GEOTECHNICAL BORING LOG

PROJECT NO.	500505G	PROJECT NAME	Borrego Wash		
DATE STARTED	9/16/02	GROUND ELEV.	+622	BORING DESIG.	RW-6
DATE FINISHED	9/16/02	GW DEPTH (FT)	34	LOGGED BY	TJM
DRILLER	Gregg	DRIVE WT.	140 lb.	NOTE	
TYPE OF DRILL RIG	Hollow stem	DROP	30 inch		

DEPTH (Feet)	ELEV	SAMPLE TYPE	SAMPLE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
							@ 42 ft. - rocks				
45											
50							@ 50 ft. - rocks, hard drilling				
55							**CAPISTRANO FORMATION OSO MEMBER (Tco):** SILTY fine to medium grained SANDSTONE, light gray white, micaceous				
60							TOTAL DEPTH 60 FEET WATER @ 34 feet				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
B: BEDDING
S: SHEAR
J: JOINT

PACIFIC SOILS ENGINEERING, INC.

PLATE RW-6

GEOTECHNICAL BORING LOG

PROJECT NO.	500505G	PROJECT NAME	Borrego Wash	BORING DESIG.	RW-7
DATE STARTED	9/16/02	GROUND ELEV.	+639	LOGGED BY	TJM
DATE FINISHED	9/16/02	GW DEPTH (FT)	38	NOTE	
DRILLER	Gregg	DRIVE WT.	140 lb.		
TYPE OF DRILL RIG	Hollow stem	DROP	30 inch		

DEPTH (Feet)	ELEV	SAMPLE TYPE	SAMPLE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						SM	**ALLUVIUM/COLLUVIUM (Qac):** SILTY fine to medium grained SAND, gray brown, dry to damp				
5											
10						SM	SILTY fine to medium grained SAND, yellow brown, damp, few gravel				
15						SM	SILTY fine to medium grained SAND, yellow brown, damp, few gravel				
20											
							@ 23 ft. - rocks - moderately hard drilling				
25											
30						SM	SILTY fine to medium grained SAND, yellow brown, damp to moist				
35											
							water				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
B: BEDDING
S: SHEAR
J: JOINT

PACIFIC SOILS ENGINEERING, INC.

PLATE RW-7

GEOTECHNICAL BORING LOG

PROJECT NO.	500505G	PROJECT NAME	Borrego Wash	BORING DESIG.	RW-7
DATE STARTED	9/16/02	GROUND ELEV.	±639	LOGGED BY	TJM
DATE FINISHED	9/16/02	GW DEPTH (FT)	38	NOTE	
DRILLER	Gregg	DRIVE WT.	140 lb.		
TYPE OF DRILL RIG	Hollow stem	DROP	30 inch		

DEPTH (Feet)	ELEV	SAMPLE TYPE	SAMPLE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						SM	SILTY fine to medium grained SAND, yellow brown, damp to moist				
45											
50											
55							@ 55 ft. - few rocks				
							CAPISTRANO FORMATION OSO MEMBER (Tco): SILTY fine to medium grained micaceous SANDSTONE, light gray white, hard to very hard				
60		S		90 for 6"			TOTAL DEPTH 60 FEET GROUNDWATER ENCOUNTERED 38 FEET				HY

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

- GROUNDWATER
- SEEPAGE
- B: BEDDING
- S: SHEAR
- J: JOINT

PACIFIC SOILS ENGINEERING, INC.

PLATE RW-7

GEOTECHNICAL BORING LOG

PROJECT NO.	500505G	PROJECT NAME	Borrego Wash		
DATE STARTED	10/10/02	GROUND ELEV.	±580	BORING DESIG.	RW-8
DATE FINISHED	10/10/02	GW DEPTH (FT)		LOGGED BY	TJM
DRILLER	Al Roy Drilling	DRIVE WT.	140 lb.	NOTE	
TYPE OF DRILL RIG	Hollow stem	DROP	30 inch		

DEPTH (Feet)	ELEV	SAMPLE TYPE	SAMPLE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S		15/9/13		SM	**ARTIFICIAL FILL (Af):** SILTY fine grained SAND, light greenish tan, dry to damp, medium dense				HY
5		R		18/17		ML	very fine grained SANDY SILT, light yellow brown, dry to damp, medium dense, few rocks	9.3	108	46	
		S		8/8/13		ML	very grained SANDY SILT, gray brown, greenish brown and light yellow tan, gravel size, SILTSTONE fragments, slight organic odor, very few rootlets				HY
10		R		8/13		ML	very fine grained SANDY SILT, dark green gray, moist, medium dense	9.7	112	53	
		S		8/12/14		ML	SANDY SILT, mottled dark gray brown and yellow brown, moist, firm				HY
15		R		3/7		CL	SANDY CLAY, dark brown to gray brown, moist, soft to firm	14.3	108	71	CON
		S		7/7/9		CL	SANDY CLAY, mottled dark gray and green gray, moist, soft, very few gravel, twig fragment with black organics				HY
20		R		5/11		CL	SANDY CLAY, dark brown, moist, soft to firm	15.4	112	84	
		S		6/8/14		CL	SANDY CLAY, mottled dark gray brown and dark green gray, moist, firm				HY
25		R		4/18		CL	SANDY CLAY, mottled dark gray brown and dark green gray, moist, soft to firm	13.7	113	77	CON
		S		10/11/11		SC	CLAYEY SAND, brown, yellow tan and green gray, moist, firm				HY
30		R		6/12		CL	SANDY CLAY, dark green gray, moist, firm	13.8	111	73	
		S		5/17/50		CL	**ALLUVIUM/COLLUVIUM (Qac):** SANDY CLAY, yellow brown and dark green gray in top of sample, coarse-grained gravelly SAND in tip, yellow brown, moist, firm hard drilling on rock - Refusal @ 34 feet TOTAL DEPTH 34 FEET REFUSAL @ 34 FEET NO WATER				HY

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

- GROUNDWATER
- SEEPAGE
- B: BEDDING
- S: SHEAR
- J: JOINT

PACIFIC SOILS ENGINEERING, INC.

GEOTECHNICAL BORING LOG

PROJECT NO.	500505G	PROJECT NAME	Borrego Wash		
DATE STARTED	10/10/02	GROUND ELEV.	±580	BORING DESIG.	RW-9
DATE FINISHED	10/10/02	GW DEPTH (FT)	39	LOGGED BY	TJM
DRILLER	Al Roy Drilling	DRIVE WT.	140 lb.	NOTE	
TYPE OF DRILL RIG	Hollow stem	DROP	30 inch		

DEPTH (Feet)	ELEV	SAMPLE TYPE	SAMPLE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						SM	**ARTIFICIAL FILL (Af):** SILTY SAND, light yellow tan, dry, soft				
5											
						SC	CLAYEY SAND, grayish tan, moist, soft to firm				
10											
15											
20						SC	CLAYEY SAND/SANDY CLAY, dark gray brown, moist, firm				
25						CL	SANDY CLAY, dark gray brown, moist, firm				
30						CL	**ALLUVIUM/COLLUVIUM (Qac):** @ 31 ft. - rocky drilling				
35							@ 35 ft. - a few more rocks				
						CL	minor amount of perched water, medium grained SANDY CLAY				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
B: BEDDING
S: SHEAR
J: JOINT

PACIFIC SOILS ENGINEERING, INC.

PLATE RW-9

GEOTECHNICAL BORING LOG

PROJECT NO.	500505G	PROJECT NAME	Borrego Wash	BORING DESIG.	RW-9
DATE STARTED	10/10/02	GROUND ELEV.	+580	LOGGED BY	TJM
DATE FINISHED	10/10/02	GW DEPTH (FT)	39	NOTE	
DRILLER	Al Roy Drilling	DRIVE WT.	140 lb.		
TYPE OF DRILL RIG	Hollow stem	DROP	30 inch		

DEPTH (Feet)	ELEV	SAMPLE TYPE	SAMPLE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
45											
50							increased amount of ground water				
							CAPISTRANO FORMATION-OSO MEMBER (Tco): Driller states that it feels like Bedrock				
55		S		27/50/5"			SILTY SANDSTONE light green gray with some yellow oxide stains, moist, hard, micaceous				HY
		S		25/50/4"			SILTY fine grained SANDSTONE, green gray and yellow tan, moist, hard, micaceous, some orange red oxidation stains				HY
60							TOTAL DEPTH 60 FEET WATER @ 39 FEET				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
B: BEDDING
S: SHEAR
J: JOINT

PACIFIC SOILS ENGINEERING, INC.

PLATE RW-9

CPT LOGS IN PSE REPORT (2002)

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SEP 18 2002
PACIFIC SOILS

PRESENTATION OF CONE PENETRATION TEST DATA

BORREGO WASH

IRVINE, CALIFORNIA

Prepared for:

PACIFIC SOILS
Cypress, California

Prepared by:

GREGG IN SITU, INC.
Signal Hill, California
02-226sh

Prepared on:

September 17, 2002

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- Interpretation Method
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PRESENTATION OF CONE PENETRATION TEST DATA

1.0 INTRODUCTION

This report presents the results of a Cone Penetration Testing (CPT) program carried out at the Borrego Wash site located in Irvine, CA. The work was performed on September 12th and 13th, 2002. The scope of work was performed as directed by Pacific Soils personnel.

2.0 FIELD EQUIPMENT & PROCEDURES

The Cone Penetration Tests (CPT) were carried out by GREGG IN SITU, INC. of Signal Hill, CA using an integrated electronic cone system. The CPT soundings were performed in accordance with ASTM standards (D 5778-95). A 20 ton capacity cone was used for all of the soundings (figure 1). This cone has a tip area of 15 cm^2 and friction sleeve area of 225 cm^2. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cones used during the program recorded the following parameters at 5 cm depth intervals:

- Tip Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (U)

The above parameters were printed simultaneously on a printer and stored on a computer diskette for future analysis and reference.

The pore water pressure element was located directly behind the cone tip. The pore water pressure element was 5.0 mm thick and consisted of porous plastic. Each of the elements were saturated in silicon oil under vacuum pressure prior to penetration. Pore pressure dissipations were recorded at 5 second intervals when appropriate during pauses in the penetration.

A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

The cones were pushed using GREGG IN SITU's CPT rig, having a down pressure capacity of approximately 20 tons. Twelve CPT soundings were performed. The penetration tests were carried to depths of approximately 58 feet below ground surface. Test locations and depths were determined in the field by Pacific Soils personnel.

The CPT sample holes were grouted using our support rig. The grouting procedure consists of pushing a hollow CPT rod with a "knock out" plug back down the hole to the test hole termination depth. Grout is then pumped under pressure as the tremie pipe is pulled from the hole.

3.0 CONE PENETRATION TEST DATA & INTERPRETATION

The cone penetration test data is presented in graphical form. Penetration depths are referenced to existing ground surface. This data includes CPT logs of measured soil parameters and a computer tabulation of interpreted soil types along with additional geotechnical parameters and pore pressure dissipation data.

The stratigraphic interpretation is based on relationships between cone bearing (qc), sleeve friction (fs), and penetration pore pressure (U). The friction ratio (Rf), which is sleeve friction divided by cone bearing, is a calculated parameter which is used to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone bearing and generate large excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little in the way of excess pore water pressures.

Pore Pressure Dissipation Tests (PPDT's) were taken at various intervals in order to measure hydrostatic water pressures and approximate depth to groundwater table. In addition, the PPDT data can be used to estimate the horizontal permeability (k_h) of the soil. The correlation to permeability is based on the time required for 50 percent of the measured dynamic pore pressure to dissipate (t_{50}). The PPDT correlation figure (figure 2) is provided in the Appendix.

The interpretation of soils encountered on this project was carried out using recent correlations developed by Robertson et al, 1988. It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and U. In these situations, experience and judgement and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. The soil classification chart (figure 3) used to interpret soil types based on qc and Rf is provided in the Appendix.

Interpreted output requires that depth of water be entered for calculation purposes, where depth to water is unknown an arbitrary depth in excess of 10 feet of the deepest sounding is entered as the groundwater depth.

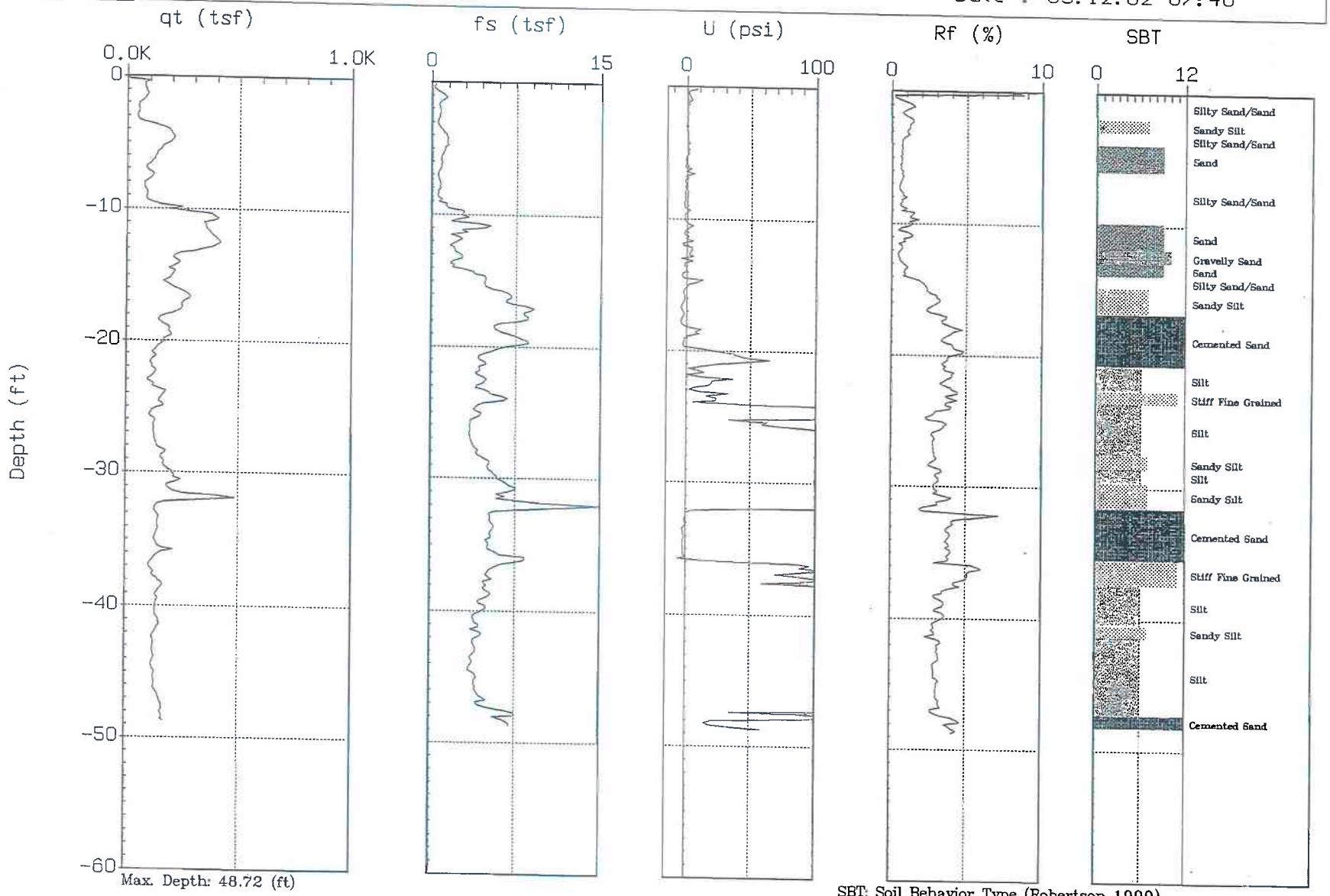
3.1 CPT PLOTS

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-01

Engineer : T. MCCARTHY
Date : 09:12:02 07:40



Max. Depth: 48.72 (ft)

