour conditions.

9.2.3 COMMUNITY AREAS

To describe the outdoor common areas (community lounge and fireplace, outdoor kitchen with BBQ), a reference noise level measurement was taken at the Louie's by the Bay in Newport Beach. At 50 feet, the reference noise level is 59.8 dBA L_{eq} at a noise source height of 5 feet. The reference noise level measurement includes outdoor eating activities with patrons laughing and talking. Courtyard activities are limited to the daytime and evening hours.

9.2.4 TRASH ENCLOSURE

To describe the noise levels associated with a trash enclosure, Urban Crossroads collected a reference noise level measurement at an existing commercial and office park trash enclosure within a parking lot on the northeast corner of Baker Street and Red Hill Avenue. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The trash enclosure activity noise levels include two metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels,

trash dropping into the metal dumpster, and background parking lot vehicle movements. Noise associated with trash enclosure activities is conservatively expected to occur for 20 minutes per hour.

9.2.5 AIR CONDITIONING UNITS

To assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken over a four-day total duration at the Santee Walmart. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe mechanical roof-top air conditioning units on the roof of an existing Walmart store, with additional roof-top units operating in the background. The reference noise level represents Lennox SCA120 series 10-ton model packaged air conditioning units. At 5 feet from the closest roof-top air conditioning unit, the highest exterior noise level from all four days of the measurement period was measured at 77.2 dBA L_{eq} . Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA L_{eq} . The operating conditions of the reference noise level measurement reflect peak summer cooling requirements. The air conditioning units were observed to operate 39 minutes during the daytime and evening hours and 28 minutes per hour during the nighttime hours.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze the noise level of multiple types of noise sources and calculates the noise levels at any location using the spatially accurate Project site plan and includes the effects of topography, buildings, and multiple barriers in its calculations using the latest standards to predict outdoor noise impacts. Appendix 9.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section. Using the spatially accurate Project site plan and flown aerial imagery from Nearmap, a CadnaA noise prediction model of the Project study area was developed. The noise model provides a three-dimensional representation of the Project study area using the following key data inputs:

- Ground absorption;
- Multiple reflections at buildings and barriers;
- Reference noise level sources by type (area, point, etc.) and noise source heights;
- Multiple noise receiver locations and heights;
- Topography and earthen berms;
- Barrier and building heights.

Using the ISO 9613 protocol, the CadnaA noise prediction model will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level calculations at each receiver location and the partial noise level contributions by noise source. The reference sound power level (PWL) for the highest noise source expected at the Project site was input into the CadnaA noise prediction model. While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (PWL) are connected

to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6.0 dBA for each doubling of distance from a point source, based on existing conditions in the Project study area.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include tot lot playground, community lounge and fireplace, outdoor kitchen with BBQ, trash enclosure and roof-top air conditioning units, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-2 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 41.0 to 49.9 dBA L_{eq} .

TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Playground Activities	29.1	23.3	7.1	5.0	11.7
Community Area	48.8	44.5	28.9	25.9	40.1
Trash Enclosure	38.8	33.3	19.2	15.5	40.5
Air Conditioning Unit	41.4	41.1	41.4	40.8	44.1
Total (All Noise Sources)	49.9	46.4	41.7	41.0	46.7

¹ See Exhibit 9-A for the noise source and receiver locations.

² CadnaA noise model calculations are included in Appendix 9.1.

Table 9-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 38.4 to 43.7 dBA L_{eq} . The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1). No Project playground or community area operational activities are expected during the nighttime hours from 10:00 p.m. to 7:00 a.m. Appendix 9.1 includes the detailed noise model inputs including the existing perimeter walls used to estimate the Project operational noise levels presented in this section.

TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Playground Activities	0.0	0.0	0.0	0.0	0.0
Community Area	0.0	0.0	0.0	0.0	0.0
Trash Enclosure	37.8	32.3	18.2	14.5	39.5
Air Conditioning Unit	39.0	38.7	39.0	38.4	41.7
Total (All Noise Sources)	41.5	39.6	39.0	38.4	43.7

¹ See Exhibit 9-A for the noise source and receiver locations.

² CadnaA noise model calculations are included in Appendix 9.1.

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against the City of Lake Forest exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-4 shows the operational noise levels associated with Mountain View Affordable Housing Community Project will satisfy the City of Lake Forest 55 dBA L_{eq} daytime and 50 dBA L_{eq} nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 9-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Threshold Exceeded? ⁴	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	49.9	41.5	55	50	No	No
R2	46.4	39.6	55	50	No	No
R3	46.4	39.0	55	50	No	No
R4	41.0	38.4	55	50	No	No
R5	46.7	43.7	55	50	No	No

¹ See Exhibit 9-A for the noise source and receiver locations.

² Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.

³ City of Lake Forest exterior noise level standards for residential land use, as shown on Table 3-1.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

"Day" = 7:00 a.m. to 7:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (4) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \dots 10^{SPLn/10}]$$

Where “SPL1,” “SPL2,” etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-5 and 9-6, respectively. As indicated on Tables 9-5 and 9-6, the Project will generate an unmitigated daytime and nighttime operational noise level increases ranging from 0.1 to 1.4 dBA L_{eq} at the nearby receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Table 4-1, the increases at the sensitive receiver locations will be *less than significant*.

TABLE 9-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded? ⁷
R1	49.9	L1	54.0	55.4	1.4	5.0	No
R2	46.4	L1	54.0	54.7	0.7	5.0	No
R3	46.4	L2	52.7	53.6	0.9	5.0	No
R4	41.0	L3	57.8	57.9	0.1	5.0	No
R5	46.7	L4	54.6	55.3	0.7	5.0	No

¹ See Exhibit 8-A for the sensitive receiver locations.
² Total Project daytime operational noise levels as shown on Table 9-2.
³ Reference noise level measurement locations as shown on Exhibit 5-A.
⁴ Observed daytime ambient noise levels as shown on Table 5-1.
⁵ Represents the combined ambient conditions plus the Project activities.
⁶ The noise level increase expected with the addition of the proposed Project activities.
⁷ Significance Criteria as defined in Section 4.

TABLE 9-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded? ⁷
R1	41.5	L1	51.9	52.3	0.4	5.0	No
R2	39.6	L1	51.9	52.1	0.2	5.0	No
R3	39.0	L2	52.0	52.2	0.2	5.0	No
R4	38.4	L3	55.5	55.6	0.1	5.0	No
R5	43.7	L4	49.8	50.8	1.0	5.0	No

¹ See Exhibit 8-A for the sensitive receiver locations.

² Total Project nighttime operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

TABLE 9-5: NIGHTTIME OPERATIONAL NOISE LEVEL CONTRIBUTIONS

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded? ⁷
R1	26.7	L1	44.1	44.2	0.1	5.0	No
R2	37.3	L2	48.1	48.4	0.3	5.0	No
R3	44.6	L3	41.7	46.4	4.7	5.0	No
R4	42.2	L3	41.7	45.0	3.3	5.0	No
R5	42.0	L3	41.7	44.9	3.2	5.0	No
R6	40.8	L3	41.7	44.3	2.6	5.0	No
R7	40.7	L3	41.7	44.2	2.5	5.0	No
R8	33.7	L3	41.7	42.3	0.6	5.0	No

¹ See Exhibit 8-A for the sensitive receiver locations.

² Total Project operational noise levels as shown on Table 9-2.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient noise levels plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

10 CONSTRUCTION ANALYSIS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction activity boundaries in relation to the nearby sensitive receiver locations.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

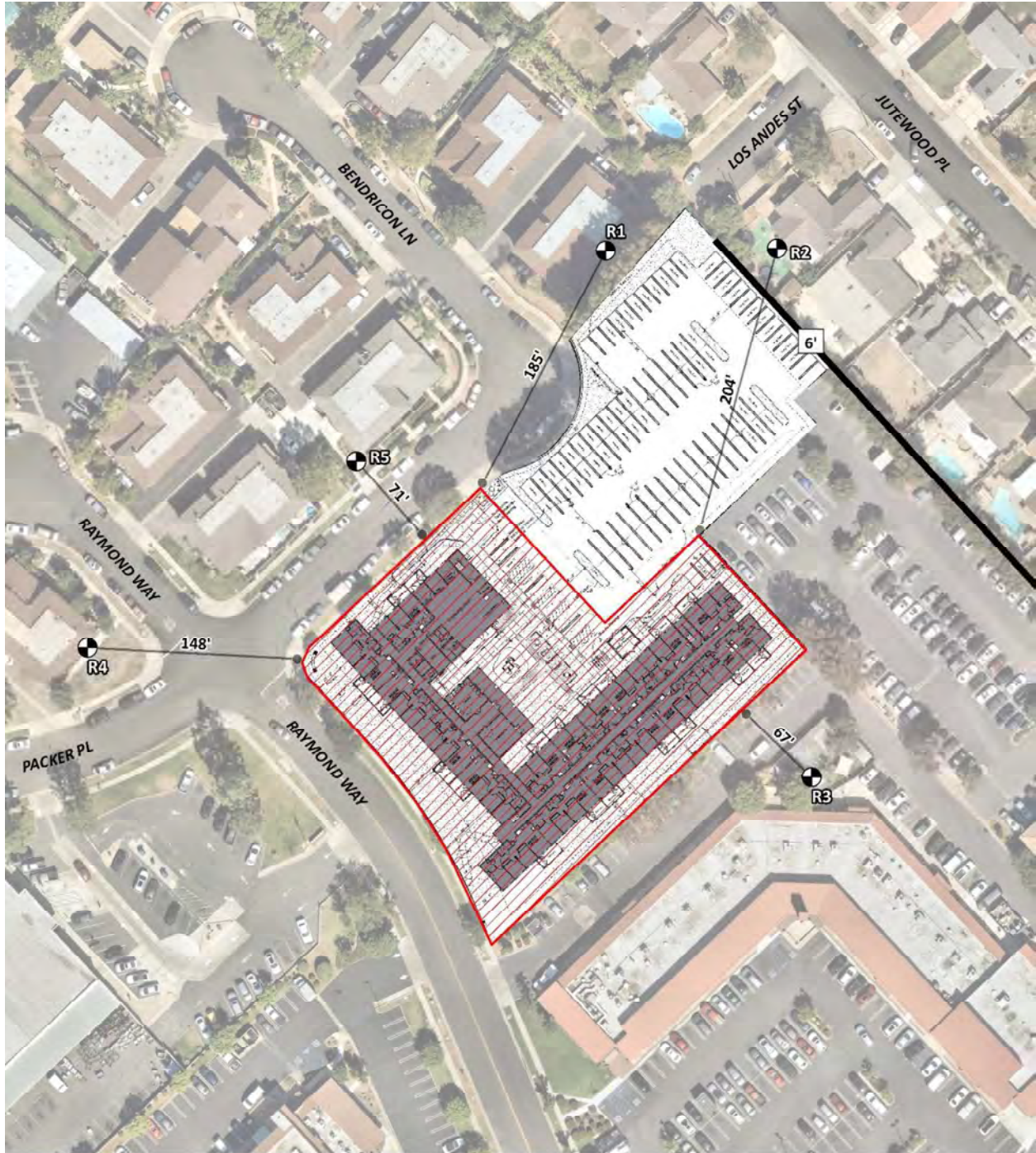
- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. Hard site conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e. construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of construction activity area for each stage of construction to the nearest receiver location. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



LEGEND:

- Receiver Locations
- Existing Barrier
- Existing Barrier Height (in feet)
- Primary Area of Construction Activity
- Distance from receiver to construction activity (in feet)

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Highest Reference Noise Level (dBA Leq)
Demolition	Demolition Activity	67.9	71.9
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

10.3 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from the edge of the construction activity areas to each of the nearby receiver locations. As shown on Table 10-2, the unmitigated construction noise levels are expected to range from 56.2 to 73.7 dBA Leq at the nearby receiver locations. Project construction noise levels are considered exempt if activities occur within the hours specified in the City of Lake Forest Municipal Code Section 11.16.060 of 7:00 a.m. to 8:00 p.m. on weekdays, including Saturdays.

