

Project No.
13362.000.000

September 12, 2016

Mr. Peter Kim
Vice President, Land Development
Toll Brothers, Inc.
725 W. Town & Country Road
Orange, CA 92868

Subject: 20621 Lake Forest Drive
Lake Forest, California

SOIL CHARACTERIZATION ASSESSMENT

Reference: Hillmann; Phase I Environmental Site Assessment, 20621 Lake Forest Drive, Lake Forest, California; August 31, 2016; Project No. P2016.001.311.

Dear Mr. Kim:

We are pleased to submit our soil characterization assessment conducted at 20621 Lake Forest Drive in Lake Forest, California (Site). The purpose of the assessment was to evaluate the extent of possible agrichemical impacts associated with historic farming and orchard land use at the Site.

BACKGROUND

The Site is located behind several commercial buildings on Lake Forest Drive and directly south of the intersection of Bake Road and Rancho Parkway in Lake Forest, California. The current use of the approximately 122.07-acre property consists of temporary and permanent greenhouse structures, office trailers, semi-truck and trailer parking, and open areas. The Property in whole is an active wholesale plant nursery. The site plan is shown on Figure 1.

According to the phase I environmental site assessment (ESA) of the Property by Hillman Consultants, the Property was developed from prior to 1938 through the 1960s with orchards, then developed partially with orchards and the rest with a plant nursery until the early 1980s. All orchards were removed by 1988, and the Property was used primarily as a nursery past that point. During the phase I ESA, the following Recognized Environmental Concerns (RECs) were reported:

- Historical and current applications of pesticide/herbicide/insecticide/fungicide likely occurred at the Property based on historical and current usage. Residual pesticides and related compounds are likely to exist in shallow soils and drainage channels from usage on the Property.

- A 400-gallon diesel steel-wall UST was formerly used at the property and reported as removed from the south corner of the Property in the early 1990s. No closure documentation was available for the Property.

This assessment was performed to evaluate potential impacts from organochlorine pesticide (OCPs) usage prior to 1988, when orchards were present onsite.

FIELD ACTIVITIES

The assessment included sample collection and laboratory analysis. On September 9, 2016, 46 soil samples were collected ranging from depths of approximately 6 to 48 inches below the existing ground surface. Since fill material and gravel exist in areas of the Site, the specific sample depth was determined based on an interpretation of the original orchard elevations. In addition, a terrace cut area was observed with exposed bedrock. As the historical orchard soils were removed from this area, the terrace was not sampled. Sample locations are shown on Figure 2. Details of the sampling program are presented below.

SAMPLING ACTIVITIES

Soil Sampling

The Property was divided into quadrants and samples were recovered from the former orchard using hand-sampling equipment. One to four samples were obtained per quadrant and submitted as a 4:1 composite sample. The number of samples per quadrant was dependent on access and depth of native soil. At each location, the collected soil was placed into 1-inch by 6-inch stainless steel liners. Upon collection, a label was placed on the sample that included a unique sample number, sample location, and time/date collected. The soil samples were placed in an ice-cooled chest and submitted under documented chain-of-custody to SunStar Laboratories, a State-certified laboratory in Lake Forest, California. The soil samples were analyzed for Organochlorine Pesticides (OCPs) (EPA 8081A), lead and arsenic (EPA 6020).

The following quadrants and locations were not sampled for the following reasons:

- Sample S7C was not sampled due to thick fill materials and refusal with the hand auger from underlying concrete fragments.
- Sample S8A was not sampled because no native soils were present within the first 4 feet below the surface.
- Samples S8C and S8D were not sampled because no native soils were present from prior excavation (terrace cut).
- Samples S11A through S11D were not sampled because no native soils were present from prior excavation (terrace cut).

- Samples S13A, S13C, and S13D were not sampled because no native soils were present within the first 4 feet below the surface.
- Samples S14A through S14D were not sampled because no native soils were present from prior excavation (terrace cut).
- Sample S15B was not sampled because no native soils were present within the first 4 feet below the surface.

ANALYTICAL RESULTS

Four-point composite samples were submitted for all samples per quadrant and analyzed for organochlorine pesticides (OCPs). No detectable concentrations of OCPs were reported for the composite samples. One discrete sample per quadrant was submitted for arsenic and lead analysis. Review of the laboratory test results found detectable concentrations of lead and arsenic in each of the seven samples analyzed. Arsenic concentrations ranged from 0.48 mg/Kg to 4.7 mg/Kg, while lead ranged from 2.6 mg/Kg to 8.4 mg/Kg. While the arsenic concentrations exceed the EPA Region Screening Levels¹ (RSLs), the concentrations are within the range of expected background concentrations³ and therefore, do not pose an environmental concern. Lead concentrations are well below the CAL-EPA Screening Levels for Soil². The laboratory results are presented in their entirety in Appendix A.

DISCUSSION

Review of the laboratory test results found no detectable concentrations of OCPs. The reported lead and arsenic concentrations are within the range of expected background concentrations. Based on the findings of this soil characterization assessment, it is our opinion that the site soils are suitable for future residential development.

According to the phase I ESA report, it was recommended that investigation be performed where the former UST was located in the southern corner of the Property. There is currently no UST closure documentation available for the Property concerning this removal. It is conceivable some localized impacts may exist in this area. A limited subsurface assessment can be performed in the future to verify soils have not been significantly impacted.

¹ TPH (Aromatic High) - RSL Residential Soil Table, November 2015.

² Lead (Noncancer Endpoint) – DTSC-Recommended Screening Levels for Soil, July 2016.

³ Arsenic (Background Levels) – G.R. Bradford, et al., Background Concentrations of Trace and Major Elements in California Soils, Kearney Foundation of Soil Science Division of Agriculture and Natural Resources, University of California, March 1996.

Toll Brothers, Inc.
20621 Lake Forest Drive, Lake Forest
SOIL CHARACTERIZATION ASSESSMENT

13362.000.000
September 12, 2016
Page 4

If you have any questions regarding this report, please contact us.