Depth Inc.: 0.164 (ft)

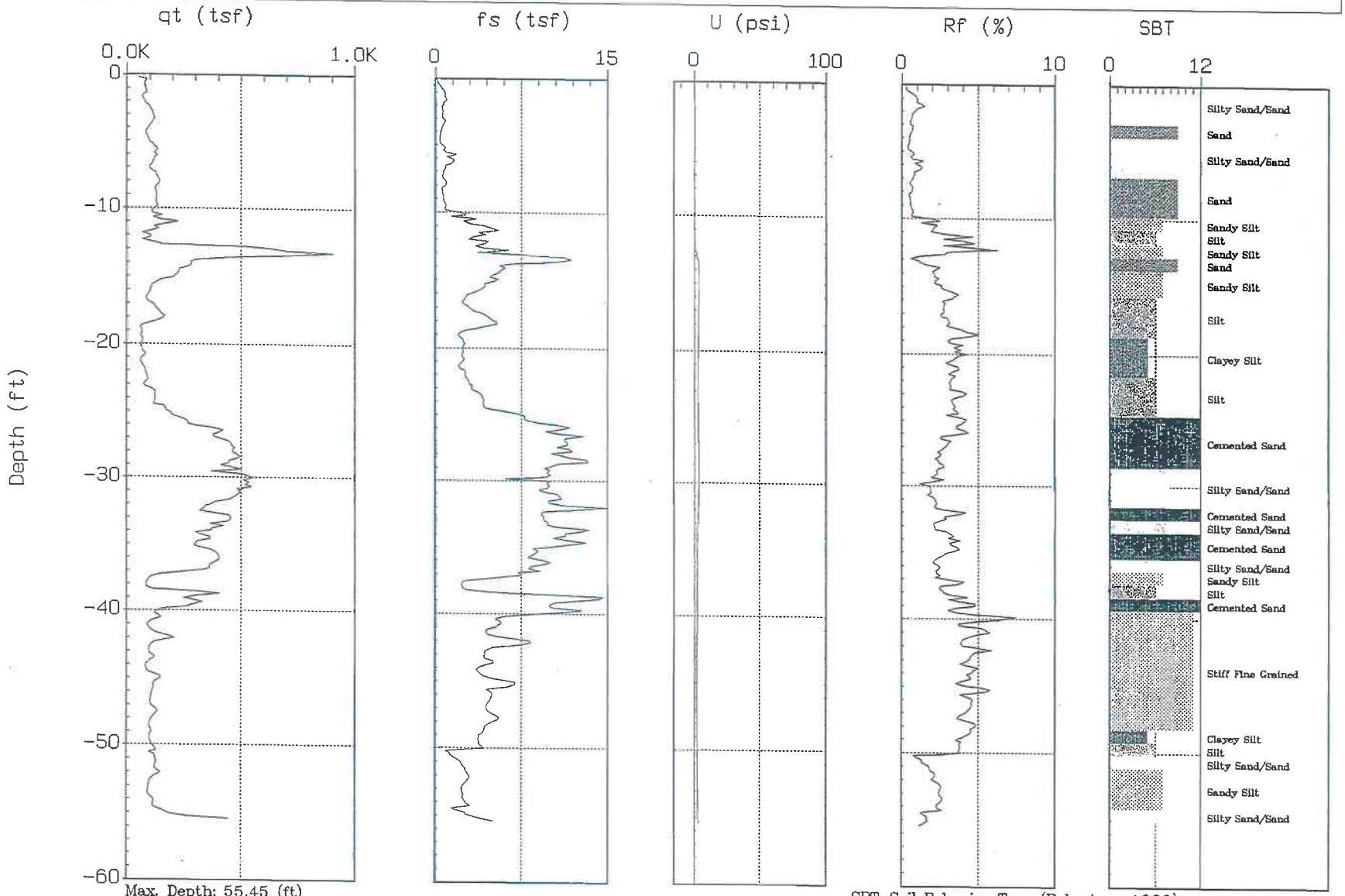
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-02

Engineer : T. MCCARTHY
Date : 09:12:02 08:33



Max. Depth: 55.45 (ft)

Depth Inc.: 0.164 (ft)

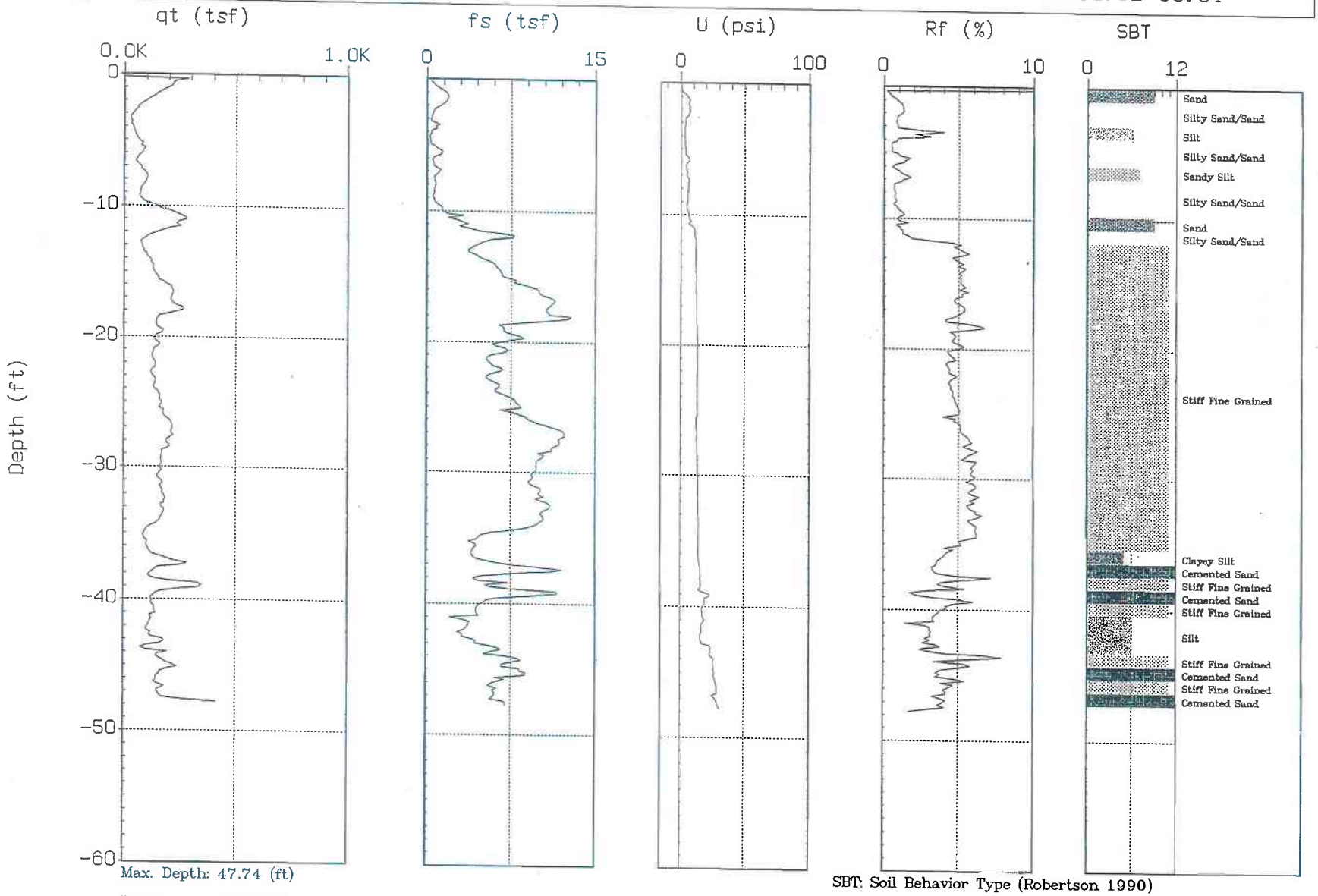
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-03

Engineer : T. MCCARTHY
Date : 09:12:02 09:51



Max. Depth: 47.74 (ft)

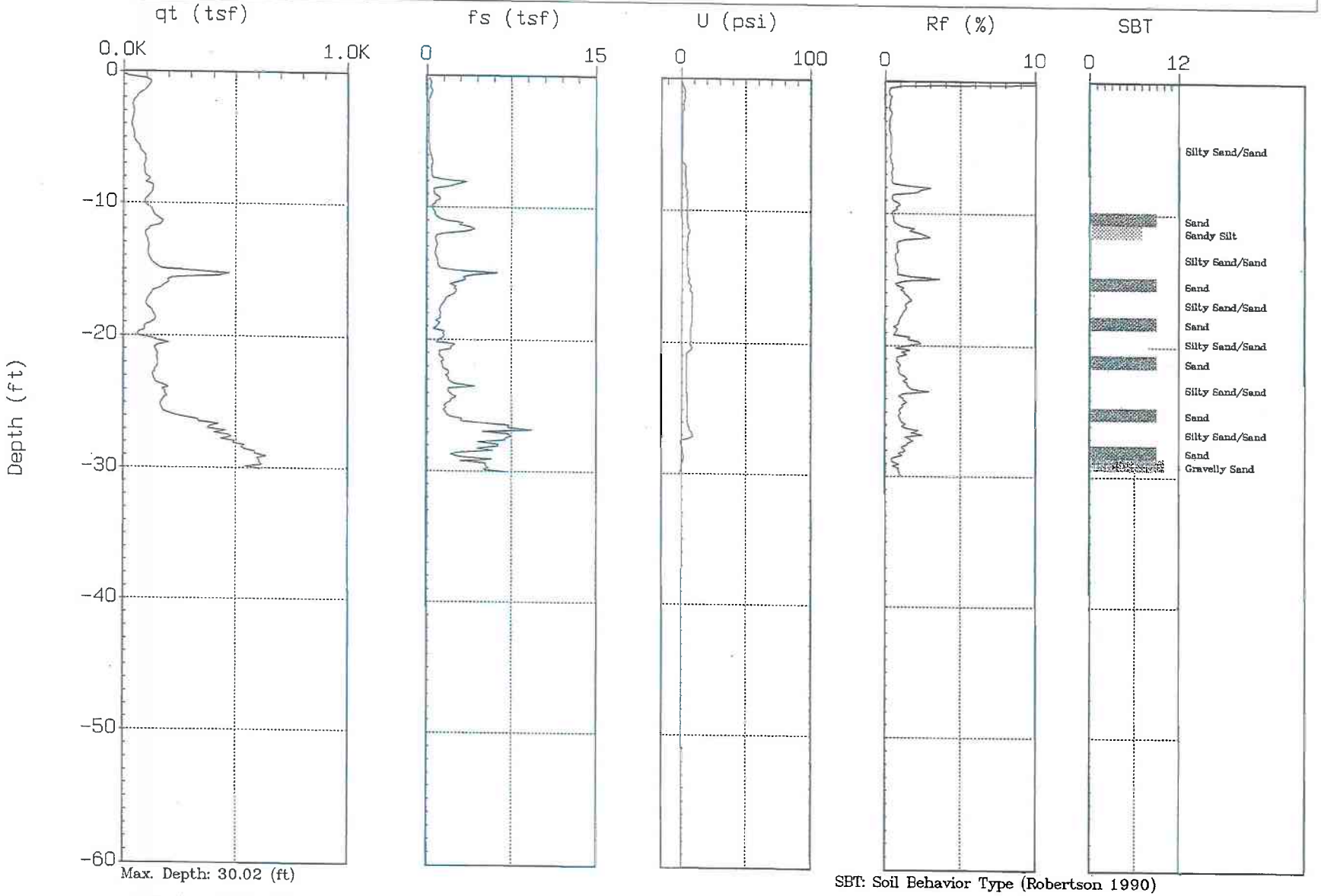
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-04

Engineer : T. MCCARTHY
Date : 09:12:02 10:34



Max. Depth: 30.02 (ft)

Depth Inc.: 0.164 (ft)

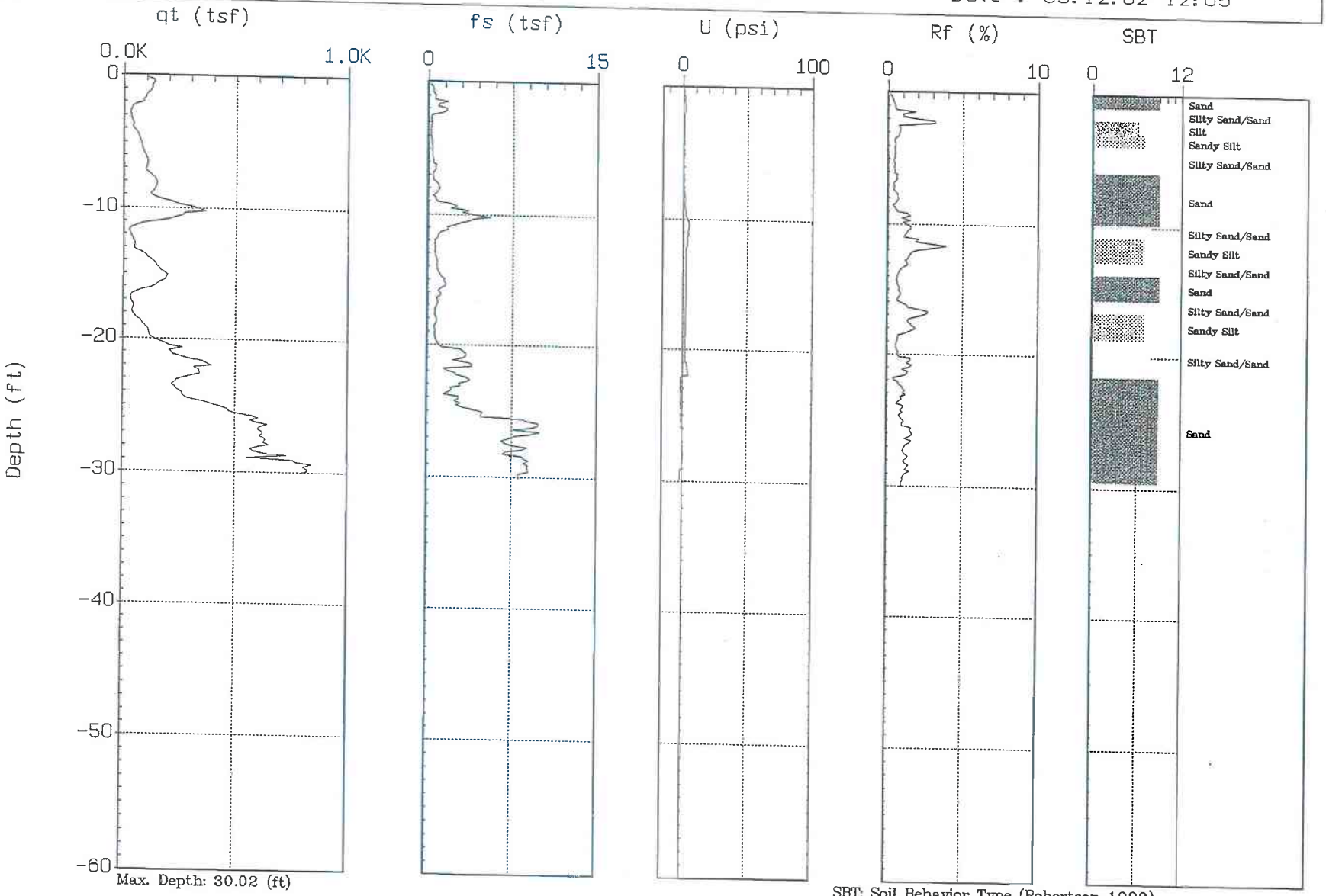
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-05