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations a construction-related the NIOSH noise level threshold of 85 dBA Leq is used as acceptable thresholds for construction noise at the nearby sensitive receiver locations. The construction noise analysis shows that the noise sensitive residential receiver locations will satisfy the 85 dBA Leq significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all noise sensitive receiver locations

TABLE 10-2: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	70.3	73.7	71.9	70.0	69.6	63.6	73.7
R2	69.5	72.9	71.1	69.2	68.8	62.8	72.9
R3	67.5	70.9	69.1	67.2	66.8	60.8	70.9
R4	62.9	66.3	64.5	62.6	62.2	56.2	66.3
R5	67.8	71.2	69.4	67.5	67.1	61.1	71.2

¹ Construction noise source and receiver locations are shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	73.7	85	No
R2	72.9	85	No
R3	70.9	85	No
R4	66.3	85	No
R5	71.2	85	No

¹ Noise receiver locations are shown on Exhibit 10-A.

² Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 10-2.

³ Construction noise level thresholds as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.4 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project’s construction activities most likely to cause vibration impacts are:

- **Heavy Construction Equipment:** Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.
- **Trucks:** Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). Using the vibration source level of construction equipment provided on Table 6-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-6 presents the expected Project related vibration levels at distances ranging from 67 to 204 feet from the primary area of Project construction activity.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec PPV at 25 feet. At distances ranging from 67 to 204 feet from primary Project construction activities, construction vibration velocity levels are expected to range from 0.004 to 0.020 in/sec PPV. Table 11-9 shows that the Project construction vibration levels will remain below the Caltrans building damage threshold of 0.3 in/sec PPV at all receiver locations.

Compared with the Caltrans construction vibration standard for human annoyance, the proposed Project construction activities will remain below the *distinctly perceptible* vibration standard of 0.04 in/sec PPV at all receiver locations. The Project-related vibration impacts at the nearby sensitive receiver locations, therefore, represent a *less than significant* impact Project construction activities.

TABLE 10-6: UNMITIGATED CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver ¹	Distance to Const. Activity (Feet)	Receiver PPV Levels (in/sec) ²						Thresholds (in/sec PPV)		Threshold Exceeded? ³	
		Small Bulldozer (< 80k lbs)	Jack-hammer	Loaded Trucks	Large Bulldozer (> 80k lbs)	Highest Vibration Level	Human Annoyance	Building Damage	Human Annoyance	Building Damage	
R1	185'	0.000	0.002	0.004	0.004	0.004	0.004	0.04	0.3	No	No
R2	204'	0.000	0.002	0.003	0.004	0.004	0.004	0.04	0.3	No	No
R3	67'	0.001	0.008	0.017	0.020	0.020	0.020	0.04	0.3	No	No
R4	148'	0.000	0.002	0.005	0.006	0.006	0.006	0.04	0.3	No	No
R5	71'	0.001	0.007	0.016	0.019	0.019	0.019	0.04	0.3	No	No

¹ Receiver locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 6-4.

³ Does the peak vibration exceed the acceptable vibration thresholds?

"ppv" = Peak Particle Velocity

11 REFERENCES

1. **City of Lake Forest.** *CEQA Significance Thresholds Guide*. March 2009.
2. **State of California.** *California Environmental Quality Act, Appendix G & Amendments and Additions to the State CEQA Guidelines*. 2019.
3. **Harris, Cyril M.** *Noise Control in Buildings*. s.l. : McGraw-Hill, Inc., 1994.
4. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol*. Sacramento, CA : s.n., September 2013.
5. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March 1974. EPA/ONAC 550/9/74-004.
6. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance*. December 2011.
7. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response*. April 2000. p. 3.
8. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise*. October 1979 (revised July 1981). EPA 550/9/82/106.
9. **Occupational Safety and Health Administration.** *Standard 29 CRF, Part 1910*.
10. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment*. September 2018.
11. **Office of Planning and Research.** *State of California General Plan Guidelines*. 2017.
12. **City of Lake Forest.** *General Plan Safety and Noise Element*. June 1994.
13. —. *Municipal Code, Title 11 – Peace and Safety, Division II – Offenses Against Public Peace, Chapter 11.16 – Noise Control*.
14. **National Institute for Occupational Safety and Health.** *Criteria for Recommended Standard: Occupational Noise Exposure*. June 1998.
15. **California Department of Transportation.** *Transportation and Construction Vibration Guidance Manual*. September 2013.
16. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013*.
17. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model*. December 1978. FHWA-RD-77-108.
18. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction*. September 1995. TAN 95-03.
19. **City of Lake Forest.** *General Plan Circulation Element*. July 2008.
20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report*. June 1995. FHWA/CA/TL-95/23.
21. —. *Traffic Noise Analysis Protocol*. May 2011.

12 CERTIFICATION

The contents of this report represent an accurate depiction of the noise environment and impacts associated with the proposed Mountain View Affordable Housing Community Project. The information contained in this report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5979.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:
HUD NOISE STANDARDS

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24 CFR Part 51 - Environmental Criteria and Standards

Subpart B - Noise Abatement and Control

[51.100 Purpose and Authority](#)

[51.101 General policy](#)

[51.102 Responsibilities](#)

[51.103 Criteria and standards](#)

[51.104 Special requirements](#)

[51.105 Exceptions](#)

[51.106 Implementation](#)

For more information visit: www.hud.gov

Sec. 51.100 Purpose and authority.

a. It is the purpose of this subpart B to:

1. Call attention to the threat of noise pollution;
2. Encourage the control of noise at its source in cooperation with other Federal departments and agencies;
3. Encourage land use patterns for housing and other noise sensitive urban needs that will provide a suitable separation between them and major noise sources;
4. Generally prohibit HUD support for new construction of noise sensitive uses on sites having unacceptable noise exposure;
5. Provide policy on the use of structural and other noise attenuation measures where needed; and
6. Provide policy to guide implementation of various HUD programs.

b. Authority. Specific authorities for noise abatement and control are contained in the Noise Control Act of 1972, as amended (42 U.S.C. 4901 et seq.); and the General Services Administration, Federal Management Circular 75-2; Compatible Land Uses at Federal Airfields.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

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Sec. 51.101 General policy.

a. It is HUD's general policy to provide minimum national standards applicable to HUD programs to protect citizens against excessive noise in their communities and places of residence.

1. Planning assistance. HUD requires that grantees give adequate consideration to noise exposures and sources of noise as an integral part of the urban environment when HUD assistance is provided for planning purposes, as follows:

i. Particular emphasis shall be placed on the importance of compatible land use planning in relation to airports, highways and other sources of high noise.

ii. Applicants shall take into consideration HUD environmental standards impacting the use of land.

2. Activities subject to 24 CFR part 58.

i. Responsible entities under 24 CFR part 58 must take into consideration the noise criteria and standards in the environmental review process and consider ameliorative actions when noise sensitive land development is proposed in noise exposed areas. Responsible entities shall address deviations from the standards in their environmental reviews as required in 24 CFR part 58.

ii. Where activities are planned in a noisy area, and HUD assistance is contemplated later for housing and/or other noise sensitive activities, the responsible entity risks denial of the HUD assistance unless the HUD standards are met.

3. HUD support for new construction. HUD assistance for the construction of new noise sensitive uses is prohibited generally for projects with unacceptable noise exposures and is discouraged for projects with normally unacceptable noise exposure. (Standards of acceptability are contained in Sec. 51.103(c).) This policy applies to all HUD programs providing assistance, subsidy or insurance for housing, manufactured home parks, nursing homes, hospitals, and all programs providing assistance or insurance for land development, redevelopment or any other provision of facilities and services which are directed to making land available for housing or noise sensitive development. The policy does not apply to research demonstration projects which do not result in new construction or reconstruction, flood insurance, interstate land sales registration, or any action or emergency

assistance under disaster assistance provisions or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster.

4. HUD support for existing construction. Noise exposure by itself will not result in the denial of HUD support for the resale and purchase of otherwise acceptable existing buildings. However, environmental noise is a marketability factor which HUD will consider in determining the amount of insurance or other assistance that may be given.
5. HUD support of modernization and rehabilitation. For modernization projects located in all noise exposed areas, HUD shall encourage noise attenuation features in alterations. For major or substantial rehabilitation projects in the Normally Unacceptable and Unacceptable noise zones, HUD actively shall seek to have project sponsors incorporate noise attenuation features, given the extent and nature of the rehabilitation being undertaken and the level or exterior noise exposure. In Unacceptable noise zones, HUD shall strongly encourage conversion of noise-exposed sites to land uses compatible with the high noise levels.
6. Research, guidance and publications. HUD shall maintain a continuing program designed to provide new knowledge of noise abatement and control to public and private bodies, to develop improved methods for anticipating noise encroachment, to develop noise abatement measures through land use and building construction practices, and to foster better understanding of the consequences of noise. It shall be HUD's policy to issue guidance documents periodically to assist HUD personnel in assigning an acceptability category to projects in accordance with noise exposure standards, in evaluating noise attenuation measures, and in advising local agencies about noise abatement strategies. The guidance documents shall be updated periodically in accordance with advances in the state-of-the-art.
7. Construction equipment, building equipment and appliances. HUD shall encourage the use of quieter construction equipment and methods in population centers, the use of quieter equipment and appliances in buildings, and the use of appropriate noise abatement techniques in the design of residential structures with potential noise problems.
8. Exterior noise goals. It is a HUD goal that exterior noise levels do not exceed a day-night average sound level of 55 decibels. This level is recommended by the Environmental Protection Agency as a goal for outdoors in residential areas. The levels recommended by EPA are not standards and do not take into account cost or feasibility. For the purposes of this regulation and to meet other program objectives, sites with a day-night average sound level of 65 and below are acceptable and are allowable (see Standards in Sec. 51.103(c)).
9. Interior noise goals. It is a HUD goal that the interior auditory environment shall not exceed a day-night average sound level of 45 decibels. Attenuation measures to meet these interior goals shall be employed where feasible. Emphasis shall be given to noise sensitive interior spaces such as bedrooms. Minimum attenuation requirements are prescribed in Sec. 51.104(a).
10. Acoustical privacy in multifamily buildings. HUD shall require the use of building design and acoustical treatment to afford acoustical privacy in multifamily buildings pursuant to requirements of the Minimum Property Standards.

[44 FR 40861, July 12, 1979, as amended at 50 FR 9268, Mar. 7, 1985; 61 FR 13333, Mar. 26, 1996]

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Sec. 51.102 Responsibilities.

a. Surveillance of noise problem areas. Appropriate field staff shall maintain surveillance of potential noise problem areas and advise local officials, developers, and planning groups of the unacceptability of sites because of noise exposure at the earliest possible time in the decision process. Every attempt shall be made to insure that applicants' site choices are consistent with the policy and standards contained herein.

b. Notice to applicants. At the earliest possible stage, HUD program staff shall:

1. Determine the suitability of the acoustical environment of proposed projects;
2. Notify applicants of any adverse or questionable situations; and
3. Assure that prospective applicants are apprised of the standards contained herein so that future site choices will be consistent with these standards.

c. Interdepartmental coordination. HUD shall foster appropriate coordination between field offices and other departments and agencies, particularly the Environmental Protection Agency, the Department of Transportation, Department of Defense representatives, and the Department of Veterans Affairs. HUD staff shall utilize the acceptability standards in commenting on the prospective impacts of transportation facilities and other noise generators in the Environmental Impact Statement review process.

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Sec. 51.103 Criteria and standards.

These standards apply to all programs as indicated in Sec. 51.101.

a. Measure of external noise environments. The magnitude of the external noise environment at a site is determined by the value of the

day-night average sound level produced as the result of the accumulation of noise from all sources contributing to the external noise environment at the site. Day-night average sound level, abbreviated as DNL and symbolized as Ldn, is the 24-hour average sound level, in decibels, obtained after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m. Mathematical expressions for average sound level and day-night average sound level are stated in the Appendix I to this subpart.

b. Loud impulsive sounds. On an interim basis, when loud impulsive sounds, such as explosions or sonic booms, are experienced at a site, the day-night average sound level produced by the loud impulsive sounds alone shall have 8 decibels added to it in assessing the acceptability of the site (see Appendix I to this subpart). Alternatively, the C-weighted day-night average sound level (LCdn) may be used without the 8 decibel addition, as indicated in Sec. 51.106(a)(3). Methods for assessing the contribution of loud impulsive sounds to day-night average sound level at a site and mathematical expressions for determining whether a sound is classed as "loud impulsive" are provided in the Appendix I to this subpart.

c. Exterior standards.