Sincerely,

ENGEO Incorporated



Lauren Gordon
lg/sm/mgo/jtb/jf



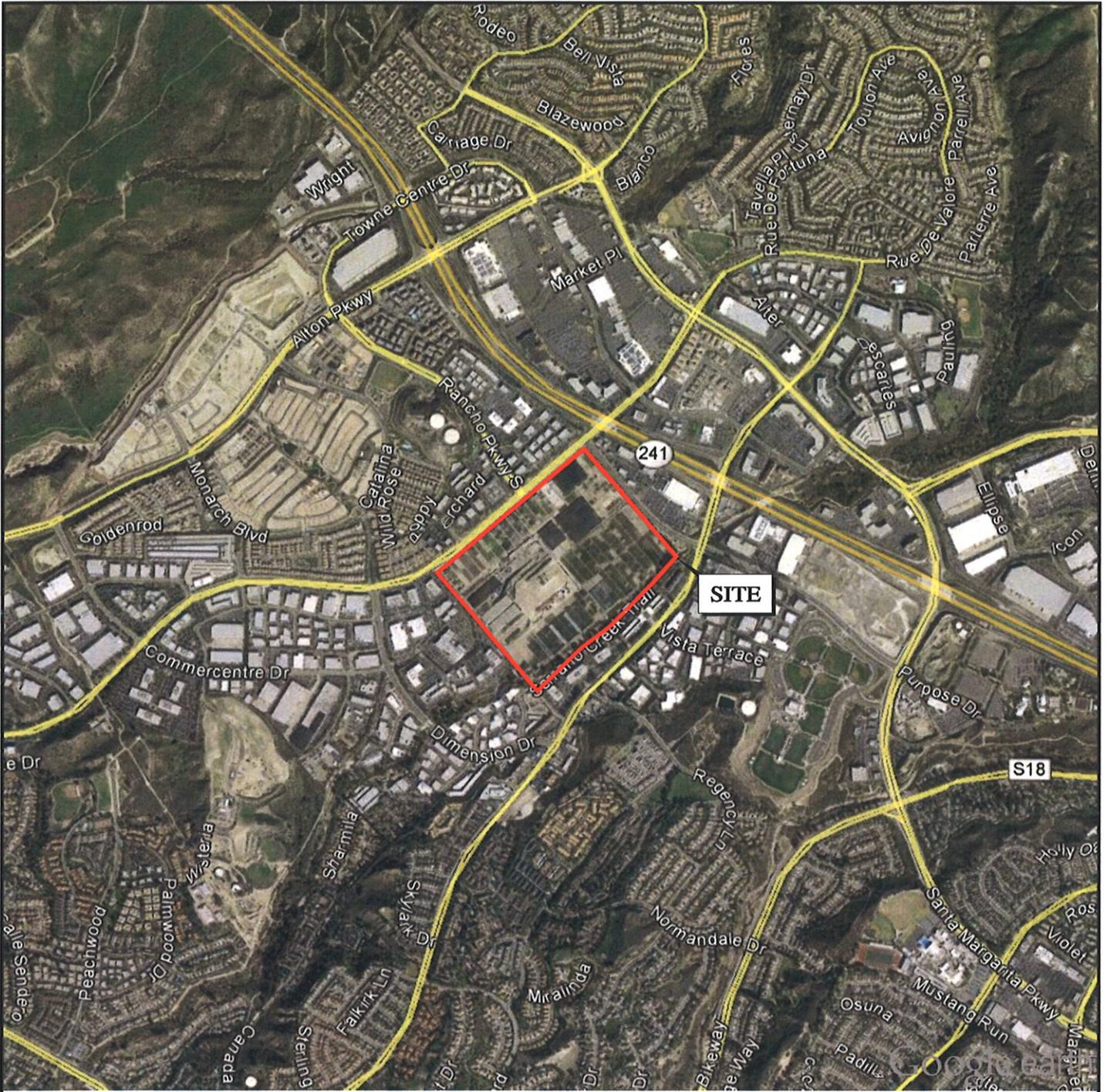
Shawn Munger, CHG

Attachments: Figures 1 and 2
Appendix A – Analytical Report, SunStar Laboratories

FIGURES

Figure 1 – Vicinity Map
Figure 2 – Site Plan

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BASE MAP SOURCE: GOOGLE EARTH MAPPING SERVICE



VICINITY MAP
20621 LAKE FOREST DRIVE
LAKE FOREST, CALIFORNIA

PROJECT NO.: P2016.001.311

FIGURE NO.

SCALE: AS SHOWN

1

DRAWN BY: PC

CHECKED BY: MH

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EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

D ● SAMPLE



BASE MAP SOURCE: GOOGLE EARTH MAPPING SERVICE



SITE PLAN
 20621 LAKE FOREST DRIVE
 LAKE FOREST, CALIFORNIA

PROJECT NO.: P2016.001.311
 SCALE: AS SHOWN
 DRAWN BY: PC CHECKED BY: MH

FIGURE NO.
2

APPENDIX A

SUNSTAR LABORATORY

Analytical Report

13362.000.000
September 12, 2016



SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

09 September 2016

Matthew Harrell

Engeo

2213 Plaza Dr.

Rocklin, CA 95765

RE: 20621 Lake Forest Dr.,CA

Enclosed are the results of analyses for samples received by the laboratory on 09/08/16 14:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S1-A	T162181-01	Soil	09/08/16 10:35	09/08/16 14:50
S2-A	T162181-05	Soil	09/08/16 11:00	09/08/16 14:50
S3-A	T162181-09	Soil	09/08/16 11:25	09/08/16 14:50
S4-A	T162181-13	Soil	09/08/16 12:15	09/08/16 14:50
S5-A	T162181-17	Soil	09/08/16 14:20	09/08/16 14:50
S6-A	T162181-21	Soil	09/08/16 13:15	09/08/16 14:50
S7-A	T162181-25	Soil	09/08/16 12:20	09/08/16 14:50
COMPOSITE S1-ABCD	T162181-28	Soil	09/08/16 00:00	09/08/16 14:50
COMPOSITE S2-ABCD	T162181-29	Soil	09/08/16 00:00	09/08/16 14:50
COMPOSITE S3-ABCD	T162181-30	Soil	09/08/16 00:00	09/08/16 14:50
COMPOSITE S4-ABCD	T162181-31	Soil	09/08/16 00:00	09/08/16 14:50
COMPOSITE S5-ABCD	T162181-32	Soil	09/08/16 00:00	09/08/16 14:50
COMPOSITE S6-ABCD	T162181-33	Soil	09/08/16 00:00	09/08/16 14:50
COMPOSITE S7-ABD	T162181-34	Soil	09/08/16 00:00	09/08/16 14:50