Engineer : T. MCCARTHY
Date : 09:12:02 12:05



Max. Depth: 30.02 (ft)

Depth Inc.: 0.164 (ft)

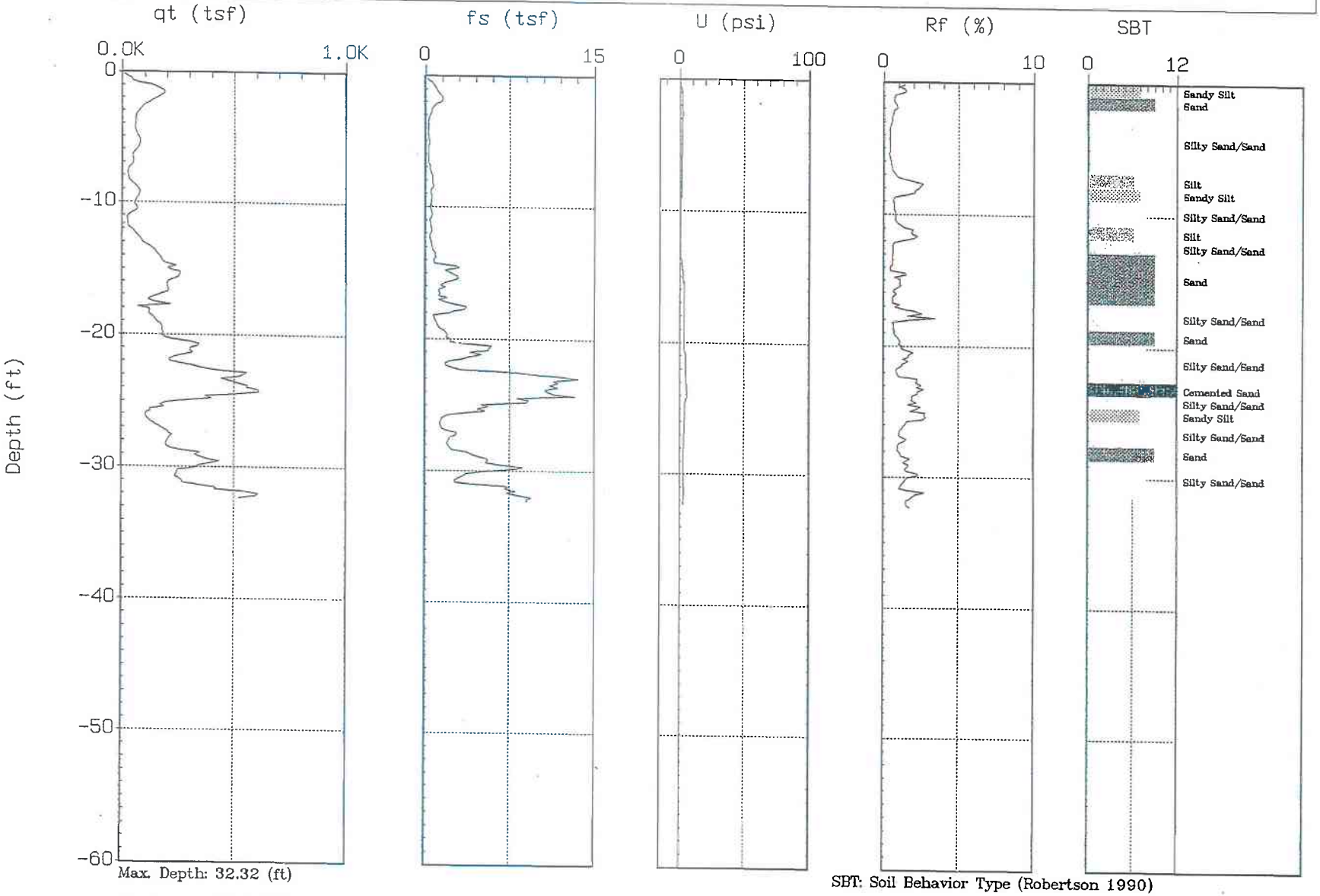
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-06

Engineer : T. MCCARTHY
Date : 09:12:02 12:58



Max. Depth: 32.32 (ft)

Depth Inc.: 0.164 (ft)

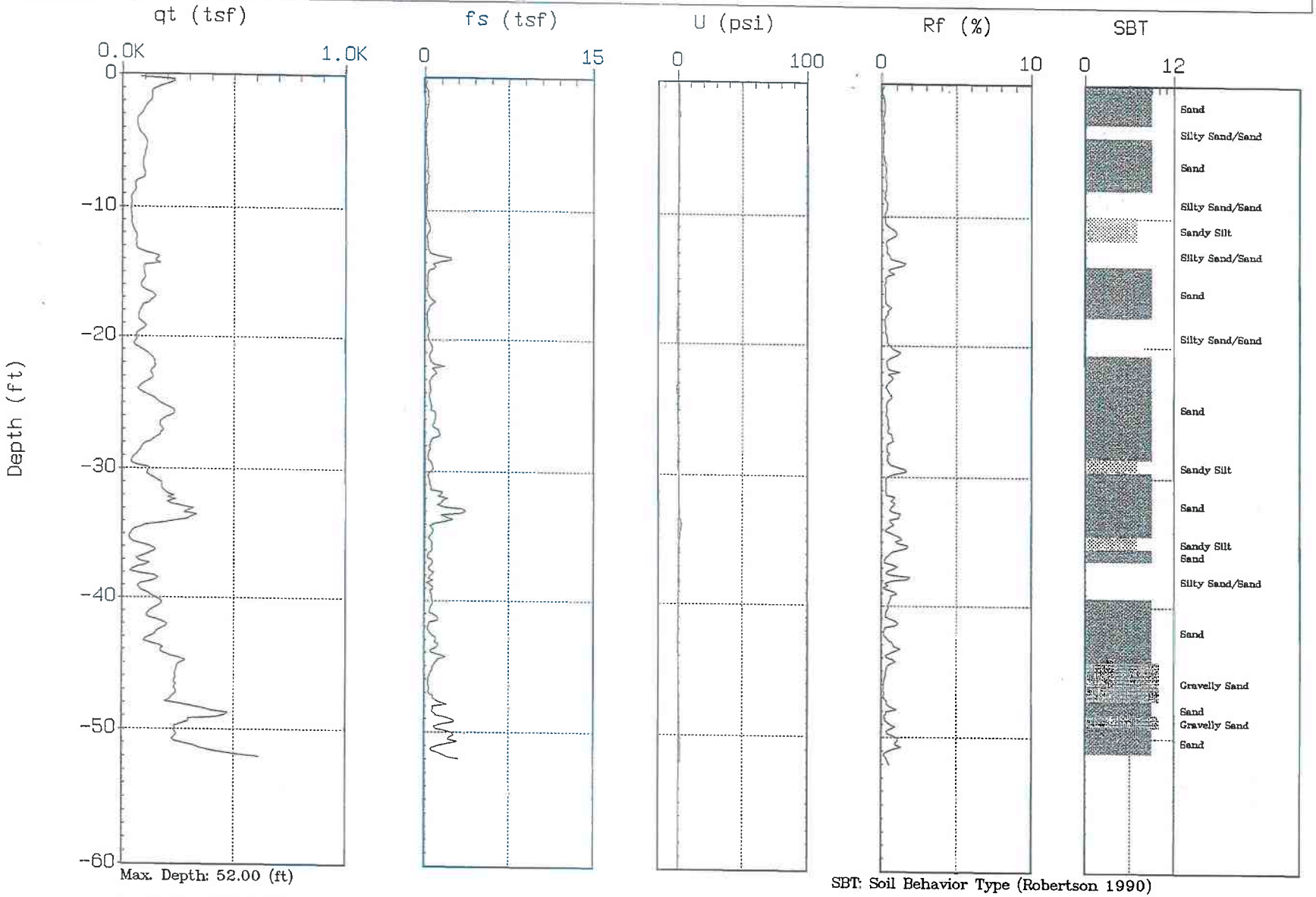
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-07

Engineer : T. MCCARTHY
Date : 09:12:02 13:49



Max. Depth: 52.00 (ft)

Depth Inc.: 0.164 (ft)

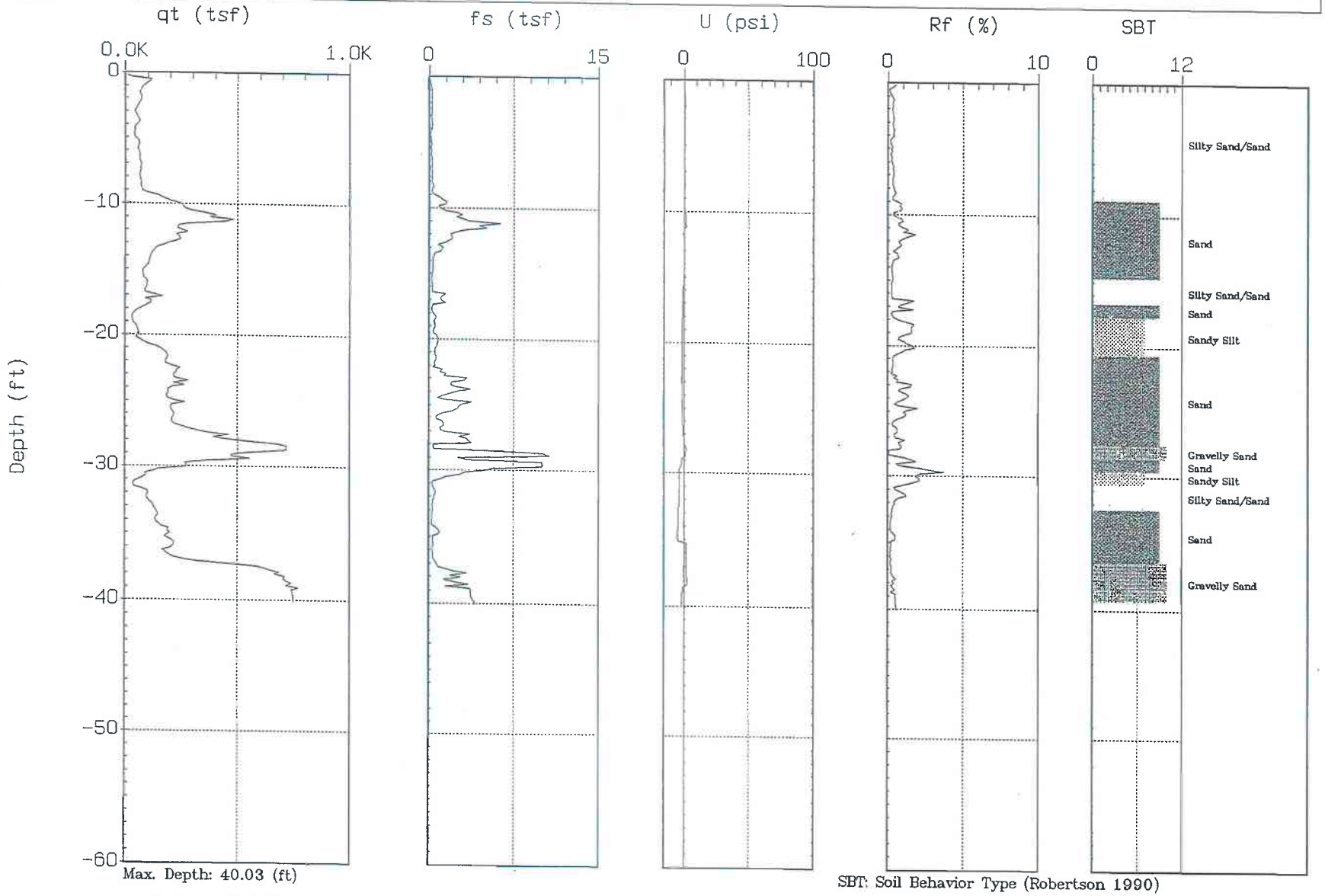
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-08

Engineer : T. MCCARTHY
Date : 09:12:02 14:44



Max. Depth: 40.03 (ft)

Depth Inc.: 0.164 (ft)

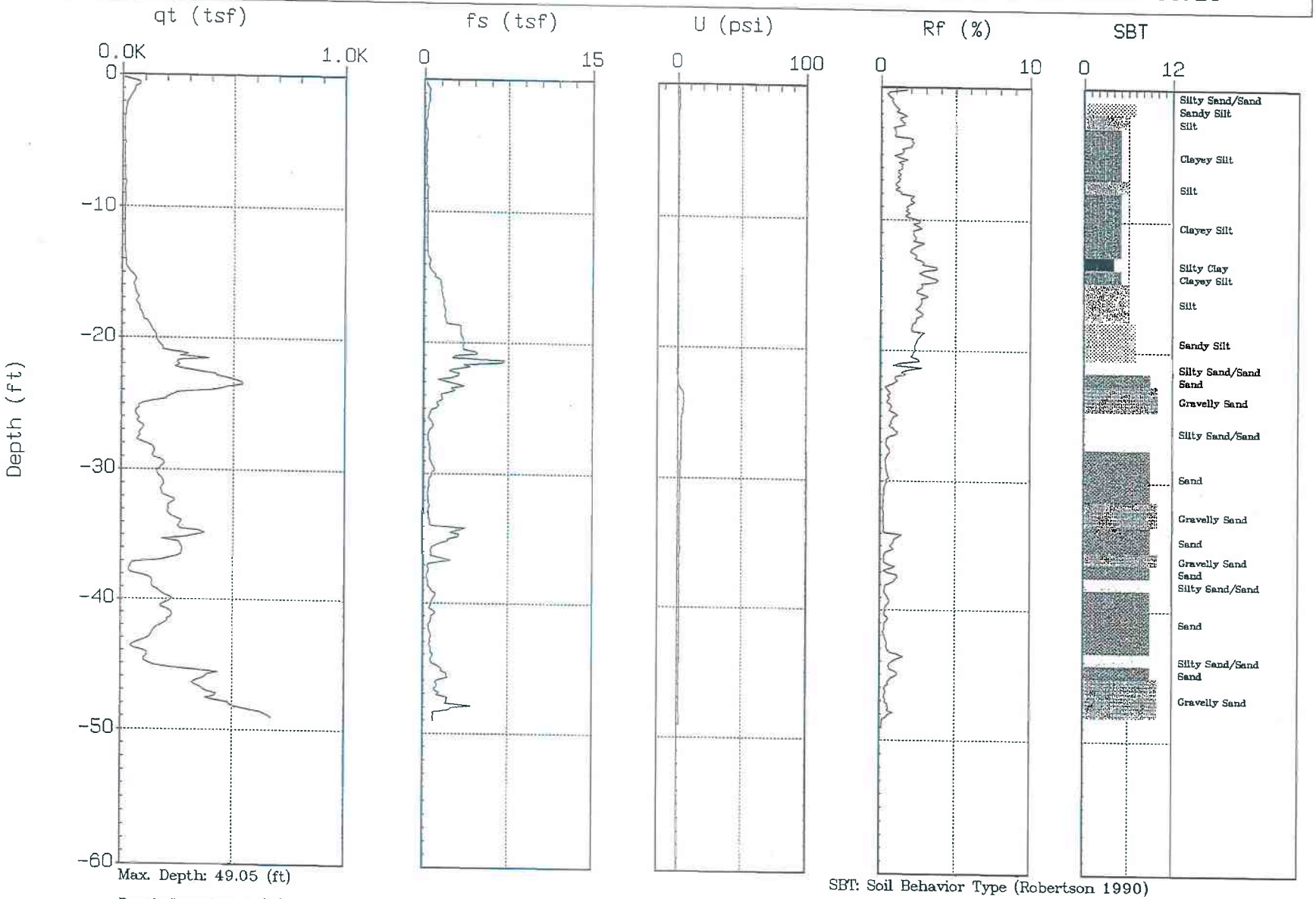
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-09