1. The degree of acceptability of the noise environment at a site is determined by the sound levels external to buildings or other facilities containing noise sensitive uses. The standards shall usually apply at a location 2 meters (6.5 feet) from the building housing noise sensitive activities in the direction of the predominant noise source. Where the building location is undetermined, the standards shall apply 2 meters (6.5 feet) from the building setback line nearest to the predominant noise source. The standards shall also apply at other locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site.
2. The noise environment inside a building is considered acceptable if:
 - i. The noise environment external to the building complies with these standards, and
 - ii. the building is constructed in a manner common to the area or, if of uncommon construction, has at least the equivalent noise attenuation characteristics.

Site Acceptability Standards

	Day-night average sound level (in decibels)	Special approvals and requirements
Acceptable	Not exceeding 65 dB(1)	None
Normally Unacceptable	Above 65 dB but not exceeding 75 dB.	Special Approvals (2) Environmental Review (3) Attenuation (4)
Unacceptable	Above 75 dB	Special Approvals (2) Environmental Review (3) Attenuation (5)

Notes:

1. Acceptable threshold may be shifted to 70 dB in special circumstances pursuant to Sec. 51.105(a).
2. See Sec. 51.104(b) for requirements.
3. See Sec. 51.104(b) for requirements.
4. 5 dB additional attenuation required for sites above 65 dB but not exceeding 70 dB and 10 dB additional attenuation required for sites above 70 dB but not exceeding 75 dB. (See Sec. 51.104(a).)
5. Attenuation measures to be submitted to the Assistant Secretary for CPD for approval on a case-by-case basis.

[44 FR 40861, July 12, 1979, as amended at 49 FR 12214, Mar. 29, 1984]

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Sec. 51.104 Special requirements.

a. Noise attenuation. Noise attenuation measures are those required in addition to attenuation provided by buildings as commonly constructed in the area, and requiring open windows for ventilation. Measures that reduce external noise at a site shall be used wherever practicable in preference to the incorporation of additional noise attenuation in buildings. Building designs and construction techniques that provide more noise attenuation than typical construction may be employed also to meet the noise attenuation requirements.

1. Normally unacceptable noise zones and unacceptable noise zones. Approvals in Normally Unacceptable Noise Zones require a minimum of 5 decibels additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 decibels but does not exceed 70 decibels, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 decibels but does not exceed 75 decibels.

2. Noise attenuation measures in Unacceptable Noise Zones require the approval of the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58. (See Sec. 51.104(b)(2).)

b. Environmental review requirements. Environmental reviews shall be conducted pursuant to the requirements of 24 CFR parts 50 and 58, as applicable, or other environmental regulations issued by the Department. These requirements are hereby modified for all projects proposed in the Normally Unacceptable and Unacceptable noise exposure zones as follows:

1. Normally unacceptable noise zone.

- i. All projects located in the Normally Unacceptable Noise Zone require a Special Environmental Clearance except an EIS is required for a proposed project located in a largely undeveloped area, or where the HUD action is likely to encourage the establishment of incompatible land use in this noise zone.

- ii. When an EIS is required, the concurrence of the Program Assistant Secretary is also required before a project can be approved. For the purposes of this paragraph, an area will be considered as largely undeveloped unless the area within a 2-mile radius of the project boundary is more than 50 percent developed for urban uses and infrastructure (particularly water and sewers) is available and has capacity to serve the project.

- iii. All other projects in the Normally Unacceptable zone require a Special Environmental Clearance, except where an EIS is required for other reasons pursuant to HUD environmental policies.

2. Unacceptable noise zone. An EIS is required prior to the approval of projects with unacceptable noise exposure. Projects in or partially in an Unacceptable Noise Zone shall be submitted to the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58, for approval. The Assistant Secretary or the Certifying Officer may waive the EIS requirement in cases where noise is the only environmental issue and no outdoor noise sensitive activity will take place on the site. In such cases, an environmental review shall be made pursuant to the requirements of 24 CFR parts 50 or 58, as appropriate.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

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Sec. 51.105 Exceptions.

a. Flexibility for non-acoustic benefits. Where it is determined that program objectives cannot be achieved on sites meeting the acceptability standard of 65 decibels, the Acceptable Zone may be shifted to Ldn 70 on a case-by-case basis if all the following conditions are satisfied:

1. The project does not require an Environmental Impact Statement under provisions of Sec. 51.104(b)(1) and noise is the only environmental issue.
2. The project has received a Special Environmental Clearance and has received the concurrence of the Environmental Clearance Officer.
3. The project meets other program goals to provide housing in proximity to employment, public facilities and transportation.
4. The project is in conformance with local goals and maintains the character of the neighborhood.
5. The project sponsor has set forth reasons, acceptable to HUD, as to why the noise attenuation measures that would normally be required for new construction in the Ldn 65 to Ldn 70 zone cannot be met.
6. Other sites which are not exposed to noise above Ldn 65 and which meet program objectives are generally not available.

The above factors shall be documented and made part of the project file.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

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Sec. 51.106 Implementation.

a. Use of available data. HUD field staff shall make maximum use of noise data prepared by others when such data are determined to be current and adequately projected into the future and are in terms of the following:

1. Sites in the vicinity of airports. The noise environment around airports is described sometimes in terms of Noise Exposure Forecasts, abbreviated as NEF or, in the State of California, as Community Noise Equivalent Level, abbreviated as CNEL. The

noise environment for sites in the vicinity of airports for which day-night average sound level data are not available may be evaluated from NEF or CNEL analyses using the following conversions to DNL: $DNL \sim NEF+35$ $DNL \sim CNEL$

2. Sites in the vicinity of highways. Highway projects receiving Federal aid are subject to noise analyses under the procedures of the Federal Highway Administration. Where such analyses are available they may be used to assess sites subject to the requirements of this standard. The Federal Highway Administration employs two alternate sound level descriptors: (i) The A-weighted sound level not exceeded more than 10 percent of the time for the highway design hour traffic flow, symbolized as L10; or (ii) the equivalent sound level for the design hour, symbolized as Leq. The day-night average sound level may be estimated from the design hour L10 or Leq values by the following relationships, provided heavy trucks do not exceed 10 percent of the total traffic flow in vehicles per 24 hours and the traffic flow between 10 p.m. and 7 a.m. does not exceed 15 percent of the average daily traffic flow in vehicles per 24 hours: $DNL \sim L10$ (design hour)–3 decibels $DNL \sim Leq$ (design hour) decibels Where the auto/truck mix and time of day relationships as stated in this section do not exist, the HUD Noise Assessment Guidelines or other noise analysis shall be used.
3. Sites in the vicinity of installations producing loud impulsive sounds. Certain Department of Defense installations produce loud impulsive sounds from artillery firing and bombing practice ranges. Noise analyses for these facilities sometimes encompass sites that may be subject to the requirements of this standard. Where such analyses are available they may be used on an interim basis to establish the acceptability of sites under this standard. The Department of Defense uses day-night average sound level based on C-weighted sound level, symbolized LCdn, for the analysis of loud impulsive sounds. Where such analyses are provided, the 8 decibel addition specified in Sec. 51.103(b), is not required, and the same numerical values of day-night average sound level used on an interim basis to determine site suitability for non-impulsive sounds apply to the LCdn.
4. Use of areawide acoustical data. HUD encourages the preparation and use of areawide acoustical information, such as noise contours for airports. Where such new or revised contours become available for airports (civil or military) and military installations they shall first be referred to the HUD State Office (Environmental Officer) for review, evaluation and decision on appropriateness for use by HUD. The HUD State Office shall submit revised contours to the Assistant Secretary for Community Planning and Development for review, evaluation and decision whenever the area affected is changed by 20 percent or more, or whenever it is determined that the new contours will have a significant effect on HUD programs, or whenever the contours are not provided in a methodology acceptable under Sec. 51.106(a)(1) or in other cases where the HUD State Office determines that Headquarters review is warranted. For other areawide acoustical data, review is required only where existing areawide data are being utilized and where such data have been changed to reflect changes in the measurement methodology or underlying noise source assumptions. Requests for determination on usage of new or revised areawide data shall include the following:
 - i. Maps showing old, if applicable, and new noise contours, along with brief description of data source and methodology.
 - ii. Impact on existing and prospective urbanized areas and on development activity.
 - iii. Impact on HUD-assisted projects currently in processing.
 - iv. Impact on future HUD program activity. Where a field office has determined that immediate approval of new areawide data is necessary and warranted in limited geographic areas, the request for approval should state the circumstances warranting such approval. Actions on proposed projects shall not be undertaken while new areawide noise data are being considered for HUD use except where the proposed location is affected in the same manner under both the old and new noise data.
- b. Site assessments. Compliance with the standards contained in Sec. 51.103(c) shall, where necessary, be determined using noise assessment guidelines, handbooks, technical documents and procedures issued by the Department.
- c. Variations in site noise levels. In many instances the noise environment will vary across a site, with portions of the site being in an Acceptable noise environment and other portions in a Normally Unacceptable noise environment. The standards in Sec. 51.103(c) shall apply to the portions of a building or buildings used for residential purposes and for ancillary noise sensitive open spaces.
- d. Noise measurements. Where noise assessments result in a finding that the site is borderline or questionable, or is controversial, noise measurements may be performed. Where it is determined that noise measurements are required, such measurements will be conducted in accordance with methods and measurement criteria established by the Department. Locations for noise measurements will depend on the location of noise sensitive uses that are nearest to the predominant noise source (see Sec. 51.103(c)).
- e. Projections of noise exposure. In addition to assessing existing exposure, future conditions should be projected. To the extent possible, noise exposure shall be projected to be representative of conditions that are expected to exist at a time at least 10 years beyond the date of the project or action under review.
- f. Reduction of site noise by use of berms and/or barriers. If it is determined by adequate analysis that a berm and/or barrier will reduce noise at a housing site, and if the barrier is existing or there are assurances that it will be in place prior to occupancy, the environmental noise analysis for the site may reflect the benefits afforded by the berm and/or barrier. In the environmental review process under Sec. 51.104(b), the location height and design of the berm and/or barrier shall be evaluated to determine its effectiveness, and impact on design and aesthetic quality, circulation and other environmental factors.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

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Appendix I to Subpart B to Part 51—Definition of Acoustical Quantities

1. Sound Level. The quantity in decibels measured with an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4-1971. Fast time-averaging and A-frequency weighting are to be used, unless others are specified. The sound level meter with the A-weighting is progressively less sensitive to sounds of frequency below 1,000 hertz (cycles per second), somewhat as is the ear. With fast time averaging the sound level meter responds particularly to recent sounds almost as quickly as does the ear in judging the loudness of a sound.
2. Average Sound Level. Average sound level, in decibels, is the level of the mean-square A-weighted sound pressure during the stated time period, with reference to the square of the standard reference sound pressure of 20 micropascals. Day-night average sound level, abbreviated as DNL, and symbolized mathematically as L_{dn} is defined as: [GRAPHIC OMITTED] Time t is in seconds, so the limits shown in hours and minutes are actually interpreted in seconds. $LA(t)$ is the time varying value of A-weighted sound level, the quantity in decibels measured by an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4-1971.3.
3. Loud Impulsive Sounds. When loud impulsive sounds such as sonic booms or explosions are anticipated contributors to the noise environment at a site, the contribution to day-night average sound level produced by the loud impulsive sounds shall have 8 decibels added to it in assessing the acceptability of a site. A loud impulsive sound is defined for the purpose of this regulation as one for which:
 - i. The sound is definable as a discrete event wherein the sound level increases to a maximum and then decreases in a total time interval of approximately one second or less to the ambient background level that exists without the sound; and
 - ii. The maximum sound level (obtained with slow averaging time and A-weighting of a Type 1 sound level meter whose characteristics comply with ANSI S1.4-1971) exceeds the sound level prior to the onset of the event by at least 6 decibels; and
 - iii. The maximum sound level obtained with fast averaging time of a sound level meter exceeds the maximum value obtained with slow averaging time by at least 4 decibels.

[44 FR 40861, July 12, 1979; 49 FR 10253, Mar. 20, 1984; 49 FR 12214, Mar. 29, 1984]

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APPENDIX 3.2:

CITY OF LAKE FOREST MUNICIPAL CODE

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Chapter 11.16 NOISE CONTROL

11.16.010 Declaration of policy.

In order to control unnecessary, excessive and annoying sounds, it is hereby declared to be the policy of the City to prohibit such sounds generated from all sources as specified in this chapter.