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

DETECTIONS SUMMARY

Sample ID: S1-A **Laboratory ID:** T162181-01

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	2.4	0.23	mg/kg	6020 ICP-MS	
Lead	5.0	0.23	mg/kg	6020 ICP-MS	

Sample ID: S2-A **Laboratory ID:** T162181-05

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	0.98	0.25	mg/kg	6020 ICP-MS	
Lead	3.6	0.25	mg/kg	6020 ICP-MS	

Sample ID: S3-A **Laboratory ID:** T162181-09

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	1.4	0.23	mg/kg	6020 ICP-MS	
Lead	2.6	0.23	mg/kg	6020 ICP-MS	

Sample ID: S4-A **Laboratory ID:** T162181-13

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	4.7	0.25	mg/kg	6020 ICP-MS	
Lead	4.1	0.25	mg/kg	6020 ICP-MS	

Sample ID: S5-A **Laboratory ID:** T162181-17

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	0.48	0.25	mg/kg	6020 ICP-MS	
Lead	3.7	0.25	mg/kg	6020 ICP-MS	

SunStar Laboratories, Inc.



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Engeo 2213 Plaza Dr. Rocklin CA, 95765	Project: 20621 Lake Forest Dr.,CA Project Number: P2016001311 Project Manager: Matthew Harrell	Reported: 09/09/16 17:44
----------------------------------------------	------------------------------------------------------------------------------------------------------	-----------------------------

Sample ID: S6-A		Laboratory ID: T162181-21			
			Reporting		
Analyte	Result	Limit	Units	Method	Notes
Arsenic	2.2	0.23	mg/kg	6020 ICP-MS	
Lead	8.4	0.23	mg/kg	6020 ICP-MS	

Sample ID: S7-A		Laboratory ID: T162181-25			
			Reporting		
Analyte	Result	Limit	Units	Method	Notes
Arsenic	3.1	0.23	mg/kg	6020 ICP-MS	
Lead	2.9	0.23	mg/kg	6020 ICP-MS	

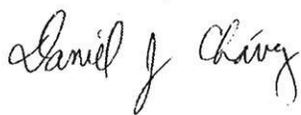
Sample ID: COMPOSITE S1-ABCD		Laboratory ID: T162181-28			
No Results Detected					

Sample ID: COMPOSITE S2-ABCD		Laboratory ID: T162181-29			
No Results Detected					

Sample ID: COMPOSITE S3-ABCD		Laboratory ID: T162181-30			
No Results Detected					

Sample ID: COMPOSITE S4-ABCD		Laboratory ID: T162181-31			
No Results Detected					

SunStar Laboratories, Inc.



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Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

Sample ID: COMPOSITE S5-ABCD

Laboratory ID: T162181-32

No Results Detected

Sample ID: COMPOSITE S6-ABCD

Laboratory ID: T162181-33

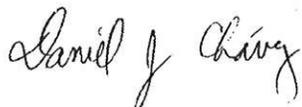
No Results Detected

Sample ID: COMPOSITE S7-ABD

Laboratory ID: T162181-34

No Results Detected

SunStar Laboratories, Inc.



Daniel Chavez, Project Manager

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Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

S1-A
T162181-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	2.4	0.23	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	5.0	0.23	"	"	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

S2-A

T162181-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	0.98	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	3.6	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

S3-A

T162181-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	1.4	0.23	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	2.6	0.23	"	"	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

S4-A

T162181-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	4.7	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	4.1	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo 2213 Plaza Dr. Rocklin CA, 95765	Project: 20621 Lake Forest Dr.,CA Project Number: P2016001311 Project Manager: Matthew Harrell	Reported: 09/09/16 17:44
----------------------------------------------	------------------------------------------------------------------------------------------------------	-----------------------------

S5-A
T162181-17 (Soil)

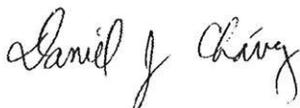
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.48	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	3.7	0.25	"	"	"	"	"	"	

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Daniel Chavez, Project Manager

Engeo 2213 Plaza Dr. Rocklin CA, 95765	Project: 20621 Lake Forest Dr.,CA Project Number: P2016001311 Project Manager: Matthew Harrell	Reported: 09/09/16 17:44
----------------------------------------------	------------------------------------------------------------------------------------------------------	-----------------------------

S6-A
T162181-21 (Soil)

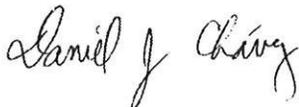
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	2.2	0.23	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	8.4	0.23	"	"	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

S7-A
T162181-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	3.1	0.23	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	2.9	0.23	"	"	"	"	"	"	

SunStar Laboratories, Inc.



Daniel Chavez, Project Manager

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Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

COMPOSITE S1-ABCD
T162181-28 (Soil)

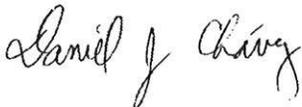
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090846	09/08/16	09/09/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		43.4 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		37.2 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

**COMPOSITE S2-ABCD
T162181-29 (Soil)**

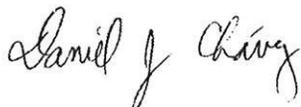
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090846	09/08/16	09/09/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
beta-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		59.4 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		52.1 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

COMPOSITE S3-ABCD
T162181-30 (Soil)

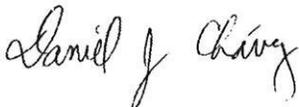
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090846	09/08/16	09/09/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		68.8 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		54.9 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

COMPOSITE S4-ABCD
T162181-31 (Soil)

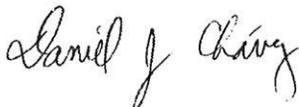
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090846	09/08/16	09/09/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		66.8 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		55.2 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

**COMPOSITE S5-ABCD
T162181-32 (Soil)**

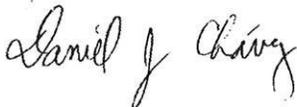
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090846	09/08/16	09/09/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		49.4 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		45.0 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