Engineer : T. MCCARTHY
Date : 09:12:02 15:23



Max. Depth: 49.05 (ft)

Depth Inc.: 0.164 (ft)

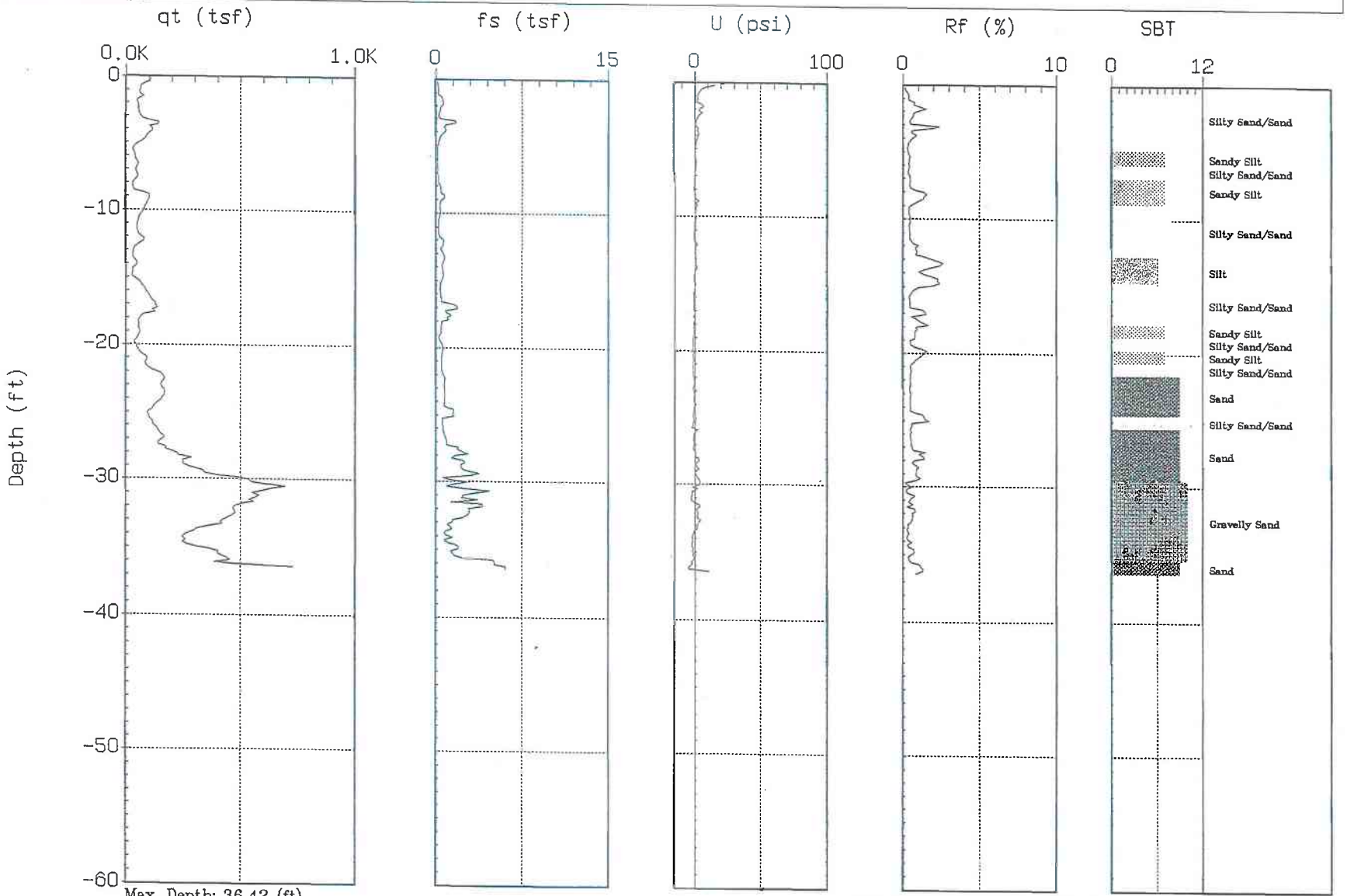
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-10

Engineer : T. MCCARTHY
Date : 09:13:02 07:29



Max. Depth: 36.42 (ft)

Depth Inc.: 0.164 (ft)

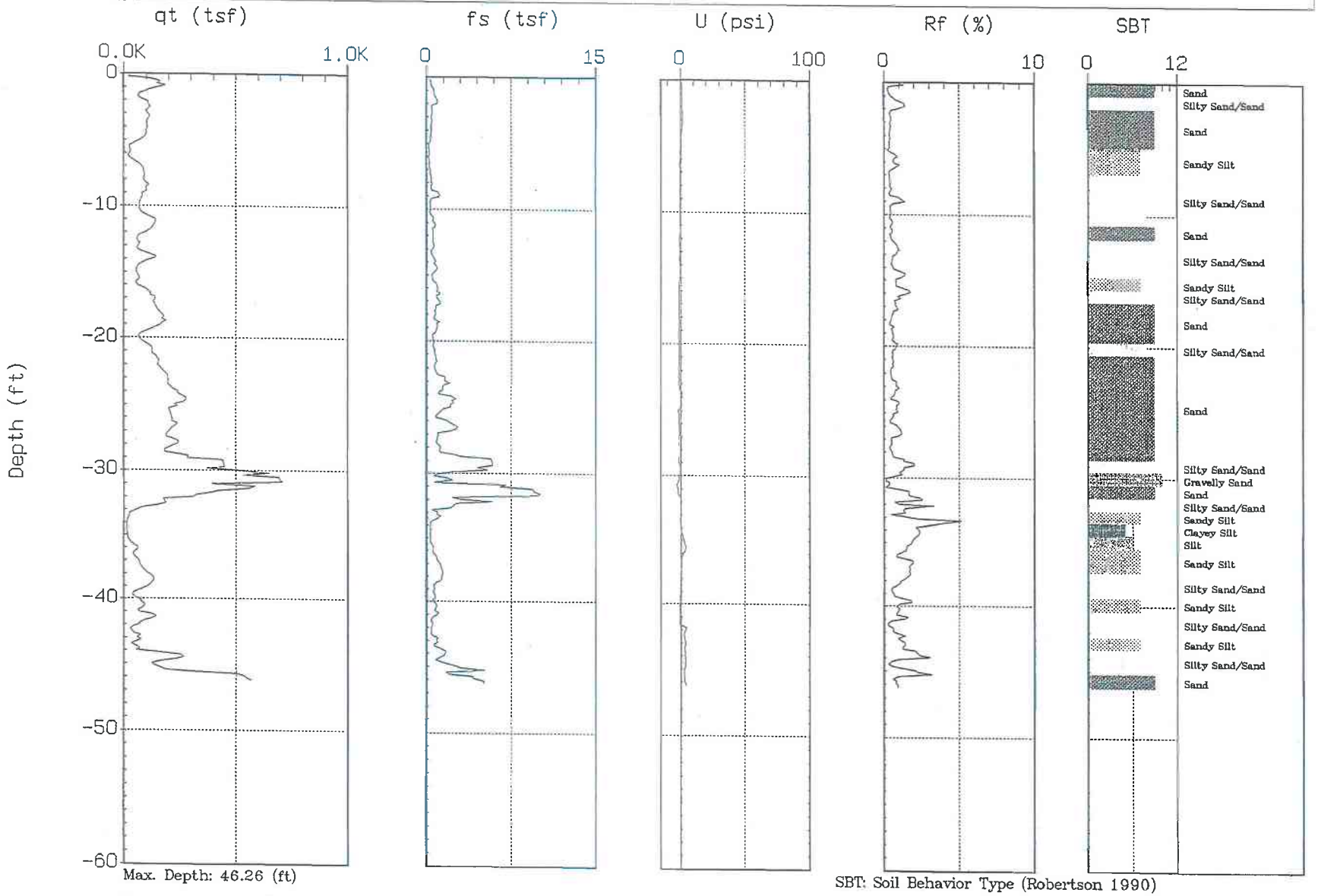
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-11

Engineer : T. MCCARTHY
Date : 09:13:02 08:00



Max. Depth: 46.26 (ft)

Depth Inc.: 0.164 (ft)

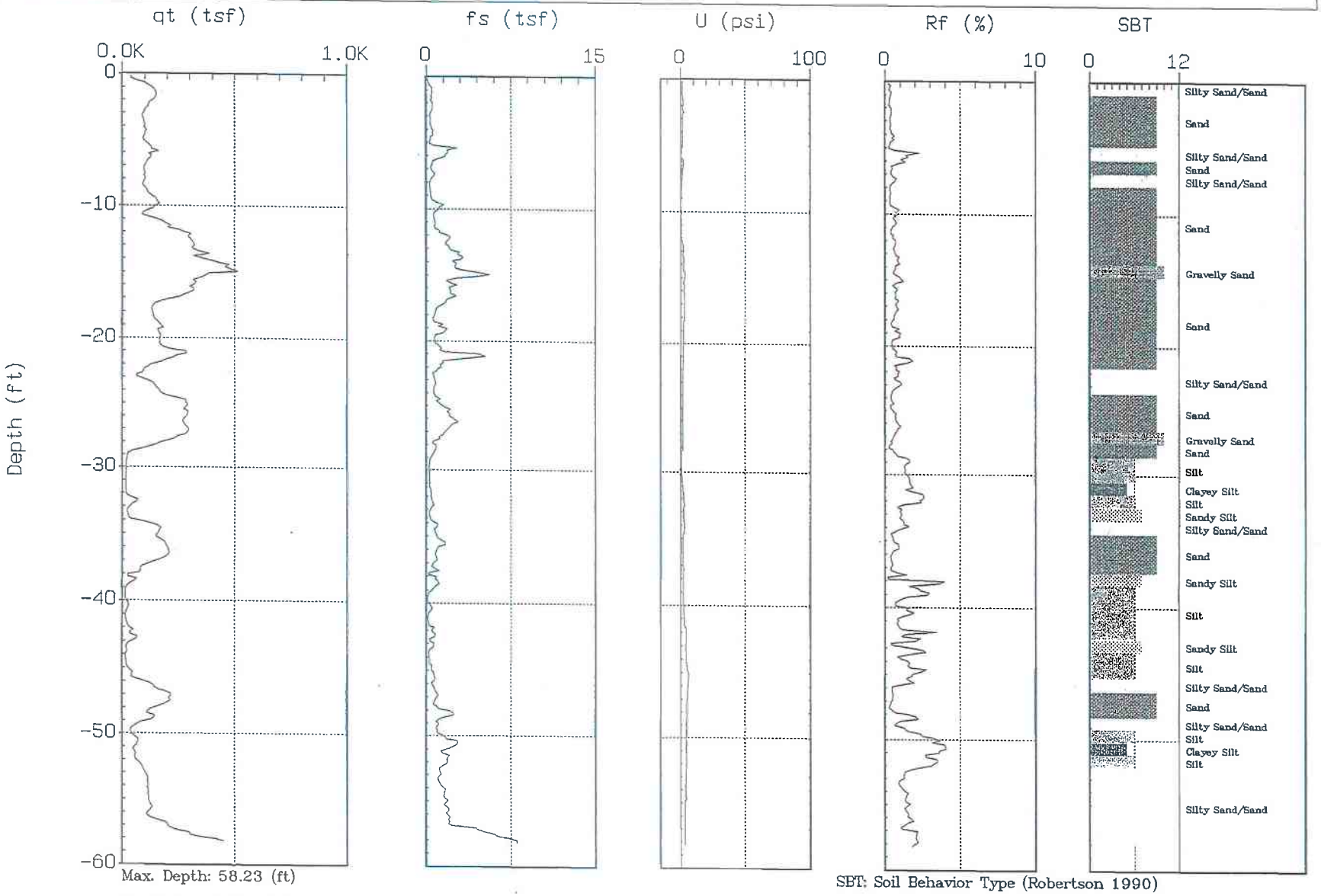
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-12

Engineer : T. MCCARTHY
Date : 09:13:02 08:51



Max. Depth: 58.23 (ft)

Depth Inc.: 0.164 (ft)

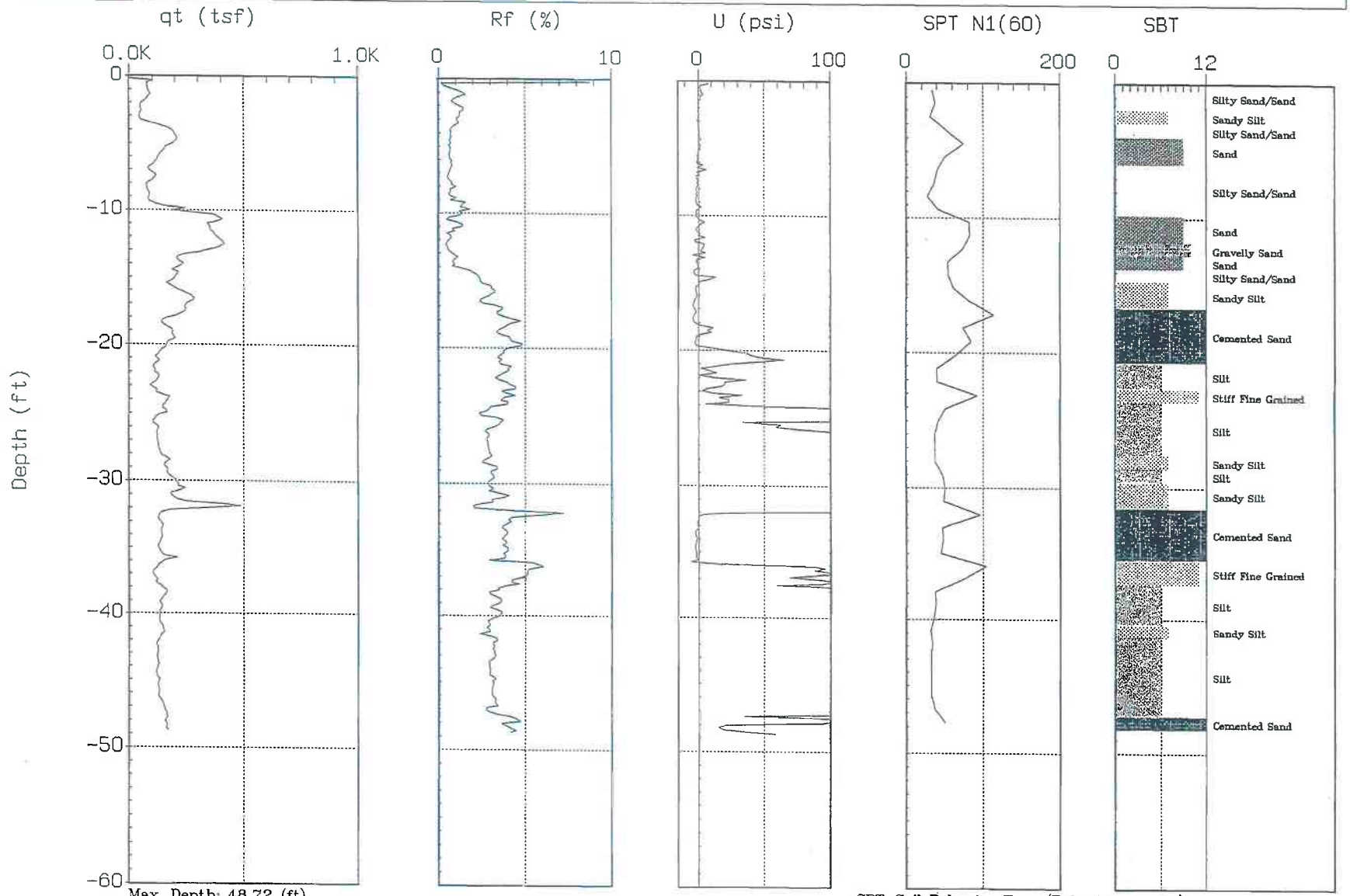
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-01