It is determined that certain sound levels are detrimental to the public health, welfare and safety, and contrary to public interest. (Ord. 171 § 1, 2007)

11.16.020 Definitions.

The following words, phrases and terms as used in this chapter shall have the meaning as indicated below:

“Ambient noise level” shall mean the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

“Cumulative period” shall mean an additive period of time composed of individual time segments which may be continuous or interrupted.

“Decibel (dB)” shall mean a unit which denotes the ratio between two (2) quantities which are proportional to power: the number of decibels corresponding to the ratio of two (2) amounts of power is ten (10) times the logarithm to the base ten (10) of this ratio.

“Dwelling unit” shall have the same meaning as in Section [9.04.030\(D\)](#).

“Emergency machinery, vehicle or work” shall mean any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

“Fixed noise source” shall mean a stationary device which creates sounds while fixed or motionless, including but not limited to industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

“Grading” shall mean any excavating or filling of earth material, or any combination thereof, conducted at a site to prepare said site for construction or other improvements thereon.

“Impact noise” shall mean the noise produced by the collision of one (1) mass in motion with a second mass which may be either in motion or at rest.

“Mobile noise source” shall mean any noise source other than a fixed noise source.

“Noise level” shall mean the “A” weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of twenty (20) micronewtons per square meter. The unit of measurement shall be designated as dBa.

“Person” shall mean a person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

“Residential property” shall mean a parcel of real property that is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels and transitory lodgings.

“Simple tone noise” shall mean a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

“Sound level meter” shall mean an instrument meeting American National Standard Institute’s Standard S1.4-1971 for Type 1 or Type 2 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

“Sound pressure level” of a sound, in decibels, shall mean twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of the sound to a reference pressure, which reference pressure shall be explicitly stated. (Ord. 297 § 14, 2017; Ord. 171 § 1, 2007)

11.16.025 Measurement of noise levels.

Any noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter as defined in Section 11.16.020. The location selected for measuring exterior noise levels shall be at any point on the affected property. Interior noise measurements shall be made within the affected dwelling unit. The measurement shall be made at a point at least four (4) feet from the wall, ceiling, or floor nearest the alleged offensive noise source and may be made with the windows of the affected unit open. (Ord. 171 § 1, 2007)

11.16.030 Designated noise zone.

The entire territory of the City of Lake Forest is hereby designated as “Noise Zone 1.” (Ord. 171 § 1, 2007)

11.16.040 Exterior noise standards.

A. The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dBA	7:00 a.m.—10.00 p.m.
1	50 dBA	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dBA.

B. It shall be unlawful for any person at any location to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, to exceed:

1. The noise standard for a cumulative period of more than thirty (30) minutes in any hour; or
 2. The noise standard plus five (5) dBA for a cumulative period of more than fifteen (15) minutes in any hour;
- or
3. The noise standard plus ten (10) dBA for a cumulative period of more than five (5) minutes in any hour; or
 4. The noise standard plus fifteen (15) dBA for a cumulative period of more than one (1) minute in any hour; or
 5. The noise standard plus twenty (20) dBA for any period of time.

C. In the event the ambient noise level exceeds any of the first four (4) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth (5th) noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. (Ord. 171 § 1, 2007)

11.16.050 Interior noise standards.

A. The following interior noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

INTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period

1	55 dBa	7:00 a.m.—10:00 p.m.
1	45 dBa	10:00 p.m.—7:00 a.m.

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dBa.

B. It shall be unlawful for any person at any location to create any noise, or to allow the creation of any noise, on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured within any other dwelling unit on any residential property, to exceed:

1. The interior noise standard for a cumulative period of more than five (5) minutes in any hour; or
2. The interior noise standard plus five (5) dBa for a cumulative period of more than one (1) minute in any hour; or
3. The interior noise standard plus ten (10) dBa for any period of time.

C. In the event the ambient noise level exceeds either of the first two (2) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third (3rd) noise limit category the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. (Ord. 171 § 1, 2007)

11.16.060 Exemptions.

The following activities shall be exempted from the provisions of this chapter:

- A. Activities not constituting “special events” conducted on the grounds of any public or private nursery, elementary, intermediate or secondary school or college.
- B. “Special events” as defined in Section [5.05.020](#) provided said events are conducted pursuant to a special event permit issued as described in Chapter [5.05](#). However, this exemption shall not preclude use of the standards set forth in Section [11.16.040](#) (“Exterior noise standards”) or Section [11.16.050](#) (“Interior noise standards”) as a guide for the application, review, or issuance of a special event permit.
- C. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work.
- D. Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday.
- E. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.
- F. Mobile noise sources associated with agricultural operations, provided such operations do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday.
- G. Mobile noise sources associated with agricultural pest control through pesticide application, provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner.
- H. Noise sources associated with the maintenance of real property, provided said activities take place between 7:00 a.m. and 8:00 p.m. on any day except Sunday or a Federal holiday, or between the hours of 9:00 a.m. and 8:00 p.m. on Sunday or a Federal holiday.
- I. Any activity to the extent regulation thereof has been preempted by State or Federal law.
- J. Noise sources associated with solid waste collection and removal, provided such activities take place between 6:00 a.m. and 6:00 p.m. Monday through Friday where audible in residential areas; or between 7:00 a.m. and 6:00 p.m. on Saturdays where audible in residential areas; or between 5:00 a.m. and 9:00 p.m. any day where such activity is not audible in residential areas; or as otherwise provided in an approved franchise agreement between a waste hauler and the City. (Ord. 300 § 7, 2017; Ord. 171 § 1, 2007)

11.16.070 Schools, hospitals and churches—Special provisions.

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church while the same is in use to exceed the noise limits as specified in Section [11.16.040](#) prescribed for the assigned noise zone in which the school, hospital or church is located, or which noise level unreasonably interferes with the use of such institutions or which unreasonably disturbs or annoys patients in the hospital, provided conspicuous signs are displayed in three (3) separate locations within one-tenth (1/10) of a mile of the institution indicating the presence of a school, church or hospital. (Ord. 171 § 1, 2007)

11.16.080 Motor vehicle racing.

It is unlawful to conduct motor vehicle racing, testing, timing or similar noise-producing activities at raceways, speedways, off-road vehicle courses, drag strips or other similar places, including, but not limited to, the operation of midget race cars, drag cars, motorcycles, off-road vehicles, and specialty automobiles, between the hours of eleven-thirty p.m. and eight a.m. (Ord. 171 § 1, 2007)

11.16.090 Enforcement.

The City's law enforcement personnel, the County Health Officer and their duly authorized representatives are authorized, pursuant to [Penal Code](#) Section 836.5, to arrest any person without a warrant when they have reasonable cause to believe that such person has committed a misdemeanor in their presence.

No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his duty. (Ord. 171 § 1, 2007)

11.16.100 Variance procedure.

The owner or operator of a noise source which violates any of the provisions of this chapter may file an application with the Health Officer for a variance from the provisions thereof wherein said owner or operator shall set forth all actions taken to comply with said provisions, the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for its accomplishment. Said application shall be accompanied by a fee in the amount of seventy-five dollars (\$75.00). A separate application shall be filed for each noise source; provided, however, that several mobile sources under common ownership, or several fixed sources on a single property may be combined into one (1) application. Upon receipt of said application and fee, the Health Officer shall refer it with his recommendation thereon within thirty (30) days to the Noise Variance Board for action thereon in accordance with the provisions of this chapter.

An applicant for a variance shall remain subject to prosecution under the terms of this chapter until a variance is granted. (Ord. 171 § 1, 2007)

11.16.110 Noise Variance Board.

The City Council shall, by resolution, appoint the Noise Variance Board, which may be composed of the City Council, Planning Commission, or any other members the City Council may select. The City Council may adopt reasonable rules and regulations for procedures to be used by the Board in carrying out its functions under the provisions of this chapter, or may allow the Board to establish such rules and regulations.

The Noise Variance Board shall evaluate all applications for variance from the requirements of this chapter and may grant said variances with respect to time for compliance, subject to such terms, conditions and requirements as it may deem reasonable to achieve maximum compliance with the provisions of this chapter. Said terms, conditions, and requirements may include but shall not be limited to limitations on noise levels and operating hours. Each such variance shall set forth in detail the approved method of achieving maximum compliance and a time schedule for its accomplishment. In its determinations said Board shall consider the magnitude of nuisance caused by the offensive noise; the uses of property within the area of impingement by the noise; the time factors related to study, design, financing and construction of remedial work; the economic factors related to age and useful life of equipment; and the general public interest and welfare. Any variance granted by said Board shall be by resolution and shall be transmitted to the Development Services Department and the Health Officer for enforcement. Any violation of the terms of said variance shall be unlawful.

Meetings of the Noise Variance Board shall be held at such times and locations as said Board shall determine. All such meetings shall be open to the public.

APPENDIX 5.1:
STUDY AREA PHOTOS

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JN: 13058 Study Area Photos



L1_E

33, 37' 22.190000", 117, 42' 2.650000"



L1_N

33, 37' 20.850000", 117, 42' 4.270000"



L1_S

33, 37' 22.230000", 117, 42' 2.760000"



L1_W

33, 37' 22.250000", 117, 42' 3.040000"



L2_E

33, 37' 20.700000", 117, 42' 2.300000"



L2_N

33, 37' 20.590000", 117, 42' 2.320000"

JN: 13058 Study Area Photos



L2_S

33, 37' 20.770000", 117, 42' 2.190000"



L2_W

33, 37' 20.770000", 117, 42' 2.190000"



L3_E

33, 37' 19.300000", 117, 42' 9.820000"



L3_N

33, 37' 19.380000", 117, 42' 9.790000"



L3_S

33, 37' 19.300000", 117, 42' 9.820000"



L3_W

33, 37' 19.300000", 117, 42' 9.820000"

JN: 13058 Study Area Photos



L4_E

33, 37' 21.420000", 117, 42' 5.670000"



L4_N

33, 37' 21.390000", 117, 42' 5.650000"



L4_S

33, 37' 21.420000", 117, 42' 5.670000"



L4_W

33, 37' 21.420000", 117, 42' 5.670000"

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APPENDIX 5.2:
NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

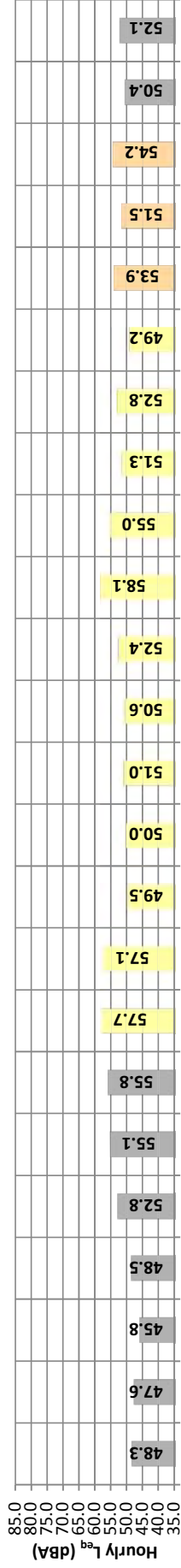
Date: Monday, December 16, 2019
Project: El Toro Road Residential

Location: L1 - Located by the northern corner of the Project site near existing single-family residential homes.