**COMPOSITE S6-ABCD
T162181-33 (Soil)**

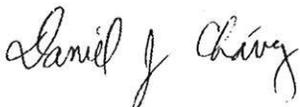
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090846	09/08/16	09/09/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		70.3 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		56.9 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

COMPOSITE S7-ABD
T162181-34 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090846	09/08/16	09/09/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
delta-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		55.2 %	35-140		"	"	"	"	
Surrogate: Decachlorobiphenyl		55.4 %	35-140		"	"	"	"	

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

Metals by EPA 6020 Method - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090853 - EPA 3051										
Blank (6090853-BLK1)										
Prepared: 09/08/16 Analyzed: 09/09/16										
Arsenic	ND	0.25	mg/kg							
Lead	ND	0.25	"							
LCS (6090853-BS1)										
Prepared: 09/08/16 Analyzed: 09/09/16										
Arsenic	10.4	0.25	mg/kg	10.0		104	80-120			
Lead	10.8	0.25	"	10.0		108	80-120			
Matrix Spike (6090853-MS1)										
Source: T162181-01 Prepared: 09/08/16 Analyzed: 09/09/16										
Arsenic	14.7	0.25	mg/kg	10.0	2.38	124	75-125			
Lead	18.2	0.25	"	10.0	5.05	132	75-125			QM-07
Matrix Spike Dup (6090853-MSD1)										
Source: T162181-01 Prepared: 09/08/16 Analyzed: 09/09/16										
Arsenic	10.3	0.23	mg/kg	9.09	2.38	86.6	75-125	35.9	20	QR-04
Lead	12.7	0.23	"	9.09	5.05	84.3	75-125	35.6	20	QM-07

SunStar Laboratories, Inc.



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Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

Organochlorine Pesticides by EPA Method 8081A - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6090846 - EPA 3510C GCMS/ECD

Blank (6090846-BLK1)

Prepared: 09/08/16 Analyzed: 09/09/16

alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4'-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4'-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	10	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	200	"							

Surrogate: Tetrachloro-meta-xylene

6.36

"

10.0

63.6

35-140

Surrogate: Decachlorobiphenyl

4.89

"

10.0

48.9

35-140

LCS (6090846-BS1)

Prepared: 09/08/16 Analyzed: 09/09/16

gamma-BHC (Lindane)	23.2	5.0	ug/kg	40.0		58.0	40-120			
Heptachlor	20.5	5.0	"	40.0		51.1	40-120			
Aldrin	17.3	5.0	"	40.0		43.2	40-120			
Dieldrin	18.9	5.0	"	40.0		47.3	40-120			
Endrin	18.6	5.0	"	40.0		46.5	40-120			
4,4'-DDT	21.5	5.0	"	40.0		53.7	33-147			

Surrogate: Tetrachloro-meta-xylene

6.71

"

10.0

67.1

35-140

Surrogate: Decachlorobiphenyl

5.29

"

10.0

52.9

35-140

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

Organochlorine Pesticides by EPA Method 8081A - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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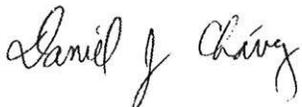
Batch 6090846 - EPA 3510C GCMS/ECD

LCS Dup (6090846-BSD1)

Prepared: 09/08/16 Analyzed: 09/09/16

gamma-BHC (Lindane)	24.5	5.0	ug/kg	40.0		61.3	40-120	5.58	30	
Heptachlor	21.4	5.0	"	40.0		53.4	40-120	4.41	30	
Aldrin	17.9	5.0	"	40.0		44.7	40-120	3.36	30	
Dieldrin	20.3	5.0	"	40.0		50.8	40-120	7.16	30	
Endrin	19.8	5.0	"	40.0		49.4	40-120	6.03	30	
4,4'-DDT	23.2	5.0	"	40.0		58.1	33-147	7.82	30	
Surrogate: Tetrachloro-meta-xylene	6.98		"	10.0		69.8	35-140			
Surrogate: Decachlorobiphenyl	5.49		"	10.0		54.9	35-140			

SunStar Laboratories, Inc.



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Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016001311
Project Manager: Matthew Harrell

Reported:
09/09/16 17:44

Notes and Definitions

- QR-04 The percent recovery and/or RPD was outside acceptance criteria. Results accepted based upon percent recovery results in duplicate QC sample and the CCV and CCB results.
- QM-07 The spike recovery and or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

SunStar Laboratories, Inc.



Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Chain of Custody Record

SunStar Laboratories, Inc.
 25712 Commercentre Dr
 Lake Forest, CA 92630
 949-297-5020

Client: ENVRO Date: 9/8/2016 Page: 1 of 3
 Address: 6160 7th Project Name: 20621 LAKE FOREST DRIVE, CA
 Phone: _____ Collector: MV/MO/MRH Client Project #: P2016001331
 Project Manager: M. [Signature] Batch #: T162181 EDF #: _____

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Filter 22 Metals	X LEAD 6020	X ARSENIC 6020	8082 OC TEST	Laboratory ID #	Comments/Preservative	Total # of containers	Notes
S1-A	9/8/2016	10:35	SOP 16	2 X 6												01		4	
S1-B		10:55														02			
S1-L		10:50														03			
S1-D		10:43														04			
S2-A		11:00														05		4	
S2-B		11:20														06			
S2-C		11:15														07			
S2-D		11:10														08			
S3-A		11:25														09		4	
S3-B		11:35														10			
S3-C		11:40														11			
S3-D		11:45														12			
S4-A		12:15														13			
S4-B		12:10														14			
S4-C		12:05														15			
Relinquished by: (signature)		Date / Time	Received by: (signature)	Date / Time	Chain of Custody seals Y/N/NA			Total # of containers			Seals intact? Y/N/NA			Received good condition/cold			Notes		
<u>[Signature]</u>	9/8/16	17:50	<u>[Signature]</u>	9/8/16	14:50											17		4	Mon. morning EPA FRI COB
Relinquished by: (signature)		Date / Time	Received by: (signature)		Received good condition/cold			Turn around time: <u>24 hrs</u>											
Relinquished by: (signature)		Date / Time	Received by: (signature)																