Engineer : T. MCCARTHY
Date : 09:12:02 07:40



Max. Depth: 48.72 (ft)

Depth Inc.: 0.164 (ft)

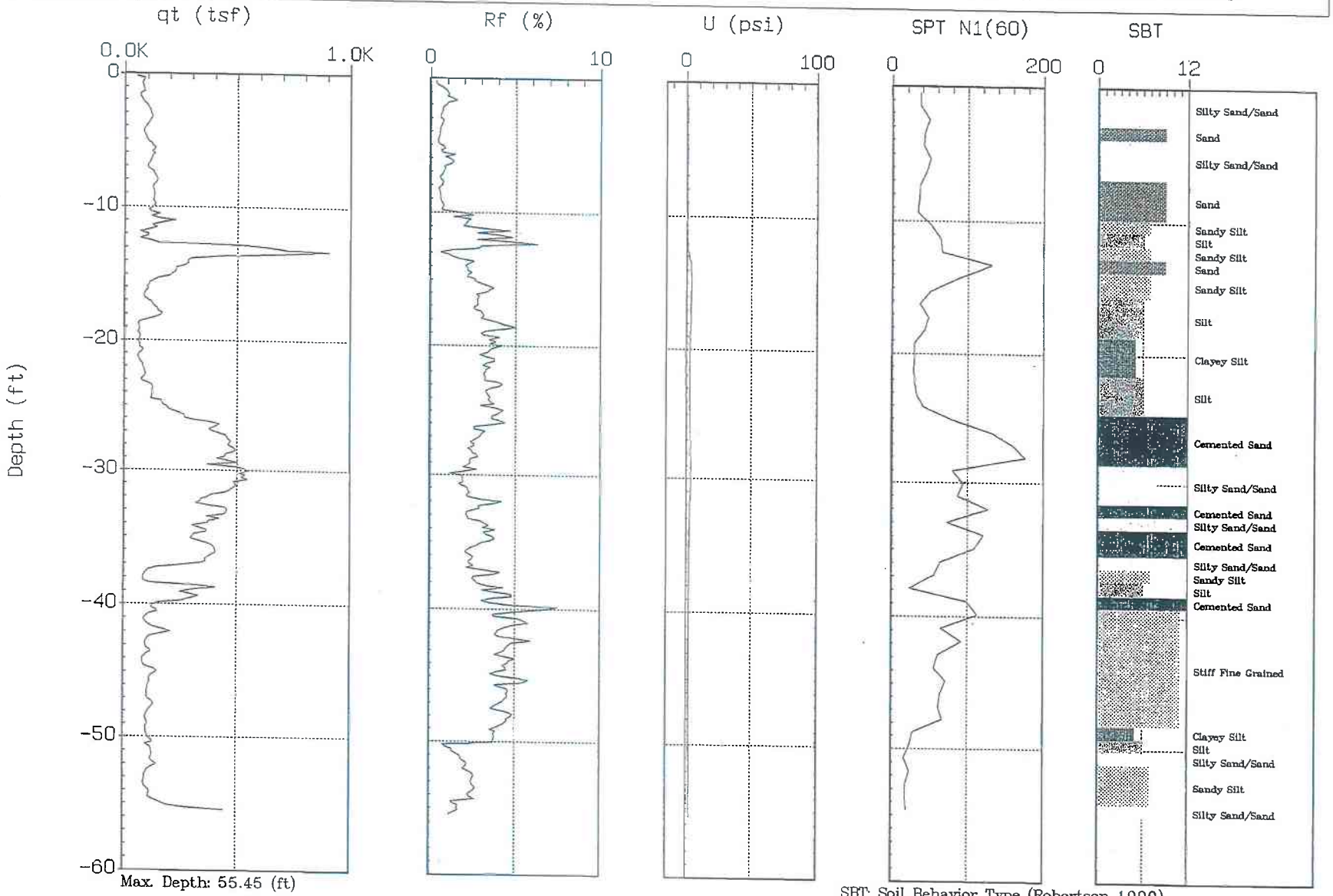
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-02

Engineer : T. MCCARTHY
Date : 09:12:02 08:33



Max. Depth: 55.45 (ft)

Depth Inc.: 0.164 (ft)

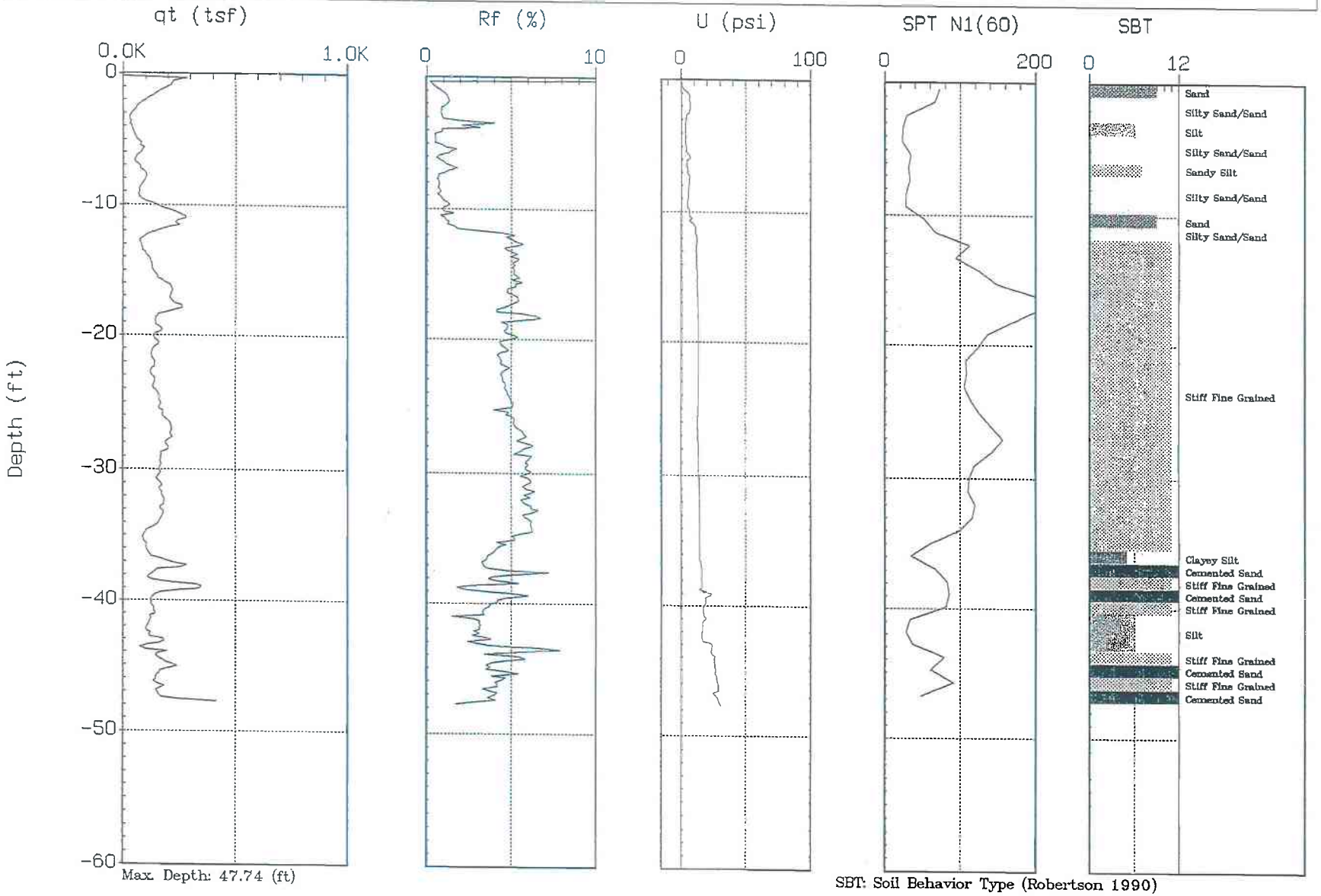
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-03

Engineer : T. MCCARTHY
Date : 09:12:02 09:51



Max. Depth: 47.74 (ft)

Depth Inc.: 0.164 (ft)

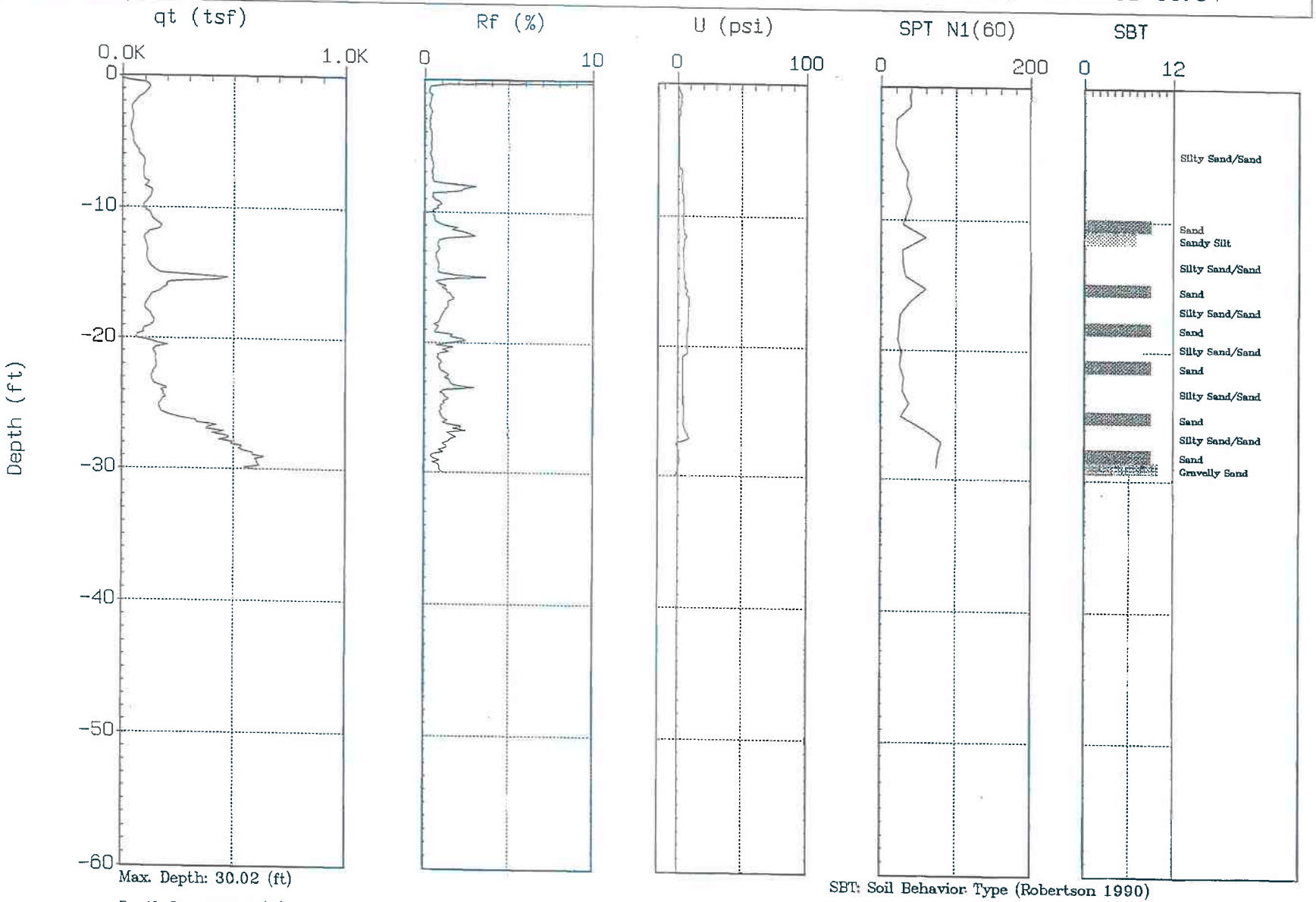
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-04

Engineer : T. MCCARTHY
Date : 09:12:02 10:34



Max. Depth: 30.02 (ft)

Depth Inc.: 0.164 (ft)

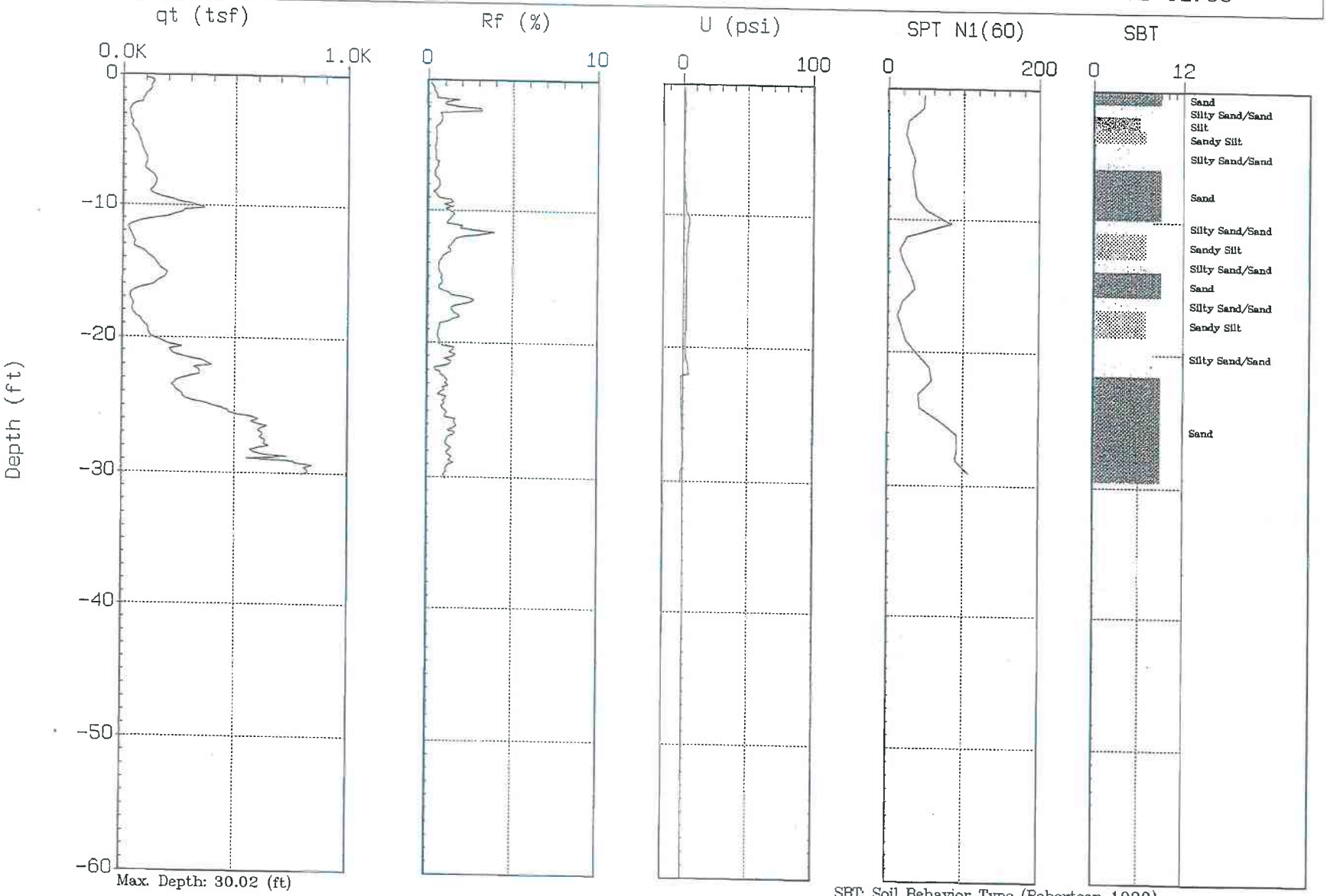
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-05