Meter: Piccolo II

JN: 13058
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}		Hour Beginning											24-Hour		Nighttime	
		L_{max}	L_{min}	L1%	L2%	L5%	L8%	L11%	L15%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Daytime	Nighttime
Night	0	48.3	45.7	54.2	53.0	51.0	50.1	48.6	47.6	46.4	46.1	45.8	45.8	48.3	10.0	58.3		
	1	47.6	44.1	52.5	52.1	51.1	50.5	48.4	46.6	44.8	44.5	44.2	44.2	47.6	10.0	57.6		
	2	45.8	43.1	50.0	49.7	48.8	48.2	46.2	46.6	43.7	43.5	43.2	43.2	45.8	10.0	55.8		
	3	48.5	45.8	51.8	51.6	51.0	50.5	49.2	47.9	46.5	46.3	45.9	45.9	48.5	10.0	58.5		
	4	52.8	50.5	56.3	55.9	55.0	54.6	53.4	52.3	51.1	50.9	50.6	50.6	52.8	10.0	62.8		
	5	55.1	53.3	57.6	57.3	56.8	56.5	55.6	54.9	53.8	53.6	53.4	53.4	55.1	10.0	65.1		
Day	6	55.8	53.6	60.2	59.6	58.4	57.6	56.2	55.3	54.1	53.9	53.7	53.7	55.8	10.0	65.8		
	7	57.7	55.7	62.5	61.9	60.4	59.7	58.0	57.1	56.1	56.0	55.8	55.8	57.7	0.0	57.7		
	8	57.1	49.8	64.7	64.2	62.9	62.0	57.7	53.9	50.6	50.2	49.9	49.9	57.1	0.0	57.1		
	9	49.5	59.1	58.5	57.7	55.6	53.8	48.9	46.5	44.6	44.4	44.1	44.1	49.5	0.0	49.5		
	10	50.0	59.7	59.3	58.7	56.4	54.4	49.0	46.7	44.9	44.7	44.3	44.3	50.0	0.0	50.0		
	11	51.0	60.8	60.3	59.6	57.2	54.9	50.1	47.7	45.7	45.4	45.0	45.0	51.0	0.0	51.0		
	12	50.6	59.3	58.7	58.0	56.2	54.6	50.3	48.1	46.1	45.8	45.5	45.5	50.6	0.0	50.6		
	13	52.4	64.2	63.0	61.5	58.2	55.9	51.3	49.3	46.7	46.3	45.8	45.8	52.4	0.0	52.4		
	14	58.1	65.7	65.3	64.7	62.9	61.4	58.8	56.4	53.6	53.0	52.5	52.5	58.1	0.0	58.1		
	15	55.0	62.2	61.8	61.3	59.7	58.5	56.1	54.1	49.3	48.9	48.4	48.4	55.0	0.0	55.0		
	16	51.3	58.7	58.3	57.7	55.9	54.4	51.2	49.9	48.2	48.0	47.7	47.7	51.3	0.0	51.3		
	17	52.8	61.1	60.7	60.2	58.4	56.7	53.0	50.9	47.9	47.6	47.2	47.2	52.8	0.0	52.8		
	18	49.2	56.2	55.9	55.3	54.0	52.8	49.0	47.6	46.0	45.8	45.5	45.5	49.2	0.0	49.2		
	19	53.9	58.8	58.5	58.1	57.0	56.5	54.6	52.9	51.4	51.2	50.9	50.9	53.9	5.0	58.9		
	20	51.5	56.7	56.1	55.6	54.5	54.0	52.4	50.5	48.8	48.5	48.2	48.2	51.5	5.0	56.5		
	21	54.2	58.2	57.9	57.5	56.8	56.4	54.9	53.3	52.5	52.3	52.1	52.1	54.2	5.0	59.2		
	22	50.4	55.6	55.2	54.8	53.7	53.0	50.7	49.7	48.5	48.3	48.0	48.0	50.4	10.0	60.4		
	23	52.1	55.3	55.1	54.8	54.1	53.7	52.6	51.8	50.6	50.3	50.1	50.1	52.1	10.0	62.1		
Timeframe	Hour	L_{eq}	L_{min}	L1%	L2%	L5%	L8%	L11%	L15%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)			
Day	Min	49.2	44.0	55.9	55.3	54.0	52.8	52.8	48.9	46.5	44.6	44.1	44.4	44.1	24-Hour			
	Max	58.1	65.7	65.3	64.7	62.9	62.0	58.8	57.1	56.1	56.1	56.1	56.0	55.8	Daytime			
Energy Average	Average:	54.1	Average:	60.7	60.1	58.2	56.6	52.8	48.3	47.6	47.6	47.6	48.0	47.6	Nighttime			
Evening	Min	51.5	48.1	56.1	55.6	54.0	54.0	52.4	50.5	48.8	48.5	48.2	48.5	48.2	24-Hour CNEL (dBA)			
	Max	54.2	58.8	58.5	58.1	57.0	56.5	54.9	53.3	52.5	52.3	52.1	52.3	52.1	53.3 54.0 51.9			
Energy Average	Average:	53.4	Average:	57.5	57.1	56.1	55.6	54.0	52.3	50.9	50.9	50.9	50.7	50.4	59.0			
Night	Min	45.8	43.1	50.0	49.7	48.8	48.2	46.2	45.1	43.7	43.5	43.2	43.5	43.2	24-Hour CNEL (dBA)			
	Max	55.8	60.5	60.2	59.6	58.4	57.6	56.2	55.3	54.1	54.1	53.7	53.9	53.7	59.0			
Energy Average	Average:	51.9	Average:	54.8	54.3	52.8	51.2	50.1	48.8	48.8	48.8	48.6	48.3	48.3	59.0			



24-Hour Noise Level Measurement Summary

Date: Monday, December 16, 2019 /N: 13058
 Project: El Toro Road Residential Meter: Piccolo II
 Location: L2 - Located east of the Project site near Montessori Children's School House. Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)

Hourly L_{eq} (dBA)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
85.0																									
80.0																									
75.0																									
70.0																									
65.0																									
60.0																									
55.0																									
50.0																									
45.0																									
40.0																									
35.0																									

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	Hour Beginning												$L_{99\%}$	Adj. L_{eq}		
					L1%	L2%	L5%	L8%	L11%	L15%	L18%	L25%	L50%	L90%	L95%					
Night	0	48.1	53.5	45.5	53.1	52.5	51.1	50.2	48.3	47.4	46.2	45.9	45.6	45.6	48.1	10.0	58.1			
	1	47.6	53.6	43.8	53.2	52.8	51.9	51.4	47.7	46.1	44.6	44.3	43.9	43.9	47.6	10.0	57.6			
	2	46.1	50.7	43.3	50.4	50.0	49.1	48.4	46.7	45.4	44.0	43.7	43.4	43.4	46.1	10.0	56.1			
	3	48.9	52.3	46.7	52.0	51.7	51.1	50.7	49.5	48.6	47.3	47.1	46.8	46.8	48.9	10.0	58.9			
	4	53.0	58.5	50.7	57.8	57.3	55.7	55.2	53.2	52.3	51.3	51.1	50.8	50.8	53.0	10.0	63.0			
	5	55.1	57.4	53.5	57.1	56.9	56.5	56.3	55.6	55.6	54.9	54.0	53.8	53.6	55.1	10.0	65.1			
	6	55.8	60.9	53.8	60.4	59.7	58.5	57.7	56.2	56.2	55.2	54.3	54.1	53.9	55.8	10.0	65.8			
Day	7	57.4	62.0	55.7	61.5	61.0	59.7	58.9	57.6	56.9	56.0	55.9	55.7	55.7	57.4	0.0	57.4			
	8	55.8	65.0	50.4	64.6	64.0	61.7	59.7	54.9	53.2	51.2	50.8	50.5	50.5	55.8	0.0	55.8			
	9	49.5	57.2	45.0	56.5	55.8	54.4	53.3	49.6	47.9	45.8	45.4	45.1	45.1	49.5	0.0	49.5			
	10	49.5	58.2	44.4	57.3	56.5	54.5	52.8	49.6	47.4	45.1	44.8	44.5	44.5	49.5	0.0	49.5			
	11	50.2	58.7	44.6	58.3	57.8	56.0	54.9	49.6	47.6	45.3	45.0	44.7	44.7	50.2	0.0	50.2			
	12	49.7	58.0	45.0	57.5	56.8	55.6	54.0	49.3	47.4	45.7	45.5	45.2	45.2	49.7	0.0	49.7			
	13	50.1	58.4	45.2	57.8	57.2	55.2	53.6	50.2	48.0	46.0	45.6	45.3	45.3	50.1	0.0	50.1			
Evening	14	53.8	63.0	47.9	62.4	61.7	60.1	58.0	53.0	51.2	48.8	48.4	48.0	48.0	53.8	0.0	53.8			
	15	51.5	60.1	46.0	59.7	59.2	57.7	56.5	50.8	48.4	46.6	46.4	46.1	46.1	51.5	0.0	51.5			
	16	51.8	60.0	47.9	59.6	58.9	56.6	54.8	50.8	48.5	46.8	46.2	46.0	46.0	51.8	0.0	51.8			
	17	52.3	57.6	47.2	57.1	56.6	55.6	55.0	53.3	51.6	48.1	47.8	47.3	47.3	52.3	0.0	52.3			
	18	48.6	55.5	45.2	54.9	54.0	52.2	51.1	48.9	47.5	45.9	45.6	45.3	45.3	48.6	0.0	48.6			
	19	53.6	58.8	50.4	58.5	58.0	56.9	56.2	54.4	52.7	51.1	50.8	50.5	50.5	53.6	5.0	58.6			
	20	51.1	55.4	47.5	55.0	54.6	54.0	53.6	52.3	52.3	50.3	48.1	47.9	47.6	51.1	5.0	56.1			
Night	21	53.6	57.2	51.7	56.8	56.5	55.1	54.2	54.2	53.2	52.3	52.0	51.8	51.8	53.6	5.0	58.6			
	22	49.9	55.1	47.4	54.7	54.3	53.2	52.3	50.2	49.1	47.9	47.7	47.5	47.5	49.9	10.0	59.9			
	23	52.7	55.8	50.6	55.6	55.3	54.6	54.2	53.3	52.4	51.2	50.9	50.7	50.7	52.7	10.0	62.7			
	Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L11%	L15%	L18%	L25%	L50%	L90%	L95%	L_{eq} (dBA)			
	Day	Min	48.6	55.5	44.4	54.9	54.0	52.2	51.1	48.9	47.4	45.1	44.8	44.5	44.5	44.5	Daytime	Nighttime		
		Max	57.4	65.0	55.7	64.6	64.0	61.7	59.7	57.6	56.9	56.0	55.9	55.7	55.7	55.7	24-Hour	52.4	52.7	52.0
	Energy Average	Average:	52.6			58.9	58.3	56.6	55.2	51.6	49.8	47.8	47.5	47.1	47.1	47.1	24-Hour CNEL (dBA)			
Evening	Min	51.1	55.4	47.5	55.0	54.6	54.0	53.6	52.3	50.3	48.1	47.9	47.6	47.6	47.6	52.4	52.7	52.0		
	Max	53.6	58.8	51.7	58.5	58.0	56.9	56.2	54.4	53.2	52.3	52.0	51.8	51.8	51.8					
Energy Average	Average:	52.9			56.8	56.4	55.5	55.0	53.6	52.1	50.5	50.2	50.0	50.0	50.0					
Night	Min	46.1	50.7	43.3	50.4	50.0	49.1	48.4	46.7	45.4	44.0	43.7	43.4	43.4	43.4					
	Max	55.8	60.9	53.8	60.4	59.7	58.5	57.7	56.2	55.2	54.3	54.1	53.9	53.9	53.9					
Energy Average	Average:	52.0			54.9	54.5	53.5	52.9	51.2	50.2	49.0	48.7	48.5	48.5	48.5					



24-Hour Noise Level Measurement Summary

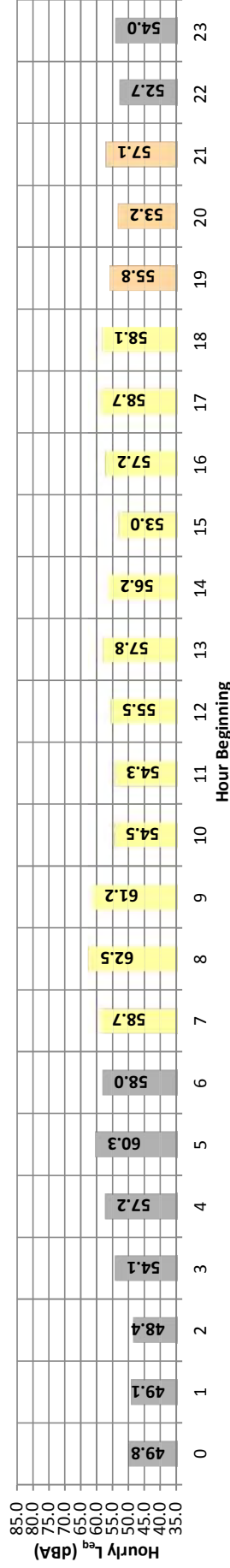
Date: Monday, December 16, 2019
Project: El Toro Road Residential

Location: L3 - Located west of the Project site near existing multi-family homes.