Sample disposal instructions: Disposal @ \$2.00 each Return to client _____ Pickup _____

COC 133697



SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T16 2181

Client Name: Engco. Project: 20621 Lake Forest Dr., CA

Delivered by: Client SunStar Courier GSO FedEx Other

If Courier, Received by: - Date/Time Courier Received: -

Lab Received by: Sunny Date/Time Lab Received: 9/8/16 11:50

Total number of coolers received: 0

Temperature: Cooler #1	5.3	°C +/- the CF (- 0.2°C) =	5.1	°C corrected temperature
Temperature: Cooler #2		°C +/- the CF (- 0.2°C) =		°C corrected temperature
Temperature: Cooler #3		°C +/- the CF (- 0.2°C) =		°C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)		Within criteria?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If NO:				
Samples received on ice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No →	Complete Non-Conformance Sheet	
If on ice, samples received same day collected?	<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No →	Complete Non-Conformance Sheet	

Custody seals intact on cooler/sample Yes No* N/A

Sample containers intact Yes No*

Sample labels match Chain of Custody IDs Yes No*

Total number of containers received match COC Yes No*

Proper containers received for analyses requested on COC Yes No*

Proper preservative indicated on COC/containers for analyses requested Yes No* N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times Yes No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: AM 9/8/16

Comments:

WORK ORDER

T162181

Client: Engeo **Project Manager:** Daniel Chavez
Project: 20621 Lake Forest Dr.,CA **Project Number:** P2016001331

Report To:

Engeo
 Matthew Harrell
 2213 Plaza Dr.
 Rocklin, CA 95765

Date Due: 09/09/16 17:00 (1 day TAT)
 Received By: Sunny Lounethone Date Received: 09/08/16 14:50
 Logged In By: Brian Charon Date Logged In: 09/08/16 15:01

Samples Received at: 5.1°C
 Custody Seals No Received On Ice Yes
 Containers Intact Yes
 COC/Labels Agree Yes
 Preservation Confin No

Analysis	Due	TAT	Expires	Comments
T162181-01 S1-A [Soil] Sampled 09/08/16 10:35 (GMT-08:00) Pacific Time (US & 6020 Metals by ICP-MS	09/09/16 15:00	1	01/06/17 10:35	Pb,As only
T162181-02 S1-B [Soil] Sampled 09/08/16 10:55 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-03 S1-C [Soil] Sampled 09/08/16 10:50 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-04 S1-D [Soil] Sampled 09/08/16 10:43 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-05 S2-A [Soil] Sampled 09/08/16 11:00 (GMT-08:00) Pacific Time (US & 6020 Metals by ICP-MS	09/09/16 15:00	1	01/06/17 11:00	Pb,As only
T162181-06 S2-B [Soil] Sampled 09/08/16 11:20 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-07 S2-C [Soil] Sampled 09/08/16 11:15 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				

WORK ORDER

T162181

Client: Engeo	Project Manager: Daniel Chavez
Project: 20621 Lake Forest Dr.,CA	Project Number: P2016001331

Analysis	Due	TAT	Expires	Comments
T162181-08 S2-D [Soil] Sampled 09/08/16 11:10 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-09 S3-A [Soil] Sampled 09/08/16 11:25 (GMT-08:00) Pacific Time (US &				
6020 Metals by ICP-MS	09/09/16 15:00	1	01/06/17 11:25	Pb,As only
T162181-10 S3-B [Soil] Sampled 09/08/16 11:35 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-11 S3-C [Soil] Sampled 09/08/16 11:40 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-12 S3-D [Soil] Sampled 09/08/16 11:45 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-13 S4-A [Soil] Sampled 09/08/16 12:15 (GMT-08:00) Pacific Time (US &				
6020 Metals by ICP-MS	09/09/16 15:00	1	01/06/17 12:15	Pb,As only
T162181-14 S4-B [Soil] Sampled 09/08/16 12:10 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-15 S4-C [Soil] Sampled 09/08/16 12:08 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-16 S4-D [Soil] Sampled 09/08/16 12:18 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-17 S5-A [Soil] Sampled 09/08/16 14:20 (GMT-08:00) Pacific Time (US &				
6020 Metals by ICP-MS	09/09/16 15:00	1	01/06/17 14:20	Pb,As only
T162181-18 S5-B [Soil] Sampled 09/08/16 13:30 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				

WORK ORDER

T162181

Client: Engeo	Project Manager: Daniel Chavez
Project: 20621 Lake Forest Dr.,CA	Project Number: P2016001331

Analysis	Due	TAT	Expires	Comments
T162181-19 S5-C [Soil] Sampled 09/08/16 13:25 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-20 S5-D [Soil] Sampled 09/08/16 14:10 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-21 S6-A [Soil] Sampled 09/08/16 13:15 (GMT-08:00) Pacific Time (US & 6020 Metals by ICP-MS	09/09/16 15:00	1	01/06/17 13:15	Pb,As only
T162181-22 S6-B [Soil] Sampled 09/08/16 13:10 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-23 S6-C [Soil] Sampled 09/08/16 13:05 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-24 S6-D [Soil] Sampled 09/08/16 13:20 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-25 S7-A [Soil] Sampled 09/08/16 12:20 (GMT-08:00) Pacific Time (US & 6020 Metals by ICP-MS	09/09/16 15:00	1	01/06/17 12:20	Pb,As only
T162181-26 S7-B [Soil] Sampled 09/08/16 12:40 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-27 S7-D [Soil] Sampled 09/08/16 12:25 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162181-28 COMPOSITE S1-ABCD [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US & 8081 Pesticides	09/09/16 15:00	1	09/22/16 00:00	4:1
T162181-29 COMPOSITE S2-ABCD [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US & 8081 Pesticides	09/09/16 15:00	1	09/22/16 00:00	4:1

WORK ORDER

T162181

Client: Engeo **Project Manager:** Daniel Chavez
Project: 20621 Lake Forest Dr.,CA **Project Number:** P2016001331