Engineer : T. MCCARTHY
Date : 09:12:02 12:05



Max. Depth: 30.02 (ft)

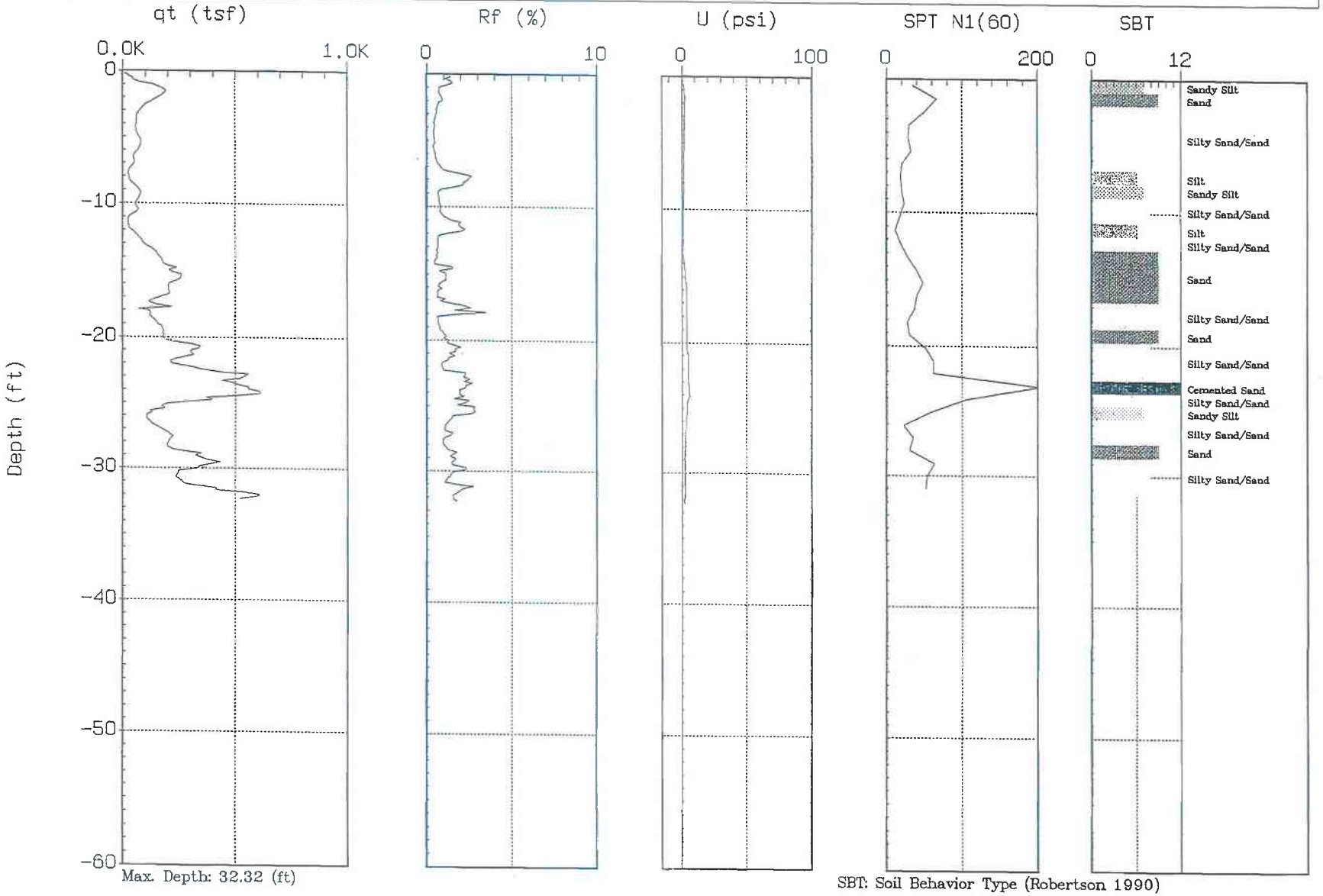
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-06

Engineer : T. MCCARTHY
Date : 09:12:02 12:58



Max. Depth: 32.32 (ft)

Depth Inc.: 0.164 (ft)

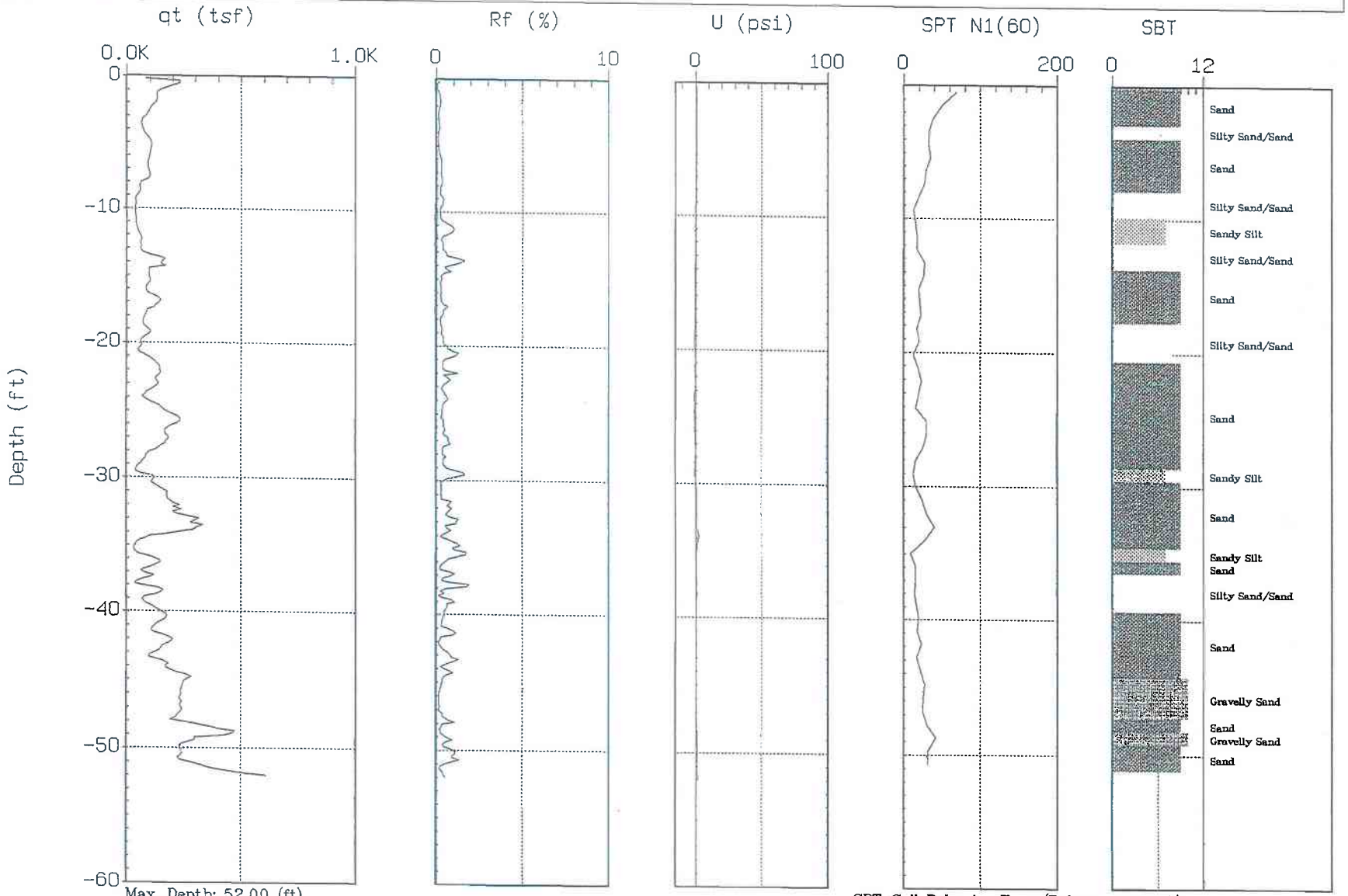
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-07

Engineer : T. MCCARTHY
Date : 09:12:02 13:49



Max. Depth: 52.00 (ft)

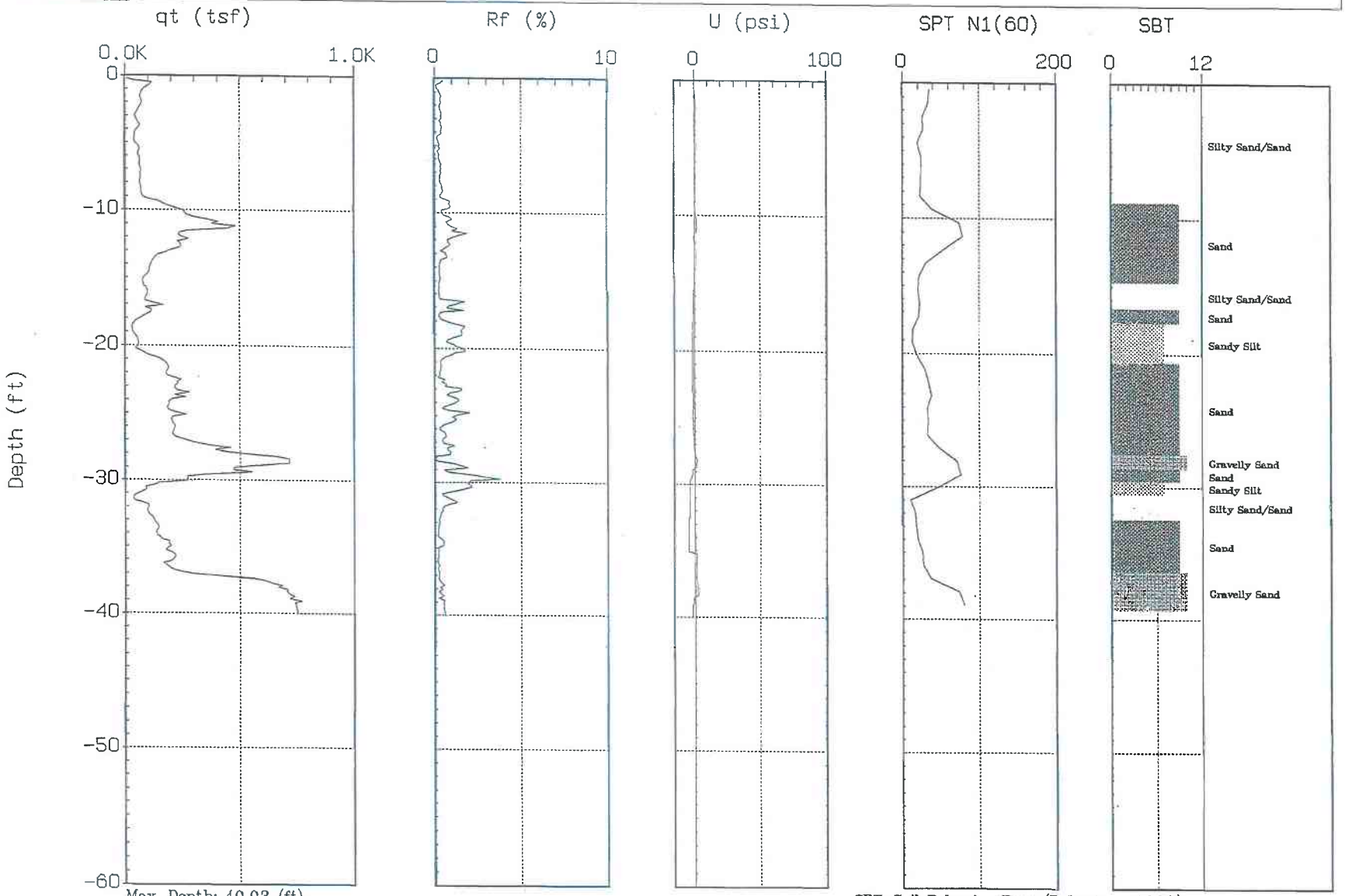
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-08

Engineer : T. MCCARTHY
Date : 09:12:02 14:44



Max. Depth: 40.03 (ft)

Depth Inc.: 0.164 (ft)