Meter: Piccolo II

JN: 13058
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	Hour Beginning											L _{eq}	Adj.	Adj. L _{eq}		
		L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L11%	L15%	L25%	L50%				L90%	L95%
Night	0	49.8	53.2	48.3	53.0	52.6	51.6	51.0	50.2	49.6	48.7	48.6	48.4	49.8	10.0	59.8	
	1	49.1	53.9	46.7	53.5	53.1	52.0	51.3	49.7	48.3	47.2	47.0	46.8	49.1	10.0	59.1	
	2	48.4	52.6	46.2	52.3	51.9	50.8	50.2	49.0	47.9	46.7	46.5	46.3	48.4	10.0	58.4	
	3	54.1	61.6	48.1	61.2	60.1	59.3	58.8	55.2	51.5	48.7	48.5	48.3	54.1	10.0	64.1	
	4	57.2	61.5	55.4	61.3	60.8	59.7	59.0	57.4	56.7	55.8	55.7	55.5	57.2	10.0	67.2	
	5	60.3	65.5	56.4	65.3	65.2	64.5	63.9	60.9	58.6	57.3	56.8	56.5	60.3	10.0	70.3	
Day	6	58.0	65.9	54.5	65.4	64.8	63.0	61.5	57.8	56.1	55.0	54.8	54.6	58.0	10.0	68.0	
	7	58.7	66.9	55.7	66.0	65.1	62.8	61.8	58.6	57.2	56.2	56.0	55.8	58.7	0.0	58.7	
	8	62.5	71.9	52.6	71.4	70.9	69.8	68.8	61.1	56.2	53.6	53.1	52.8	62.5	0.0	62.5	
	9	61.2	70.3	47.4	70.0	69.7	68.8	67.4	59.2	54.5	48.6	48.0	47.5	61.2	0.0	61.2	
	10	54.5	63.2	46.7	62.8	62.4	61.0	59.8	54.3	50.6	47.6	47.2	46.9	54.5	0.0	54.5	
	11	54.3	63.3	46.5	62.7	62.2	60.6	59.6	54.4	50.2	47.4	47.1	46.7	54.3	0.0	54.3	
	12	55.5	65.2	49.6	64.2	63.3	61.5	60.2	54.8	52.6	50.6	50.2	49.8	55.5	0.0	55.5	
	13	57.8	71.3	48.5	70.0	68.0	64.4	62.7	54.8	52.0	49.7	49.2	48.7	57.8	0.0	57.8	
	14	56.2	66.8	48.3	65.7	64.6	62.4	60.6	56.2	52.4	49.3	48.9	48.5	56.2	0.0	56.2	
	15	53.0	61.1	48.0	60.3	59.5	57.8	56.8	53.5	50.9	48.8	48.5	48.1	53.0	0.0	53.0	
	16	57.2	68.0	49.1	66.9	65.9	62.7	61.2	57.0	53.6	50.4	50.0	49.3	57.2	0.0	57.2	
	17	58.7	70.4	49.2	69.4	68.1	64.7	63.3	58.0	54.3	50.8	50.2	49.4	58.7	0.0	58.7	
	18	58.1	69.4	47.8	68.6	67.3	64.3	62.6	57.9	54.1	49.4	48.6	48.0	58.1	0.0	58.1	
	19	55.8	62.6	52.3	62.0	61.3	59.8	58.9	56.2	54.3	52.9	52.7	52.4	55.8	5.0	60.8	
	20	53.2	59.9	49.8	59.4	58.9	57.0	56.1	53.8	51.9	50.3	50.1	49.9	53.2	5.0	58.2	
	21	57.1	67.9	51.8	67.4	66.8	63.7	60.2	54.7	53.5	52.4	52.2	51.9	57.1	5.0	62.1	
	22	52.7	57.5	50.4	57.0	56.5	55.5	54.7	53.0	52.0	50.9	50.7	50.5	52.7	10.0	62.7	
	23	54.0	59.7	51.5	59.2	58.8	57.4	56.2	54.1	53.2	52.1	51.9	51.6	54.0	10.0	64.0	
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L11%	L15%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)	
Day	Min	53.0	61.1	46.5	60.3	59.5	57.8	56.8	53.5	50.2	47.4	47.1	46.7	46.7	46.7	24-Hour	Nighttime
	Max	62.5	71.9	55.7	71.4	70.9	69.8	68.8	61.1	57.2	56.2	56.0	55.8	55.8	55.8		
Energy Average:		58.2	Average:	58.2	66.5	65.6	63.4	62.1	56.6	53.2	50.2	49.8	49.3	49.3	49.3	57.1	57.8
Evening	Min	53.2	59.9	49.8	59.4	58.9	57.0	56.1	53.8	51.9	50.3	50.1	49.9	49.9	49.9	24-Hour CNEL (dBA)	55.5
	Max	57.1	67.9	52.3	67.4	66.8	63.7	60.2	56.2	54.3	52.9	52.7	52.4	52.4	52.4		
Energy Average:		55.7	Average:	55.7	62.9	62.3	60.2	58.4	54.9	53.2	51.9	51.7	51.4	51.4	51.4	62.5	
Night	Min	48.4	52.6	46.2	52.3	51.9	50.8	50.2	49.0	47.9	46.7	46.5	46.3	46.3	46.3	24-Hour CNEL (dBA)	62.5
	Max	60.3	65.9	56.4	65.4	65.2	64.5	63.9	60.9	58.6	57.3	56.8	56.5	56.5	56.5		
Energy Average:		55.5	Average:	55.5	58.7	58.2	57.1	56.3	54.1	52.7	51.4	51.2	50.9	50.9	50.9		



24-Hour Noise Level Measurement Summary

Date: Monday, December 16, 2019
Project: El Toro Road Residential

Location: L4 - Located northwest of the Project site on Packer Place
near existing multi-family residential homes.

Meter: Piccolo II

JN: 13058
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)

Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Hourly L_{eq} (dBA)	44.9	45.4	43.7	46.4	50.1	53.1	53.6	56.2	55.3	53.7	53.2	53.1	51.9	51.7	55.0	52.9	53.6	55.2	58.0	54.5	52.4	56.9	50.0	49.8

Timeframe	Hour	Hour Beginning											L _{eq}			Adj. L _{eq}	
		L _{max}	L _{min}	L1%	L2%	L5%	L8%	L11%	L15%	L25%	L50%	L90%	L95%	L99%	L _{eq}		Adj.
Night	0	49.1	42.8	48.8	48.4	47.3	46.6	45.2	44.4	43.3	43.1	42.8	41.7	41.7	44.9	10.0	54.9
	1	45.4	41.6	51.5	50.9	49.5	48.3	45.9	44.2	42.5	42.1	41.7	40.2	40.2	45.4	10.0	55.4
	2	43.7	40.1	49.7	49.2	48.0	47.0	44.1	42.4	40.7	40.5	40.2	39.2	39.2	43.7	10.0	53.7
	3	46.4	42.7	52.1	51.7	50.1	49.2	47.5	44.9	43.3	43.0	42.8	41.7	41.7	46.4	10.0	56.4
	4	50.1	47.6	54.8	54.4	53.2	52.4	50.5	48.2	46.5	46.4	46.2	45.2	45.2	50.1	10.0	60.1
	5	53.1	50.6	59.5	58.6	56.2	55.1	53.1	51.1	49.5	49.5	49.5	48.2	47.7	53.1	10.0	63.1
Day	6	60.8	50.2	60.3	59.6	57.8	56.6	53.7	52.2	50.7	50.5	50.3	49.5	49.5	53.6	10.0	63.6
	7	64.5	52.6	63.9	63.1	60.6	58.9	56.0	54.6	53.2	53.0	52.7	49.4	49.4	56.2	0.0	56.2
	8	73.9	49.2	73.4	72.7	70.4	68.4	64.9	62.1	60.6	60.4	60.4	58.5	58.5	55.3	0.0	55.3
	9	65.4	43.1	64.7	63.7	60.7	58.6	52.1	47.6	44.0	43.6	43.2	40.2	40.2	53.7	0.0	53.7
	10	64.6	43.4	64.0	62.9	60.3	57.8	51.7	44.5	44.5	44.0	43.6	40.2	40.2	53.2	0.0	53.2
	11	64.8	43.1	64.2	63.1	59.5	57.0	52.1	48.1	44.2	43.8	43.3	40.2	40.2	53.1	0.0	53.1
Evening	12	62.7	43.7	62.1	61.1	58.3	56.3	51.4	47.8	44.4	44.1	43.8	40.2	40.2	51.9	0.0	51.9
	13	61.0	42.9	60.5	59.9	57.8	56.1	51.6	48.5	44.2	43.6	43.0	40.2	40.2	51.7	0.0	51.7
	14	65.5	47.5	64.9	63.8	60.6	58.5	54.6	52.2	48.9	48.2	47.6	45.0	45.0	55.0	0.0	55.0
	15	63.9	45.6	63.3	62.1	58.9	56.8	51.9	49.2	46.5	46.2	45.7	42.8	42.8	52.9	0.0	52.9
	16	64.5	46.1	63.6	62.5	59.8	57.9	52.8	49.8	47.1	46.7	46.2	43.3	43.3	53.6	0.0	53.6
	17	67.8	45.8	66.3	65.2	61.4	59.1	53.7	50.6	46.8	46.4	46.0	43.3	43.3	55.2	0.0	55.2
Night	18	68.2	44.4	67.5	67.1	66.0	64.5	55.7	51.0	46.5	45.5	44.6	40.2	40.2	58.0	0.0	58.0
	19	64.6	48.7	63.7	62.8	59.4	58.0	54.5	51.6	49.6	49.3	48.9	46.2	46.2	54.5	5.0	59.5
	20	63.2	46.1	62.1	60.9	58.2	55.9	52.1	49.9	46.7	46.5	46.2	43.3	43.3	52.4	5.0	57.4
	21	66.4	52.9	65.5	65.2	62.6	60.4	56.4	54.2	53.2	53.1	53.0	49.5	49.5	56.9	5.0	61.9
	22	57.9	46.0	57.4	56.8	55.2	53.6	49.8	48.1	46.6	46.3	46.1	43.3	43.3	50.0	10.0	60.0
	23	54.0	47.4	53.7	53.3	52.3	51.6	50.3	49.3	48.0	48.0	47.8	47.5	46.2	49.8	10.0	59.8
Timeframe	Hour	L_{max}	L_{min}	L_{eq} (dBA)											L_{eq}	Daytime	Nighttime
Day	Min	61.0	42.9	60.5	59.9	57.8	56.1	51.4	47.6	44.0	43.6	43.0	43.0	43.0	54.5	5.0	59.5
	Max	73.9	52.6	73.4	72.7	70.4	68.4	64.9	62.1	59.9	59.9	59.9	53.2	52.7	52.4	5.0	57.4
Energy Average		Average:	Average:	64.9	63.9	61.2	59.2	53.6	50.2	46.7	46.3	45.8	45.8	45.8	53.4	5.0	59.5
Evening	Min	63.2	46.1	62.1	60.9	58.2	55.9	52.1	49.9	46.7	46.5	46.2	43.3	43.3	53.6	0.0	53.6
	Max	66.4	52.9	65.5	65.2	62.6	60.4	56.4	54.2	53.2	53.1	53.0	49.5	49.5	56.9	0.0	56.9
Energy Average		Average:	Average:	63.8	63.0	60.1	58.1	54.3	51.9	49.8	49.6	49.3	49.3	49.3	53.4	0.0	53.4
Night	Min	49.1	40.1	48.8	48.4	47.3	46.6	44.1	42.4	40.7	40.5	40.2	40.2	40.2	50.0	10.0	60.0
	Max	60.8	50.6	60.3	59.6	57.8	56.6	53.7	52.2	51.1	50.9	50.7	49.5	49.5	49.8	10.0	59.8
Energy Average		Average:	Average:	54.2	53.7	52.2	51.2	48.9	47.4	46.0	45.8	45.5	45.5	45.5	53.4	0.0	53.4
											24-Hour CNEL (dBA)			58.0			



APPENDIX 7.1:
ON-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
 Road Name: Packer Pl.
 Lot No: 118