Analysis	Due	TAT	Expires	Comments
T162181-30 COMPOSITE S3-ABCD [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US &				4:1
8081 Pesticides	09/09/16 15:00	1	09/22/16 00:00	
T162181-31 COMPOSITE S4-ABCD [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US &				4:1
8081 Pesticides	09/09/16 15:00	1	09/22/16 00:00	
T162181-32 COMPOSITE S5-ABCD [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US &				4:1
8081 Pesticides	09/09/16 15:00	1	09/22/16 00:00	
T162181-33 COMPOSITE S6-ABCD [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US &				4:1
8081 Pesticides	09/09/16 15:00	1	09/22/16 00:00	
T162181-34 COMPOSITE S7-ABD [Soil] Sampled 09/08/16 00:00 (GMT-08:00) 3:1 Pacific Time (US &				3:1
8081 Pesticides	09/09/16 15:00	1	09/22/16 00:00	



SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

12 September 2016

Matthew Harrell

Engeo

2213 Plaza Dr.

Rocklin, CA 95765

RE: 20621 Lake Forest Dr.,CA

Enclosed are the results of analyses for samples received by the laboratory on 09/08/16 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

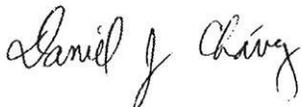
Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S10-A	T162187-01	Soil	09/08/16 16:45	09/08/16 18:00
S8-B	T162187-05	Soil	09/08/16 16:20	09/08/16 18:00
S9-A	T162187-06	Soil	09/08/16 14:50	09/08/16 18:00
S12-A	T162187-10	Soil	09/08/16 16:00	09/08/16 18:00
S15-A	T162187-14	Soil	09/08/16 15:40	09/08/16 18:00
S13-B	T162187-17	Soil	09/08/16 17:15	09/08/16 18:00
COMP: S10-A,B,C,D	T162187-18	Soil	09/08/16 00:00	09/08/16 18:00
COMP: S9-A,B,C,D	T162187-19	Soil	09/08/16 00:00	09/08/16 18:00
COMP: S12-A,B,C,D	T162187-20	Soil	09/08/16 00:00	09/08/16 18:00
COMP: S15-A,C,D	T162187-21	Soil	09/08/16 00:00	09/08/16 18:00

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

DETECTIONS SUMMARY

Sample ID: S10-A **Laboratory ID:** T162187-01

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	1.4	0.25	mg/kg	6020 ICP-MS	
Lead	5.2	0.25	mg/kg	6020 ICP-MS	

Sample ID: S8-B **Laboratory ID:** T162187-05

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	1.2	0.25	mg/kg	6020 ICP-MS	
Lead	2.4	0.25	mg/kg	6020 ICP-MS	

Sample ID: S9-A **Laboratory ID:** T162187-06

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	0.79	0.25	mg/kg	6020 ICP-MS	
Lead	2.0	0.25	mg/kg	6020 ICP-MS	

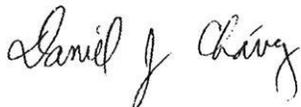
Sample ID: S12-A **Laboratory ID:** T162187-10

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	5.4	0.25	mg/kg	6020 ICP-MS	
Lead	4.3	0.25	mg/kg	6020 ICP-MS	

Sample ID: S15-A **Laboratory ID:** T162187-14

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	2.2	0.25	mg/kg	6020 ICP-MS	
Lead	7.6	0.25	mg/kg	6020 ICP-MS	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

Sample ID: S13-B **Laboratory ID:** T162187-17

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	4.9	0.25	mg/kg	6020 ICP-MS	
Lead	3.8	0.25	mg/kg	6020 ICP-MS	

Sample ID: COMP: S10-A,B,C,D **Laboratory ID:** T162187-18

No Results Detected

Sample ID: COMP: S9-A,B,C,D **Laboratory ID:** T162187-19

No Results Detected

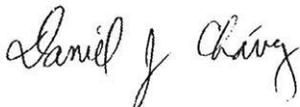
Sample ID: COMP: S12-A,B,C,D **Laboratory ID:** T162187-20

No Results Detected

Sample ID: COMP: S15-A,C,D **Laboratory ID:** T162187-21

No Results Detected

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

S10-A
T162187-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	1.4	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	5.2	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.



Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

S8-B
T162187-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	1.2	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	2.4	0.25	"	"	"	"	"	"	

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090905	09/09/16	09/12/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
rin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

63.3 % 35-140

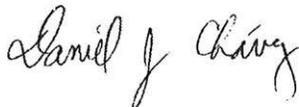
" " " "

Surrogate: Decachlorobiphenyl

52.2 % 35-140

" " " "

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

S9-A
T162187-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	0.79	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	2.0	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

S12-A

T162187-10 (Soil)

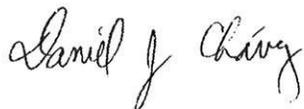
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	5.4	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	4.3	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

S15-A
T162187-14 (Soil)

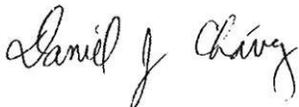
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	2.2	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	7.6	0.25	"	"	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr., CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

S13-B
T162187-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6020 Method

Arsenic	4.9	0.25	mg/kg	1	6090853	09/08/16	09/09/16	6020 ICP-MS	
Lead	3.8	0.25	"	"	"	"	"	"	

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090905	09/09/16	09/12/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
rin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

66.9 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

56.4 % 35-140

" " " "

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

COMP: S10-A,B,C,D
T162187-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090905	09/09/16	09/12/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		65.2 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		53.3 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

COMP: S9-A,B,C,D
T162187-19 (Soil)

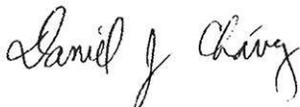
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090905	09/09/16	09/12/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		61.2 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		51.8 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

COMP: S12-A,B,C,D
T162187-20 (Soil)

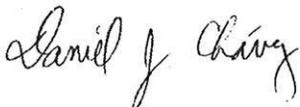
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090905	09/09/16	09/12/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		60.5 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		51.9 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Daniel Chavez, Project Manager

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

COMP: S15-A,C,D
T162187-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	6090905	09/09/16	09/12/16	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		49.9 %		35-140	"	"	"	"	
Surrogate: Decachlorobiphenyl		49.3 %		35-140	"	"	"	"	

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo 2213 Plaza Dr. Rocklin CA, 95765	Project: 20621 Lake Forest Dr.,CA Project Number: P2016.001.311 Project Manager: Matthew Harrell	Reported: 09/12/16 10:15
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Metals by EPA 6020 Method - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6090853 - EPA 3051