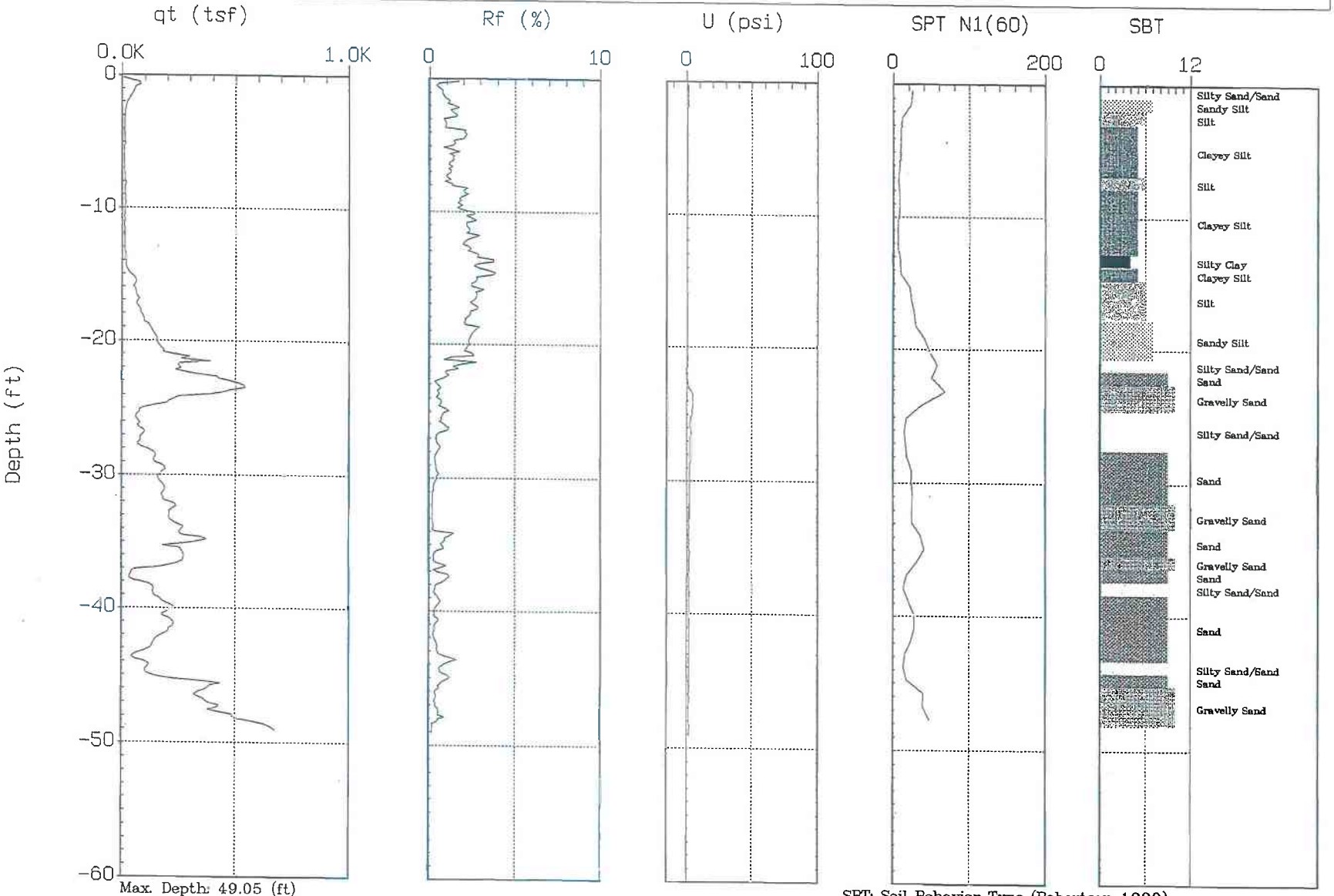
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-09

Engineer : T. MCCARTHY
Date : 09:12:02 15:23



Max. Depth: 49.05 (ft)

Depth Inc.: 0.164 (ft)

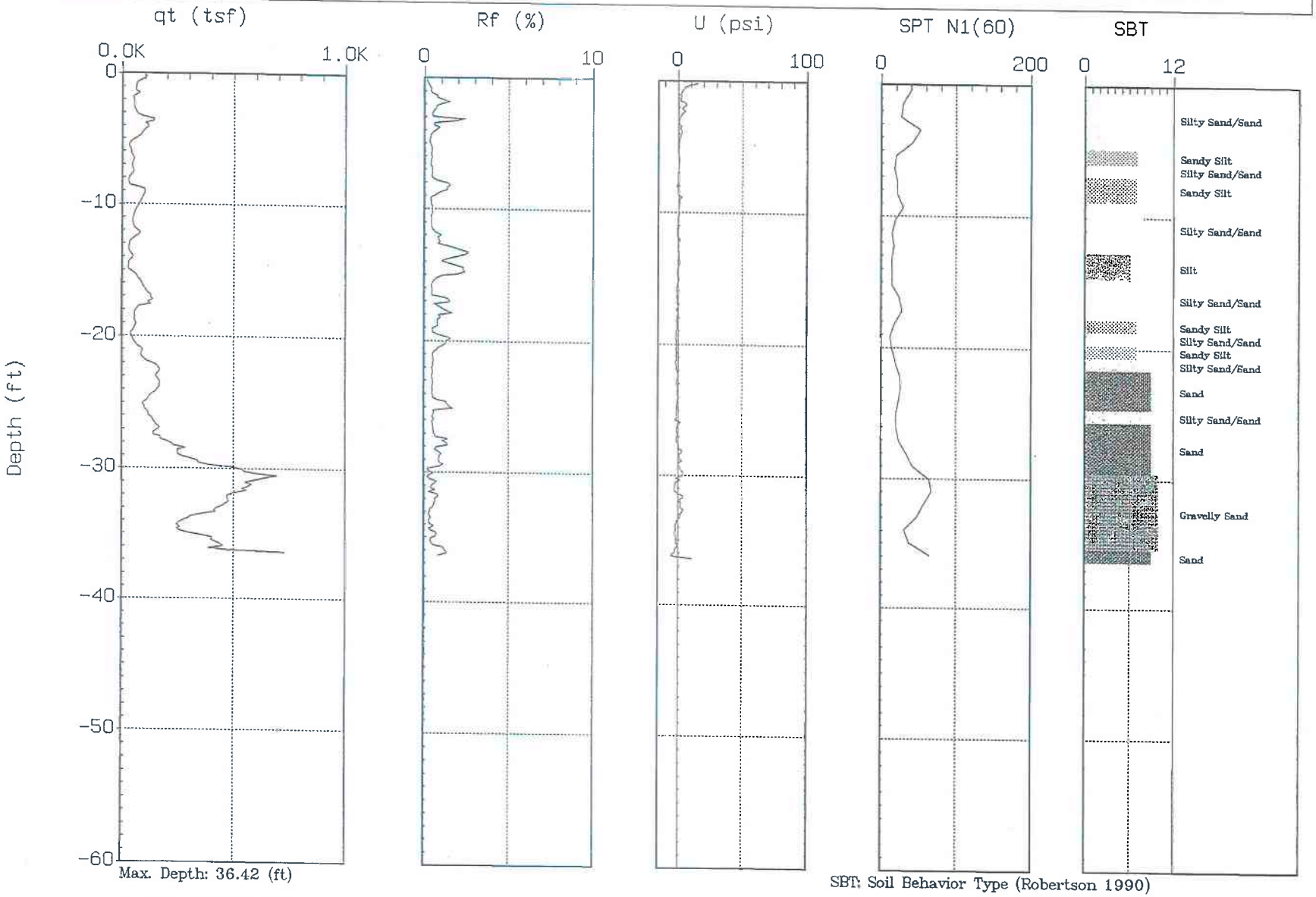
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-10

Engineer : T. MCCARTHY
Date : 09:13:02 07:29



Max. Depth: 36.42 (ft)

Depth Inc.: 0.164 (ft)

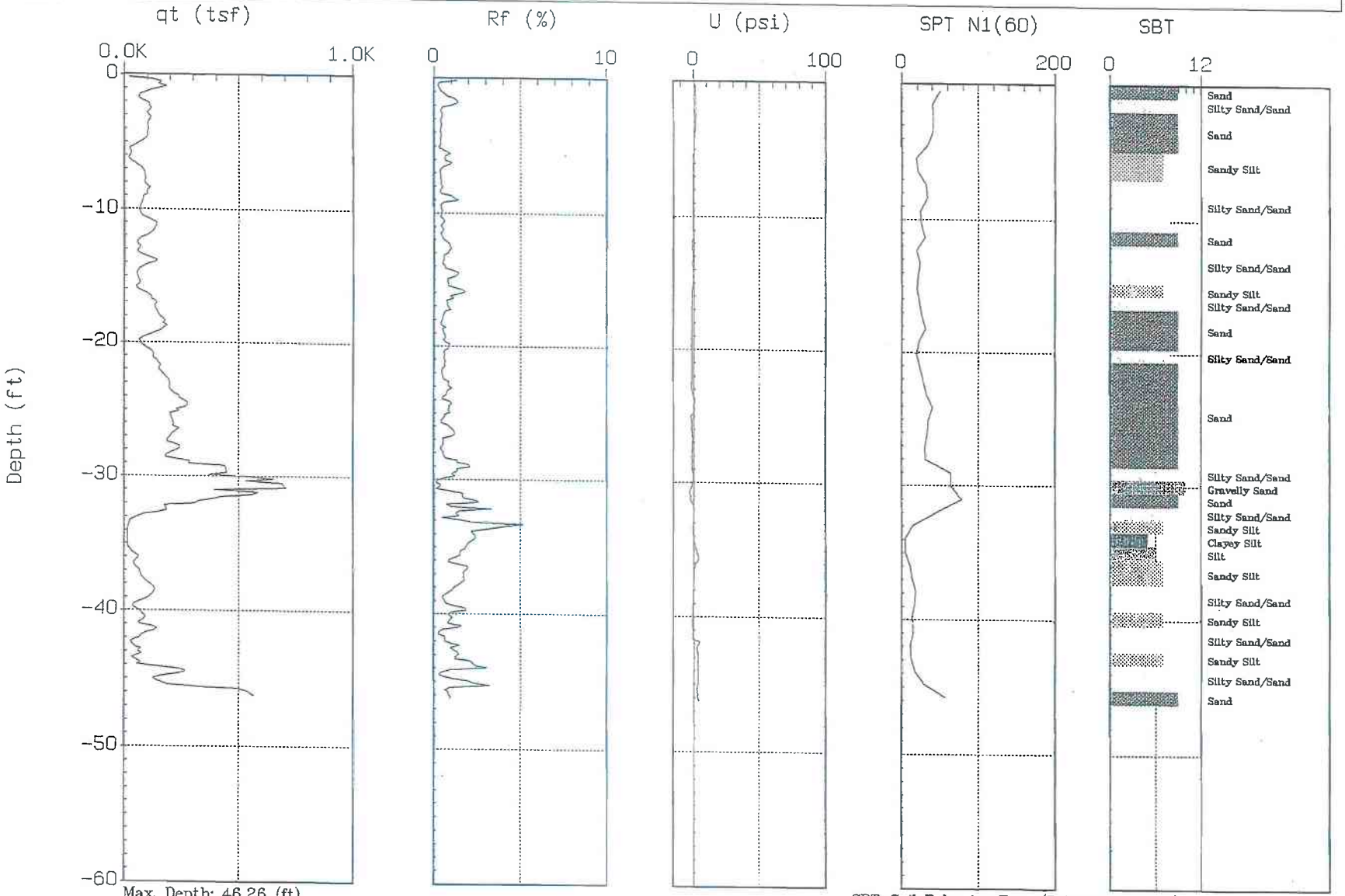
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-11

Engineer : T. MCCARTHY
Date : 09:13:02 08:00



Max. Depth: 46.26 (ft)

Depth Inc.: 0.164 (ft)

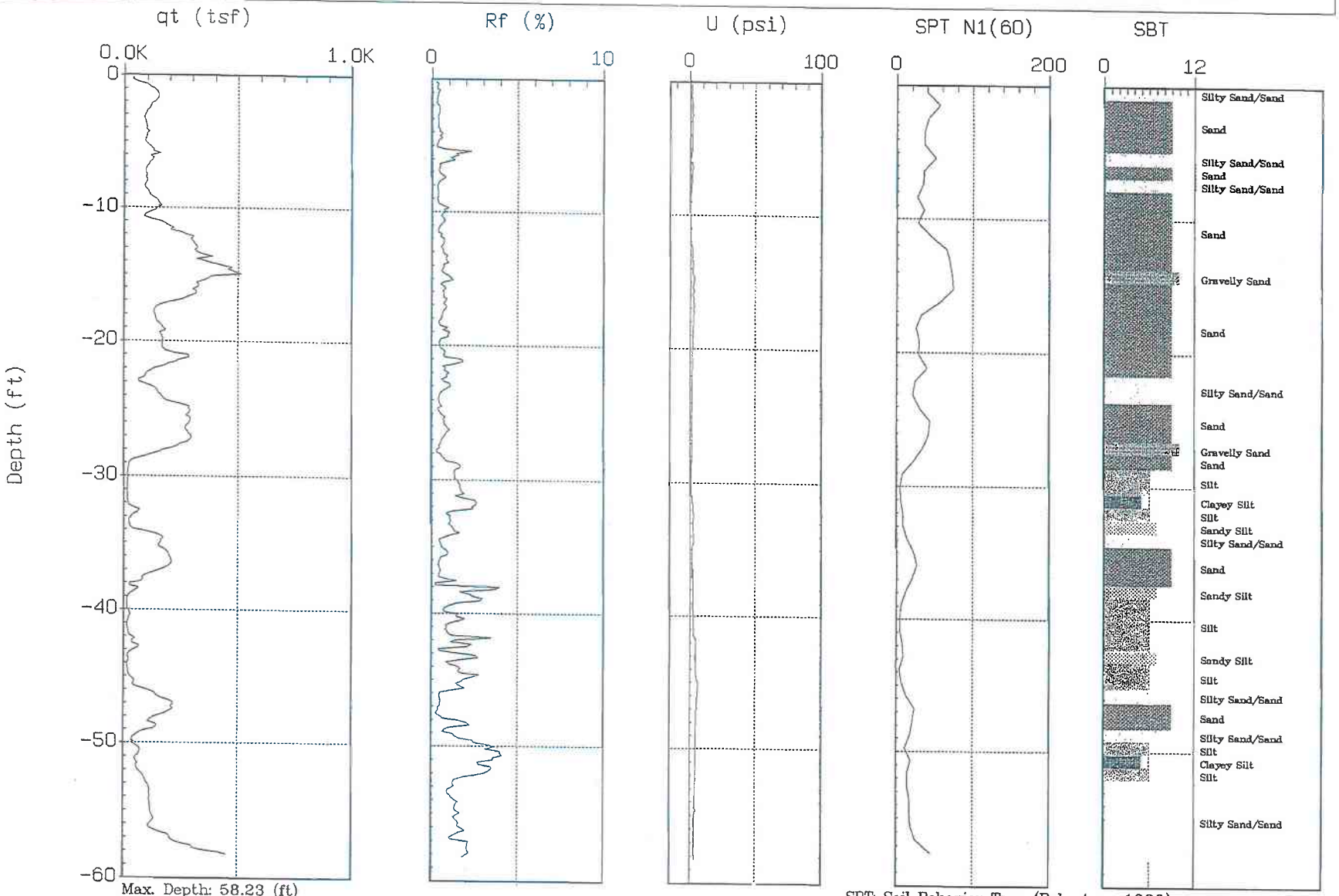
SBT: Soil Behavior Type (Robertson 1990)