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS																				
Highway Data	Site Conditions (Hard = 10, Soft = 15)																				
Average Daily Traffic (Adt): 10,000 vehicles	Autos: 15																				
Peak Hour Percentage: 10%	Medium Trucks (2 Axles): 15																				
Peak Hour Volume: 1,000 vehicles	Heavy Trucks (3+ Axles): 15																				
Vehicle Speed: 40 mph																					
Near/Far Lane Distance: 20 feet																					
	Vehicle Mix																				
	<table border="1"> <thead> <tr> <th>VehicleType</th> <th>Day</th> <th>Evening</th> <th>Night</th> <th>Daily</th> </tr> </thead> <tbody> <tr> <td>Autos:</td> <td>77.5%</td> <td>12.9%</td> <td>9.6%</td> <td>97.42%</td> </tr> <tr> <td>Medium Trucks:</td> <td>84.8%</td> <td>4.9%</td> <td>10.3%</td> <td>1.84%</td> </tr> <tr> <td>Heavy Trucks:</td> <td>86.5%</td> <td>2.7%</td> <td>10.8%</td> <td>0.74%</td> </tr> </tbody> </table>	VehicleType	Day	Evening	Night	Daily	Autos:	77.5%	12.9%	9.6%	97.42%	Medium Trucks:	84.8%	4.9%	10.3%	1.84%	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
VehicleType	Day	Evening	Night	Daily																	
Autos:	77.5%	12.9%	9.6%	97.42%																	
Medium Trucks:	84.8%	4.9%	10.3%	1.84%																	
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%																	
Site Data	Noise Source Elevations (in feet)																				
Barrier Height: 0.0 feet	Autos: 2.000																				
Barrier Type (0-Wall, 1-Berm): 0.0	Medium Trucks: 4.000																				
Centerline Dist. to Barrier: 45.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0																				
Centerline Dist. to Observer: 53.0 feet																					
Barrier Distance to Observer: 8.0 feet																					
Observer Height (Above Pad): 5.0 feet																					
Pad Elevation: 0.0 feet																					
Road Elevation: 0.0 feet																					
Barrier Elevation: 0.0 feet																					
Road Grade: 0.0%																					
	Lane Equivalent Distance (in feet)																				
	Autos: 52.134																				
	Medium Trucks: 52.058																				
	Heavy Trucks: 52.135																				

FHWA Noise Model Calculations	VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
	Autos:	67.36	-1.44	-0.38	-1.20	-1.36	0.000	0.000
	Medium Trucks:	76.31	-18.68	-0.37	-1.20	-1.57	0.000	0.000
	Heavy Trucks:	81.16	-22.63	-0.38	-1.20	-2.01	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)	VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
	Autos:	64.3	62.4	60.7	54.6	63.2	63.9
	Medium Trucks:	56.1	54.6	48.2	46.7	55.1	55.3
	Heavy Trucks:	57.0	55.5	46.5	47.7	56.1	56.2
	Vehicle Noise:	65.6	63.8	61.1	56.0	64.5	65.0

Mitigated Noise Levels (with Topo and barrier attenuation)	VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
	Autos:	64.3	62.4	60.7	54.6	63.2	63.9
	Medium Trucks:	56.1	54.6	48.2	46.7	55.1	55.3
	Heavy Trucks:	57.0	55.5	46.5	47.7	56.1	56.2
	Vehicle Noise:	65.6	63.8	61.1	56.0	64.5	65.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 116

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	50.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	58.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 57.210				
Barrier Elevation:	0.0 feet	Medium Trucks: 57.140				
Road Grade:	0.0%	Heavy Trucks: 57.210				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-0.98	-1.20	-1.37	0.000	0.000
Medium Trucks:	76.31	-18.68	-0.97	-1.20	-1.55	0.000	0.000
Heavy Trucks:	81.16	-22.63	-0.98	-1.20	-1.95	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.7	61.8	60.1	54.0	62.6	63.2	
Medium Trucks:	55.5	54.0	47.6	46.0	54.5	54.7	
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6	
Vehicle Noise:	65.0	63.2	60.5	55.4	63.9	64.4	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.7	61.8	60.1	54.0	62.6	63.2	
Medium Trucks:	55.5	54.0	47.6	46.0	54.5	54.7	
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6	
Vehicle Noise:	65.0	63.2	60.5	55.4	63.9	64.4	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 115

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	54.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	62.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 61.262				
Barrier Elevation:	0.0 feet	Medium Trucks: 61.196				
Road Grade:	0.0%	Heavy Trucks: 61.262				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-1.43	-1.20	-1.37	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.42	-1.20	-1.54	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.43	-1.20	-1.91	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	55.0	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	64.5	62.7	60.0	54.9	63.5	64.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	55.0	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	64.5	62.7	60.0	54.9	63.5	64.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
 Road Name: Packer Pl.
 Lot No: 118

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	45.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	53.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	15.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 53.647				
Barrier Elevation:	0.0 feet	Medium Trucks: 53.198				
Road Grade:	0.0%	Heavy Trucks: 52.516				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-0.56	-1.20	-7.31	0.000	0.000
Medium Trucks:	76.31	-18.68	-0.51	-1.20	-7.87	0.000	0.000
Heavy Trucks:	81.16	-22.63	-0.42	-1.20	-9.05	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.2	62.3	60.5	54.4	63.1	63.7	
Medium Trucks:	55.9	54.4	48.1	46.5	55.0	55.2	
Heavy Trucks:	56.9	55.5	46.4	47.7	56.0	56.2	
Vehicle Noise:	65.4	63.6	60.9	55.8	64.4	64.9	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	64.2	62.3	60.5	54.4	63.1	63.7	
Medium Trucks:	55.9	54.4	48.1	46.5	55.0	55.2	
Heavy Trucks:	56.9	55.5	46.4	47.7	56.0	56.2	
Vehicle Noise:	65.4	63.6	60.9	55.8	64.4	64.9	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 116

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	50.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	58.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	15.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 58.592				
Barrier Elevation:	0.0 feet	Medium Trucks: 58.181				
Road Grade:	0.0%	Heavy Trucks: 57.558				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-1.14	-1.20	-7.44	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.09	-1.20	-7.95	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.02	-1.20	-9.02	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.6	61.7	59.9	53.9	62.5	63.1	
Medium Trucks:	55.3	53.8	47.5	45.9	54.4	54.6	
Heavy Trucks:	56.3	54.9	45.8	47.1	55.5	55.6	
Vehicle Noise:	64.8	63.1	60.3	55.2	63.8	64.3	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.6	61.7	59.9	53.9	62.5	63.1	
Medium Trucks:	55.3	53.8	47.5	45.9	54.4	54.6	
Heavy Trucks:	56.3	54.9	45.8	47.1	55.5	55.6	
Vehicle Noise:	64.8	63.1	60.3	55.2	63.8	64.3	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 115

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	0.0 feet	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	54.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	62.0 feet	Autos:	2.000			
Barrier Distance to Observer:	8.0 feet	Medium Trucks:	4.000			
Observer Height (Above Pad):	15.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos:	62.554			
Barrier Elevation:	0.0 feet	Medium Trucks:	62.169			
Road Grade:	0.0%	Heavy Trucks:	61.587			

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-1.56	-1.20	-7.52	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.52	-1.20	-8.00	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.46	-1.20	-9.00	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	54.9	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.9	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	64.4	62.6	59.9	54.8	63.4	63.9

Mitigated Noise Levels (with Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	54.9	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	55.9	54.4	45.4	46.7	55.0	55.1
Vehicle Noise:	64.4	62.6	59.9	54.8	63.4	63.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
 Road Name: Packer Pl.
 Lot No: 118

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	45.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	53.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	25.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 56.903				
Barrier Elevation:	0.0 feet	Medium Trucks: 56.125				
Road Grade:	0.0%	Heavy Trucks: 54.752				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-0.95	-1.20	-13.23	0.000	0.000
Medium Trucks:	76.31	-18.68	-0.86	-1.20	-14.11	0.000	0.000
Heavy Trucks:	81.16	-22.63	-0.69	-1.20	-15.95	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.8	61.9	60.1	54.1	62.7	63.3	
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.9	
Heavy Trucks:	56.6	55.2	46.2	47.4	55.8	55.9	
Vehicle Noise:	65.1	63.3	60.5	55.5	64.0	64.5	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.8	61.9	60.1	54.1	62.7	63.3	
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.9	
Heavy Trucks:	56.6	55.2	46.2	47.4	55.8	55.9	
Vehicle Noise:	65.1	63.3	60.5	55.5	64.0	64.5	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 116

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	50.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	58.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	25.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 61.587				
Barrier Elevation:	0.0 feet	Medium Trucks: 60.869				
Road Grade:	0.0%	Heavy Trucks: 59.605				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-1.46	-1.20	-13.59	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.38	-1.20	-14.41	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.25	-1.20	-16.09	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.3	61.4	59.6	53.5	62.2	62.8	
Medium Trucks:	55.1	53.5	47.2	45.6	54.1	54.3	
Heavy Trucks:	56.1	54.7	45.6	46.9	55.2	55.4	
Vehicle Noise:	64.5	62.8	60.0	54.9	63.5	64.0	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.3	61.4	59.6	53.5	62.2	62.8	
Medium Trucks:	55.1	53.5	47.2	45.6	54.1	54.3	
Heavy Trucks:	56.1	54.7	45.6	46.9	55.2	55.4	
Vehicle Noise:	64.5	62.8	60.0	54.9	63.5	64.0	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 115

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	54.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	62.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	25.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 65.368				
Barrier Elevation:	0.0 feet	Medium Trucks: 64.692				
Road Grade:	0.0%	Heavy Trucks: 63.504				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-1.85	-1.20	-13.85	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.78	-1.20	-14.61	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.66	-1.20	-16.19	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.9	61.0	59.2	53.2	61.8	62.4	
Medium Trucks:	54.7	53.1	46.8	45.2	53.7	53.9	
Heavy Trucks:	55.7	54.2	45.2	46.5	54.8	54.9	
Vehicle Noise:	64.1	62.4	59.6	54.5	63.1	63.6	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.9	61.0	59.2	53.2	61.8	62.4	
Medium Trucks:	54.7	53.1	46.8	45.2	53.7	53.9	
Heavy Trucks:	55.7	54.2	45.2	46.5	54.8	54.9	
Vehicle Noise:	64.1	62.4	59.6	54.5	63.1	63.6	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Fourth Floor With Wall
 Road Name: Packer Pl.
 Lot No: 118

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	45.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	53.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	35.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 61.628				
Barrier Elevation:	0.0 feet	Medium Trucks: 60.581				
Road Grade:	0.0%	Heavy Trucks: 58.632				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-1.47	-1.20	-18.11	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.35	-1.20	-19.25	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.14	-1.20	-21.65	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.3	61.4	59.6	53.5	62.2	62.8	
Medium Trucks:	55.1	53.6	47.2	45.7	54.1	54.4	
Heavy Trucks:	56.2	54.8	45.7	47.0	55.3	55.5	
Vehicle Noise:	64.6	62.8	60.0	54.9	63.5	64.0	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	63.3	61.4	59.6	53.5	62.2	62.8	
Medium Trucks:	55.1	53.6	47.2	45.7	54.1	54.4	
Heavy Trucks:	56.2	54.8	45.7	47.0	55.3	55.5	
Vehicle Noise:	64.6	62.8	60.0	54.9	63.5	64.0	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Fourth Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 116

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	50.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	58.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	35.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 65.977				
Barrier Elevation:	0.0 feet	Medium Trucks: 65.000				
Road Grade:	0.0%	Heavy Trucks: 63.188				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-1.91	-1.20	-18.80	0.000	0.000
Medium Trucks:	76.31	-18.68	-1.81	-1.20	-19.86	0.000	0.000
Heavy Trucks:	81.16	-22.63	-1.63	-1.20	-22.08	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.8	60.9	59.1	53.1	61.7	62.3	
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9	
Heavy Trucks:	55.7	54.3	45.2	46.5	54.8	55.0	
Vehicle Noise:	64.1	62.3	59.6	54.5	63.1	63.6	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.8	60.9	59.1	53.1	61.7	62.3	
Medium Trucks:	54.6	53.1	46.8	45.2	53.7	53.9	
Heavy Trucks:	55.7	54.3	45.2	46.5	54.8	55.0	
Vehicle Noise:	64.1	62.3	59.6	54.5	63.1	63.6	

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Fourth Floor With Wall
 Road Name: Raymond Ave.
 Lot No: 115