Blank (6090853-BLK1)

Prepared: 09/08/16 Analyzed: 09/09/16

Arsenic	ND	0.25	mg/kg							
Lead	ND	0.25	"							

LCS (6090853-BS1)

Prepared: 09/08/16 Analyzed: 09/09/16

Arsenic	10.4	0.25	mg/kg	10.0		104	80-120			
Lead	10.8	0.25	"	10.0		108	80-120			

Matrix Spike (6090853-MS1)

Source: T162181-01

Prepared: 09/08/16 Analyzed: 09/09/16

Arsenic	14.7	0.25	mg/kg	10.0	2.38	124	75-125			
Lead	18.2	0.25	"	10.0	5.05	132	75-125			QM-PS

Matrix Spike Dup (6090853-MSD1)

Source: T162181-01

Prepared: 09/08/16 Analyzed: 09/09/16

Arsenic	10.3	0.23	mg/kg	9.09	2.38	86.6	75-125	35.9	20	QR-04
Lead	12.7	0.23	"	9.09	5.05	84.3	75-125	35.6	20	QM-PS

Post Spike (6090853-PS1)

Source: T162181-01

Prepared: 09/08/16 Analyzed: 09/09/16

Arsenic	11.7		mg/kg	10.0	2.38	92.8	80-120			
Lead	14.0		"	10.0	5.05	89.4	80-120			

SunStar Laboratories, Inc.



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Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

Organochlorine Pesticides by EPA Method 8081A - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6090905 - EPA 3550 ECD/GCMS

Blank (6090905-BLK1)

Prepared: 09/09/16 Analyzed: 09/12/16

alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4'-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4'-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	10	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	200	"							
<i>Surrogate: Tetrachloro-meta-xylene</i>	6.00		"	10.0		60.0	35-140			
<i>Surrogate: Decachlorobiphenyl</i>	5.03		"	10.0		50.3	35-140			

LCS (6090905-BS1)

Prepared: 09/09/16 Analyzed: 09/12/16

gamma-BHC (Lindane)	22.5	5.0	ug/kg	39.6		56.9	40-120			
Heptachlor	24.0	5.0	"	39.6		60.6	40-120			
Aldrin	19.9	5.0	"	39.6		50.3	40-120			
Dieldrin	18.7	5.0	"	39.6		47.2	40-120			
Endrin	18.4	5.0	"	39.6		46.4	40-120			
4,4'-DDT	22.1	5.0	"	39.6		55.8	33-147			
<i>Surrogate: Tetrachloro-meta-xylene</i>	6.80		"	9.90		68.7	35-140			
<i>Surrogate: Decachlorobiphenyl</i>	5.50		"	9.90		55.5	35-140			

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

Organochlorine Pesticides by EPA Method 8081A - Quality Control
SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6090905 - EPA 3550 ECD/GCMS

Matrix Spike (6090905-MS1)

Source: T162187-05

Prepared: 09/09/16 Analyzed: 09/12/16

gamma-BHC (Lindane)	22.5	5.0	ug/kg	40.0	ND	56.4	30-120			
Heptachlor	20.3	5.0	"	40.0	ND	50.8	30-120			
Aldrin	18.4	5.0	"	40.0	ND	45.9	30-120			
Dieldrin	18.8	5.0	"	40.0	ND	47.0	30-120			
Endrin	18.4	5.0	"	40.0	ND	46.1	30-120			
4,4'-DDT	22.5	5.0	"	40.0	ND	56.2	30-120			
Surrogate: Tetrachloro-meta-xylene	6.32		"	10.0		63.2	35-140			
Surrogate: Decachlorobiphenyl	5.02		"	10.0		50.2	35-140			

Matrix Spike Dup (6090905-MSD1)

Source: T162187-05

Prepared: 09/09/16 Analyzed: 09/12/16

gamma-BHC (Lindane)	23.4	5.0	ug/kg	39.2	ND	59.6	30-120	5.55	30	
Heptachlor	20.5	5.0	"	39.2	ND	52.2	30-120	2.75	30	
Aldrin	18.2	5.0	"	39.2	ND	46.5	30-120	1.26	30	
Dieldrin	19.3	5.0	"	39.2	ND	49.2	30-120	4.59	30	
Endrin	18.8	5.0	"	39.2	ND	47.8	30-120	3.76	30	
4,4'-DDT	23.6	5.0	"	39.2	ND	60.1	30-120	6.72	30	
Surrogate: Tetrachloro-meta-xylene	6.46		"	9.80		65.9	35-140			
Surrogate: Decachlorobiphenyl	5.37		"	9.80		54.8	35-140			

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Engeo
2213 Plaza Dr.
Rocklin CA, 95765

Project: 20621 Lake Forest Dr.,CA
Project Number: P2016.001.311
Project Manager: Matthew Harrell

Reported:
09/12/16 10:15

Notes and Definitions

- QR-04 The percent recovery and/or RPD was outside acceptance criteria. Results accepted based upon percent recovery results in duplicate QC sample and the CCV and CCB results.
- QM-PS The percent recovery and/or RPD are outside acceptance criteria. Results accepted based upon percent recovery results in the post spike and/or serial dilution.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

SunStar Laboratories, Inc.



Daniel Chavez, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
 25712 Commercentre Dr
 Lake Forest, CA 92630
 949-297-5020

Chain of Custody Record

Client: ENGEO, INC Date: 09/08/16 Page: 1 of 2
 Address: 10 Morgan Suite 162, Irvine CA Project Name: 20621 Lake Forest Dr.
 Phone: (949) 520-7768 Fax: _____ Collector: Max Harold, M., M. Client Project #: 2016.001.331
 Project Manager: Max Harold Batch #: 7162187 EDF #: _____

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead, Arsenic (1020)	OCs (8084)	Laboratory ID #	Comments/Preservative	Total # of containers	Notes
510-A	09/08/16	1645	SOL	55.5 liter									X	X	01	ICE	4	
510-B		1650											X	X	02			
510-C		1705											X	X	03			
510-D		1700											X	X	04			
58-B		1620											X	X	05			
58-C													X	X				
58-D													X	X				
59-A		1450											X	X	06			
59-B		1455											X	X	07			
59-C		1500											X	X	08			
59-D		1510											X	X	09			

Relinquished by: (signature) Max Harold Date / Time 9/8/2016 18:00
 Relinquished by: (signature) _____ Date / Time _____
 Relinquished by: (signature) _____ Date / Time _____

Received by: (signature) _____ Date / Time 9-8-16 18:00
 Received by: (signature) _____ Date / Time _____
 Received by: (signature) _____ Date / Time _____

Chain of Custody seals Y/N/NA
 Seals intact? Y/N/NA
 Received good condition/cold Y/N/NA

Turn around time: 24 hrs

Sample disposal Instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____

COC 133694

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7162187

Client Name: ENREO Project: 20621 LAKE FOREST DE

Delivered by: Client SunStar Courier GSO FedEx Other

If Courier, Received by: _____ Date/Time Courier Received: _____

Lab Received by: SUNNY Date/Time Lab Received: 9.8.16 / 18:00

Total number of coolers received: 0

Temperature:	Cooler #1 <u>10.2</u>	°C +/- the CF (- 0.2°C) = <u>10.1</u>	°C corrected temperature
Temperature:	Cooler #2	°C +/- the CF (- 0.2°C) =	°C corrected temperature
Temperature:	Cooler #3	°C +/- the CF (- 0.2°C) =	°C corrected temperature

Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If NO:		
Samples received on ice?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No → Complete Non-Conformance Sheet
If on ice, samples received same day collected?	<input checked="" type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
Sample containers intact	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	
Sample labels match Chain of Custody IDs	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	
Total number of containers received match COC	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	
Proper containers received for analyses requested on COC	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	
Proper preservative indicated on COC/containers for analyses requested	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: 82 9.8.16

Comments: _____

WORK ORDER

T162187

Client: Engeo	Project Manager: Daniel Chavez
Project: 20621 Lake Forest Dr.,CA	Project Number: P2016.001.331

Report To:

Engeo
 Matthew Harrell
 2213 Plaza Dr.
 Rocklin, CA 95765

Date Due: 09/12/16 17:00 (1 day TAT)	Date Received: 09/08/16 18:00
Received By: Sunny Lounethone	Date Logged In: 09/08/16 18:06
Logged In By: Sunny Lounethone	

Samples Received at: 10.1°C
Custody Seals: No Received On Ice: Yes
Containers Intact: Yes
COC/Labels Agree: Yes
Preservation Confir: No

Analysis	Due	TAT	Expires	Comments
T162187-01 S10-A [Soil] Sampled 09/08/16 16:45 (GMT-08:00) Pacific Time (US &				
6020 Metals by ICP-MS	09/12/16 15:00	1	01/06/17 16:45	Pb, As only
T162187-02 S10-B [Soil] Sampled 09/08/16 16:50 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T162187-03 S10-C [Soil] Sampled 09/08/16 17:05 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T162187-04 S10-D [Soil] Sampled 09/08/16 17:00 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T162187-05 S8-B [Soil] Sampled 09/08/16 16:20 (GMT-08:00) Pacific Time (US &				
6020 Metals by ICP-MS	09/12/16 15:00	1	01/06/17 16:20	Pb, As only
8081 Pesticides	09/12/16 15:00	1	09/22/16 16:20	
T162187-06 S9-A [Soil] Sampled 09/08/16 14:50 (GMT-08:00) Pacific Time (US &				
6020 Metals by ICP-MS	09/12/16 15:00	1	01/06/17 14:50	Pb, As only
T162187-07 S9-B [Soil] Sampled 09/08/16 14:55 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

WORK ORDER

T162187

Client: Engeo	Project Manager: Daniel Chavez
Project: 20621 Lake Forest Dr.,CA	Project Number: P2016.001.331

Analysis	Due	TAT	Expires	Comments
T162187-08 S9-C [Soil] Sampled 09/08/16 15:00 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162187-09 S9-D [Soil] Sampled 09/08/16 15:10 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162187-10 S12-A [Soil] Sampled 09/08/16 16:00 (GMT-08:00) Pacific Time (US & 6020 Metals by ICP-MS	09/12/16 15:00	1	01/06/17 16:00	Pb, As only
T162187-11 S12-B [Soil] Sampled 09/08/16 15:55 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162187-12 S12-C [Soil] Sampled 09/08/16 15:45 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162187-13 S12-D [Soil] Sampled 09/08/16 15:50 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162187-14 S15-A [Soil] Sampled 09/08/16 15:40 (GMT-08:00) Pacific Time (US & 6020 Metals by ICP-MS	09/12/16 15:00	1	01/06/17 15:40	Pb, As only
T162187-15 S15-C [Soil] Sampled 09/08/16 15:20 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162187-16 S15-D [Soil] Sampled 09/08/16 15:25 (GMT-08:00) Pacific Time (US & [NO ANALYSES]				
T162187-17 S13-B [Soil] Sampled 09/08/16 17:15 (GMT-08:00) Pacific Time (US & 6020 Metals by ICP-MS	09/12/16 15:00	1	01/06/17 17:15	Pb, As only
8081 Pesticides	09/12/16 15:00	1	09/22/16 17:15	
T162187-18 COMP: S10-A,B,C,D [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US & 8081 Pesticides	09/12/16 15:00	1	09/22/16 00:00	COMPOSITE 4:1

WORK ORDER

T162187

Client: Engeo	Project Manager: Daniel Chavez
Project: 20621 Lake Forest Dr.,CA	Project Number: P2016.001.331

Analysis	Due	TAT	Expires	Comments
T162187-19 COMP: S9-A,B,C,D [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US &				COMPOSITE 4:1
8081 Pesticides	09/12/16 15:00	1	09/22/16 00:00	
T162187-20 COMP: S12-A,B,C,D [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US &				COMPOSITE 4:1
8081 Pesticides	09/12/16 15:00	1	09/22/16 00:00	
T162187-21 COMP: S15-A,C,D [Soil] Sampled 09/08/16 00:00 (GMT-08:00) Pacific Time (US &				COMPOSITE 3:1
8081 Pesticides	09/12/16 15:00	1	09/22/16 00:00	

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