Project Name: El Toro Road Residential
 Job Number: 13058
 Analyst: P. Mara

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,000 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,000 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	20 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	54.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	62.0 feet	Autos: 2.000				
Barrier Distance to Observer:	8.0 feet	Medium Trucks: 4.000				
Observer Height (Above Pad):	35.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 69.520				
Barrier Elevation:	0.0 feet	Medium Trucks: 68.593				
Road Grade:	0.0%	Heavy Trucks: 66.878				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.44	-2.25	-1.20	-19.28	0.000	0.000
Medium Trucks:	76.31	-18.68	-2.16	-1.20	-20.28	0.000	0.000
Heavy Trucks:	81.16	-22.63	-2.00	-1.20	-22.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.5	60.6	58.8	52.8	61.4	62.0	
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6	
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6	
Vehicle Noise:	63.8	62.0	59.2	54.1	62.7	63.2	

Mitigated Noise Levels (with Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.5	60.6	58.8	52.8	61.4	62.0	
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6	
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6	
Vehicle Noise:	63.8	62.0	59.2	54.1	62.7	63.2	

APPENDIX 9.1:
OPERATIONAL NOISE LEVEL CALCULATIONS

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13058
CadnaA Noise Prediction Model
 13058_01.cna

Date: 24.02.20
 Analyst: B. Lawson

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit Value			Land Use			Height			Coordinates		
			Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type	Height (ft)	X (ft)	Y (ft)	Z (ft)		
R1		R1	49.9	41.4	50.0	55.0	50.0	0.0				5.00	a	6119923.18	2173389.61	5.00	
R2		R2	46.4	39.6	47.5	55.0	50.0	0.0			5.00	a	6120040.71	2173391.09	5.00		
R3		R3	41.6	39.0	45.7	55.0	50.0	0.0			5.00	a	6120064.58	2173027.68	5.00		
R4		R4	40.9	38.4	45.1	55.0	50.0	0.0			5.00	a	6119567.05	2173116.72	5.00		
R5		R5	46.7	43.7	50.5	55.0	50.0	0.0			5.00	a	6119751.73	2173244.85	5.00		

Point Source(s)

Name	M.	ID	Result PWL			Lw / Li Value norm.	Correction			Sound Reduction			Operating Time			K0 (dB)	Freq. (Hz)	Direct.	Height (ft)	Coordinates		
			Day (dBA)	Evening (dBA)	Night (dBA)		Day (dBA)	Evening (dBA)	Night (dBA)	R Area (ft²)	Day (min)	Special (min)	Night (min)	X (ft)	Y (ft)					Z (ft)		
POINTSOURCE		AC01	88.9	88.9	88.9	Lw 88.9	0.0	0.0	0.0	0.0	0.0	585.00	0.00	252.00	0.0	500 (none)	5.00	a	6120000.17	2173125.32	50.00	
POINTSOURCE		AC02	88.9	88.9	88.9	Lw 88.9	0.0	0.0	0.0	0.0	0.0	585.00	0.00	252.00	0.0	500 (none)	5.00	a	6119873.69	2173009.41	50.00	
POINTSOURCE		COURT01	91.5	91.5	91.5	Lw 91.5	0.0	0.0	0.0	0.0	0.0	900.00	0.00	0.00	0.0	500 (none)	5.00	a	6119875.95	2173119.28	5.00	
POINTSOURCE		COURT02	91.5	91.5	91.5	Lw 91.5	0.0	0.0	0.0	0.0	0.0	900.00	0.00	0.00	0.0	500 (none)	5.00	a	6119896.72	2173098.51	5.00	
POINTSOURCE		COURT03	91.5	91.5	91.5	Lw 91.5	0.0	0.0	0.0	0.0	0.0	900.00	0.00	0.00	0.0	500 (none)	5.00	a	6119842.35	2173119.65	5.00	
POINTSOURCE		PLAY	75.1	75.1	75.1	Lw 75.1	0.0	0.0	0.0	0.0	0.0	900.00	0.00	0.00	0.0	500 (none)	4.00	a	6119857.07	2173104.55	4.00	
POINTSOURCE		TRASH	89.0	89.0	89.0	Lw 89	0.0	0.0	0.0	0.0	0.0	300.00	0.00	180.00	0.0	500 (none)	5.00	a	6119935.98	2173120.79	5.00	

Barrier(s)

Name	M.	ID	Absorption		Z-Ext. (ft)	Cantilever horz. (ft)	Height	
			left (ft)	right (ft)			Begin (ft)	End (ft)
BARRIERS		BARRIERS00001					6.00	a

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin (ft)	End (ft)
BUILDING		BUILDING00001	x	0		45.00	a

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APPENDIX 10.1:
CONSTRUCTION NOISE LEVEL CALCULATIONS

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13058

CadnaA Noise Prediction Model
13058_01Construction.cna

Date:

24.02.20

Analyst:

B. Lawson

Receiver Noise Levels

Name	M. ID	Level Lr			Limit Value			Land Use			Height			Coordinates		
		Day (dBA)	Night (dBA)	CNEL (dBA)	Day (dBA)	Night (dBA)	CNEL (dBA)	Type	Auto	Noise Type	(ft)	(ft)	Type	X (ft)	Y (ft)	Z (ft)
R1		73.6	73.6	80.3	85.0	0.0	0.0				5.00	a	6119923.18	2173389.61	5.00	
R2		72.9	72.9	79.6	85.0	0.0	0.0				5.00	a	6120040.71	2173391.09	5.00	
R3		70.9	70.9	77.6	85.0	0.0	0.0				5.00	a	6120064.58	2173027.68	5.00	
R4		66.3	66.3	72.9	85.0	0.0	0.0				5.00	a	6119567.05	2173116.72	5.00	
R5		71.1	71.1	77.8	85.0	0.0	0.0				5.00	a	6119751.73	2173244.85	5.00	

Area Source(s)

Name	M. ID	ID	Result: PWL			Result: PWL"			Lw / Li Value	norm. dB(A)	Correction			Sound Reduction R Area (ft²)	Attenuation	Operating Time			K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number					
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)			Day (min)	Special (min)	Night (min)			Day	Evening	Night									
SITEBOUNDARY			114.3	114.3	114.3	75.3	75.3	75.3	75.3	0.0	0.0	0.0	0.0					500	(none)								

Barrier(s)

Name	M. ID	ID	Absorption		Z-Ext.	Cantilever	Height																					
			left	right			horz. (ft)	vert. (ft)	Begin (ft)	End (ft)																		
BARRIERS																												

Building(s)

Name	M. ID	ID	RB	Residents	Absorption	Height	
						Begin (ft)	End (ft)
BUILDING			BUILDING00001	x	0		45.00 a

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APPENDIX I – TRANSPORTATION ASSESSMENT





FINAL MEMORANDUM

Date: May 11, 2020
To: Alexa Washburn, National Community Renaissance
From: Paul Herrmann, P.E.
Jessica Johnson
Subject: Mountain View Affordable Housing Community Transportation Assessment

OC19-0668

This memorandum documents a transportation assessment conducted by Fehr & Peers for the proposed Mountain View Affordable Housing Community project (Project) located at 24551 Raymond Way in Lake Forest, California.

In the first part of this assessment, Fehr & Peers provides a review of proposed trip generation of the Project. The second part of this assessment reviews Vehicle Miles Traveled (VMT) in compliance with Senate Bill 743 (SB 743). This VMT analysis is consistent with requirements of the Office of Planning and Research's (OPR's) technical advisory.

The results of the assessment conclude that the proposed Project is anticipated to generate fewer total trips than the existing land use and would result in a less-than-significant transportation impact. The Project is also presumed to result in a less-than-significant transportation impact related to VMT as it is a 100% affordable housing project.

PROJECT DESCRIPTION

The Project proposes the development of a 71-unit affordable housing apartment building, with 12 of the 71 units (approximately 15%) being developed as Permanent Supportive Housing (PSH) units (PSH units serve people who are homeless or at risk of homelessness). The project will replace an existing approximately 31,000 square feet (SF) office building on 1.96 acres. The Project is located within a quarter mile of the Orange County Transportation Authority bus route 89 (El Toro-Raymond) transit stop on El Toro Road.



PROJECT TRIP GENERATION

Trip generation rates from *Trip Generation, 10th Edition* (Institute of Transportation Engineers [ITE], 2017) and affordable housing rates from the *Transportation Assessment Guidelines* (Los Angeles Department of Transportation [LADOT], 2019) were used to estimate the number of trips associated with the Project. ITE trip generation rates for General Office (ITE Code 710) were used for the existing office building(s). Since ITE does not distinguish trip generation rates for market-rate housing and affordable housing, trip generation rates from the LADOT *Transportation Assessment Guidelines* were used to estimate the number of trips associated with the affordable housing and PSH units.

Affordable housing trip generation rates differ from market-rate housing rates due to the potential limited access to private vehicles and higher use of public transit of affordable housing residents. The affordable housing and PSH trip generation rates are based on vehicle trip count data collected in Los Angeles in 2016. LA’s Transportation Assessment Guidelines identify different trip generation rates according to type of housing and proximity to high quality transit. High quality transit is transit with 15-minute headways or less. The Project is located within a quarter mile of a transit stop with 30-minute headways. As the Project is not located within a half mile of a transit priority area (TPA) with high quality transit, rates for outside of a TPA were used. **Appendix A** includes the LADOT trip generation rates for affordable housing projects. The trip generation rates used are presented in **Table 1** below:

Table 1: Trip Generation Rates

Land Use	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Affordable Housing (Family) - (Outside of TPA) ^{2,3}	-	4.15	40%	60%	0.55	55%	45%	0.43
Permanent Supportive Housing - (Outside of TPA) ^{2,3}	-	1.50	71%	29%	0.09	49%	51%	0.16
General Office ¹	710	9.74	86%	14%	1.16	16%	84%	1.15

Source: 1. *Trip Generation, 10th Edition* (Institute of Transportation Engineers [ITE], 2017)
 2. *Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines* (LADOT, 2019)
 3. TPA refers to transit priority area

As presented in **Table 2**, the Project is expected to generate approximately 263 daily trips, including approximately 33 trips (14 inbound/19 outbound) during the AM peak hour, and approximately 27 trips (15 inbound/12 outbound) during the PM peak hour. To estimate a conservative scenario, no additional transit credits were applied to the trip generation estimates. Compared to the existing



office, the Project would generate approximately 39 less daily trips, including approximately 3 less trips during the AM peak hour and approximately 9 less trips during the PM peak hour.

Table 2: Project Trip Generation Estimate

Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Project								
Affordable Housing (Family) ²	59 DU	245	13	19	32	14	11	25
Permanent Supportive Housing ²	12 DU	18	1	0	1	1	1	2
Project Total		263	14	19	33	15	12	27
Existing								
General Office ¹	31 KSF	302	31	5	36	6	30	36
Net New Total Trips		(39)	(17)	14	(3)	9	(18)	(9)

Notes: DU = dwelling units
 KSF = 1,000 square feet

Source: 1. *Trip Generation, 10th Edition* (Institute of Transportation Engineers [ITE], 2017)
 2. *Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines* (LADOT, 2019)

VEHICLE MILES TRAVELED (VMT) ASSESSMENT

SB 743, signed by the California Governor in 2013, changed the way transportation impacts are identified. Specifically, the legislation has directed the Office of Planning and Research (OPR) to look at different metrics for identifying transportation as an impact under California Environmental Quality Act (CEQA). The Final OPR guidelines, released in November 2017, identify VMT as the preferred metric for traffic impact analysis moving forward. The City of Lake Forest has not adopted thresholds of significance related to VMT, so this assessment was conducted consistent with the Technical Advisory¹ prepared by OPR.

According to the Technical Advisory, agencies such as Lake Forest may “use ‘screening thresholds’ to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.) As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing.”

¹ *Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor’s Office of Planning and Research, State of California, December 2018.* http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf



There is a presumption of less-than-significant impact for residential development as “infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT. Further, low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available. In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development”

Since the proposed Project is 100 percent affordable housing, it is presumed to result in a less-than-significant transportation impact related to VMT.

CONCLUSION

The Project is anticipated to generate less trips during the AM and PM peak hours as compared to the existing office building. Project traffic distribution is assumed to assign traffic in all directions. Therefore, the Project traffic would result in intersection operations equal to or better than existing operations in the vicinity of the Project site.

Consistent with the Technical Advisory provided by OPR, the proposed Project is presumed to result in a less-than-significant transportation impact related to VMT since it is 100 percent affordable housing.