GREGG

PACIFIC SOILS

Site : BORREGO WASH
Location : CPT-12

Engineer : T. MCCARTHY
Date : 09:13:02 08:51



Max. Depth: 58.23 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

3.2 INTERPRETED OUTPUT

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0916-2137-2864
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-01
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 07:40
CPT File: 226C01.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 9.60 (ft): 31.5
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.49	70.0	0.51	0.74	7.5	8	120.9	0.03	0.03	0.00	2.00	16.8	33.5	UnDef	0.30
1.48	77.7	0.82	1.05	1.5	8	120.9	0.09	0.09	0.00	2.00	18.6	37.2	UnDef	0.39
2.46	48.4	0.60	1.23	-0.1	7	117.8	0.15	0.15	0.00	2.00	15.5	30.9	UnDef	0.15
3.44	108.5	0.83	0.77	0.8	8	120.9	0.21	0.21	0.00	2.00	26.0	52.0	UnDef	0.00
4.43	199.9	1.28	0.64	2.1	9	124.1	0.27	0.27	0.00	1.94	38.3	74.1	UnDef	0.00
5.41	148.5	0.90	0.60	-0.9	9	124.1	0.33	0.33	0.00	1.75	28.4	49.7	UnDef	0.00
6.40	104.5	0.71	0.68	2.3	8	120.9	0.39	0.39	0.00	1.60	25.0	40.2	UnDef	0.00
7.30	104.9	0.60	0.57	-2.2	9	124.1	0.44	0.44	0.00	1.50	20.1	30.2	UnDef	0.42
8.20	79.9	0.55	0.69	-3.2	8	120.9	0.50	0.50	0.00	1.42	19.1	27.1	UnDef	0.21
9.19	102.3	1.33	1.30	-1.8	8	120.9	0.56	0.56	0.00	1.34	24.5	32.8	UnDef	0.37
10.17	315.5	2.79	0.88	1.3	9	124.1	0.62	0.62	0.00	1.27	60.4	76.8	UnDef	0.00
11.15	357.2	3.25	0.91	0.7	9	124.1	0.68	0.68	0.00	1.21	68.4	83.0	UnDef	0.00
12.14	395.4	2.07	0.52	2.9	10	127.3	0.74	0.74	0.00	1.16	63.1	73.3	UnDef	0.00
13.21	271.5	2.21	0.81	0.9	9	124.1	0.81	0.81	0.00	1.11	52.0	57.8	UnDef	0.00
14.27	212.5	3.60	1.69	4.6	8	120.9	0.87	0.87	0.00	1.07	50.9	54.4	UnDef	0.00
15.26	186.0	5.10	2.74	-2.0	7	117.8	0.93	0.93	0.00	1.04	59.4	61.5	UnDef	0.00
16.24	256.1	6.88	2.69	-6.0	7	117.8	0.99	0.99	0.00	1.00	81.7	82.1	UnDef	0.00
17.22	243.1	8.52	3.51	-6.7	12	120.9	1.05	1.05	0.00	0.98	116.4	113.6	UnDef	0.00
18.21	161.1	6.51	4.04	9.2	12	120.9	1.11	1.11	0.00	0.95	77.1	73.3	UnDef	0.00
19.19	189.2	7.61	4.02	-3.0	12	120.9	1.17	1.17	0.00	0.93	90.6	83.8	UnDef	0.00
20.18	148.3	5.77	3.89	82.9	12	120.9	1.23	1.23	0.00	0.90	71.0	64.1	UnDef	0.00
21.16	115.8	4.40	3.80	41.3	6	114.6	1.29	1.29	0.00	0.88	44.4	39.1	9.16	0.00
22.15	120.9	4.41	3.65	40.8	6	114.6	1.34	1.34	0.00	0.86	46.3	40.0	9.56	0.00
23.13	114.1	4.61	4.04	35.4	11	130.5	1.40	1.40	0.00	0.84	109.2	92.2	UnDef	0.00
24.11	159.0	5.37	3.38	285.8	6	114.6	1.46	1.46	0.00	0.83	60.9	50.4	12.60	0.00
25.10	131.0	3.99	3.05	398.4	6	114.6	1.52	1.52	0.00	0.81	50.2	40.7	10.36	0.00
26.08	120.9	3.45	2.86	247.1	6	114.6	1.58	1.58	0.00	0.80	46.3	36.9	9.54	0.00
27.07	125.2	3.56	2.84	259.3	6	114.6	1.63	1.63	0.00	0.78	47.9	37.5	9.88	0.00
28.05	151.3	4.24	2.80	467.4	7	117.8	1.69	1.69	0.00	0.77	48.3	37.2	UnDef	0.00
29.04	162.7	5.16	3.17	684.7	6	114.6	1.75	1.75	0.00	0.76	62.3	47.2	12.87	0.00
30.02	210.8	6.20	2.94	1067.5	7	117.8	1.80	1.80	0.00	0.74	67.3	50.1	UnDef	0.00
31.00	206.0	6.65	3.23	1016.2	7	117.8	1.86	1.86	0.00	0.73	65.8	48.2	UnDef	0.00
31.99	276.1	9.81	3.55	372.2	12	120.9	1.92	1.91	0.02	0.72	132.2	95.8	UnDef	0.00
32.97	136.7	5.29	3.87	-2.1	12	120.9	1.98	1.93	0.05	0.72	65.5	47.1	UnDef	0.00
33.96	140.1	5.36	3.83	-4.0	12	120.9	2.04	1.96	0.08	0.71	67.1	47.9	UnDef	0.00
34.94	132.6	5.09	3.84	-4.4	12	120.9	2.10	1.99	0.11	0.71	63.5	45.0	UnDef	0.00
35.92	153.5	7.17	4.67	108.5	11	130.5	2.16	2.02	0.14	0.70	147.0	103.4	UnDef	0.00
36.91	111.4	5.25	4.71	214.9	11	130.5	2.22	2.06	0.17	0.70	106.7	74.4	UnDef	0.00
37.89	141.4	4.89	3.46	270.0	6	114.6	2.29	2.09	0.20	0.69	54.1	37.5	11.13	0.00
38.88	144.3	4.80	3.33	331.4	6	114.6	2.34	2.11	0.23	0.69	55.3	38.1	11.36	0.00
39.86	135.0	4.47	3.31	323.0	6	114.6	2.40	2.14	0.26	0.68	51.7	35.4	10.61	0.00
40.85	143.0	3.97	2.78	507.5	7	117.8	2.46	2.16	0.29	0.68	45.6	31.0	UnDef	0.00

Gregg In Situ, Inc.
Run No: 02-0916-2137-2864
CPT File: 226C01.COR

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
41.83	130.8	4.14	3.17	418.2	6	114.6	2.51	2.19	0.32	0.68	50.1	33.9	10.27	0.00
42.81	124.0	3.92	3.16	342.6	6	114.6	2.57	2.22	0.35	0.67	47.5	31.9	9.72	0.00
43.80	124.1	3.59	2.90	394.8	6	114.6	2.63	2.24	0.38	0.67	47.5	31.8	9.72	0.00
44.78	124.4	3.85	3.09	396.2	6	114.6	2.68	2.27	0.41	0.66	47.7	31.7	9.74	0.00
45.77	129.0	4.00	3.11	448.4	6	114.6	2.74	2.29	0.45	0.66	49.4	32.6	10.10	0.00
46.75	146.6	4.46	3.04	477.1	6	114.6	2.79	2.32	0.48	0.66	56.2	36.9	11.51	0.00
47.74	161.7	6.51	4.02	142.1	12	120.9	2.85	2.35	0.51	0.65	77.4	50.6	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e

Run No: 02-0916-2137-2864
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-01
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 07:40
CPT File: 226C01.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 9.60 (ft): 31.5
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.49	5.0E-03	0.00	1000.0	0.74	10	134.1	0.0	134.1	0.0	50	95.0	1.0	-0.37	0.0	33.5
1.48	5.0E-03	0.00	869.3	1.05	9	148.8	0.0	148.8	0.9	50	94.0	1.0	-0.40	0.0	37.2
2.46	5.0E-04	0.00	326.1	1.24	9	92.7	0.0	92.7	4.8	48	73.2	1.0	-0.32	0.0	30.9
3.44	5.0E-03	0.00	524.0	0.77	9	207.9	0.0	207.9	0.8	48	91.6	1.0	-0.32	0.0	52.0
4.43	5.0E-02	0.00	747.4	0.64	10	378.5	0.0	378.5	0.0	50	95.0	1.0	-0.33	0.0	74.1
5.41	5.0E-02	0.00	451.5	0.60	10	253.7	0.0	253.7	0.3	48	94.0	1.0	-0.28	0.0	49.7
6.40	5.0E-03	0.00	268.1	0.69	9	164.1	0.0	164.1	2.6	46	81.5	1.0	-0.24	0.0	40.2
7.30	5.0E-02	0.00	235.5	0.57	9	154.2	0.0	154.2	2.4	46	79.7	1.0	-0.21	0.0	30.2
8.20	5.0E-03	0.00	159.1	0.70	9	110.7	0.9	111.6	5.3	44	70.2	1.0	-0.20	0.1	27.2
9.19	5.0E-03	0.00	182.2	1.31	9	134.0	12.4	146.3	8.2	44	75.7	1.0	-0.27	1.8	34.6
10.17	5.0E-02	0.00	508.9	0.89	9	392.5	0.0	392.5	1.5	48	95.0	1.0	-0.33	0.0	76.8
11.15	5.0E-02	0.00	524.5	0.91	9	424.0	0.0	424.0	1.5	48	95.0	1.0	-0.33	0.0	83.0
12.14	5.0E+00	0.00	532.1	0.52	10	449.3	0.0	449.3	0.0	48	95.0	1.0	-0.28	0.0	73.3
13.21	5.0E-02	0.00	334.7	0.82	9	295.4	0.0	295.4	2.5	48	95.0	1.0	-0.28	0.0	57.8
14.27	5.0E-03	0.00	242.1	1.70	9	222.4	22.1	244.5	8.4	46	90.2	1.0	-0.33	3.3	57.7
15.26	5.0E-04	0.00	198.4	2.76	7	188.5	58.3	246.8	13.9	46	85.4	1.0	-0.40	10.7	72.1
16.24	5.0E-04	0.00	257.5	2.70	12	251.7	UnDef	UnDef	0.0	46	93.7	1.0	-0.43	UnDef	UnDef
17.22	1.0E-15	0.00	230.6	3.52	12	232.2	UnDef	UnDef	0.0	46	91.4	1.0	-0.49	UnDef	UnDef
18.21	1.0E-15	0.00	144.3	4.07	12	149.7	UnDef	UnDef	0.0	44	78.8	1.0	-0.49	UnDef	UnDef
19.19	1.0E-15	0.00	160.9	4.04	12	171.3	UnDef	UnDef	0.0	44	82.7	1.0	-0.50	UnDef	UnDef
20.18	1.0E-15	0.02	119.8	3.92	12	131.0	UnDef	UnDef	0.0	42	75.0	1.0	-0.44	UnDef	UnDef
21.16	5.0E-05	0.01	89.0	3.84	6	99.9	112.1	212.0	24.8	42	67.3	10.0	-0.39	19.3	58.4
22.15	5.0E-05	0.01	89.1	3.69	7	102.1	108.2	210.3	24.3	42	67.9	10.0	-0.38	19.0	58.9
23.13	1.0E-15	0.01	80.3	4.09	6	94.2	131.3	225.5	26.8	42	65.6	1.0	-0.40	52.8	145.0
24.11	5.0E-05	0.06	107.7	3.41	7	128.7	99.2	227.9	21.3	42	74.5	10.0	-0.37	18.9	69.2
25.10	5.0E-05	0.10	85.3	3.08	7	104.0	91.4	195.4	22.5	42	68.4	10.0	-0.31	16.8	57.6
26.08	5.0E-05	0.06	75.7	2.89	7	94.2	87.9	182.1	23.1	40	65.6	10.0	-0.29	15.9	52.8
27.07	5.0E-05	0.07	75.7	2.88	7	95.9	89.0	184.9	23.0	40	66.1	10.0	-0.28	16.2	53.7
28.05	5.0E-04	0.10	88.6	2.83	7	114.0	86.0	200.0	21.1	42	71.0	1.0	-0.30	13.7	50.9
29.04	5.0E-05	0.13	92.1	3.21	7	120.5	101.9	222.4	22.2	42	72.6	10.0	-0.32	18.9	66.1
30.02	5.0E-04	0.16	115.9	2.97	7	153.6	91.7	245.3	19.0	42	79.6	1.0	-0.33	15.3	65.4
31.00	5.0E-04	0.16	109.7	3.26	7	147.8	105.4	253.2	20.6	42	78.5	1.0	-0.35	17.0	65.2
31.99	1.0E-15	0.04	143.9	3.58	12	195.8	UnDef	UnDef	0.0	44	86.5	1.0	-0.43	UnDef	UnDef
32.97	1.0E-15	0.00	69.7	3.93	6	96.2	152.0	248.2	27.9	40	66.2	1.0	-0.36	29.2	76.3
33.96	1.0E-15	0.00	70.4	3.88	6	97.9	150.1	248.0	27.7	40	66.7	1.0	-0.36	29.2	77.1
34.94	1.0E-15	0.00	65.6	3.90	6	92.0	156.7	248.7	28.6	40	64.9	1.0	-0.35	29.3	74.3
35.92	1.0E-15	0.02	74.8	4.74	6	105.7	204.7	310.3	29.7	40	68.9	1.0	-0.45	72.6	176.0
36.91	1.0E-15	0.06	53.1	4.81	6	76.1	279.3	355.3	34.4	40	59.4	1.0	-0.39	72.0	146.4
37.89	5.0E-05	0.06	66.7	3.52	6	95.8	136.3	232.1	27.0	40	66.0	10.0	-0.31	21.8	59.3
38.88	5.0E-05	0.07	67.3	3.38	6	97.2	129.3	226.5	26.4	40	66.5	10.0	-0.30	21.1	59.2
39.86	5.0E-05	0.07	62.0	3.37	6	90.4	133.5	223.9	27.3	40	64.4	10.0	-0.29	21.0	56.4
40.85	5.0E-04	0.11	64.9	2.83	7	95.1	104.0	199.1	24.6	40	65.8	1.0	-0.26	15.1	46.1

Gregg In Situ, Inc.
Run No: 02-0916-2137-2864
CPT File: 226C01.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
41.83	5.0E-05	0.10	58.6	3.23	6	86.5	130.1	216.7	27.5	40	63.1	10.0	-0.27	20.4	54.3
42.81	5.0E-05	0.09	54.8	3.23	6	81.6	134.8	216.4	28.3	40	61.4	10.0	-0.26	20.4	52.3
43.80	5.0E-05	0.10	54.2	2.96	7	81.1	120.4	201.6	27.4	40	61.3	10.0	-0.24	19.0	50.7
44.78	5.0E-05	0.10	53.7	3.16	6	80.9	133.7	214.6	28.3	40	61.2	10.0	-0.25	20.2	51.9
45.77	5.0E-05	0.11	55.1	3.17	6	83.4	133.7	217.0	28.1	40	62.1	10.0	-0.26	20.5	53.1
46.75	5.0E-05	0.10	62.1	3.10	7	94.3	123.6	217.9	26.3	40	65.6	10.0	-0.27	20.3	57.2
47.74	1.0E-15	0.02	67.7	4.10	6	103.3	181.5	284.8	28.9	40	68.2	1.0	-0.37	33.5	84.1

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e

Run No: 02-0916-2137-2925
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-02
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 08:33
CPT File: 226C02.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 14.02 (ft): 46.0
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.49	76.6	0.46	0.60	0.2	8	120.9	0.03	0.03	0.00	2.00	18.3	36.7	UnDef	0.37
1.48	76.8	0.84	1.09	0.5	8	120.9	0.09	0.09	0.00	2.00	18.4	36.8	UnDef	0.38
2.46	101.3	0.62	0.61	1.0	8	120.9	0.15	0.15	0.00	2.00	24.3	48.5	UnDef	0.00
3.44	109.7	0.67	0.61	1.0	9	124.1	0.21	0.21	0.00	2.00	21.0	42.0	UnDef	0.00
4.43	88.6	0.40	0.45	1.3	8	120.9	0.27	0.27	0.00	1.93	21.2	40.9	UnDef	0.00
5.41	119.5	1.00	0.84	1.0	8	120.9	0.33	0.33	0.00	1.74	28.6	49.9	UnDef	0.00
6.40	114.8	1.16	1.01	0.3	8	120.9	0.39	0.39	0.00	1.60	27.5	44.1	UnDef	0.00
7.30	120.0	0.72	0.60	-0.1	9	124.1	0.44	0.44	0.00	1.50	23.0	34.5	UnDef	0.00
8.20	132.4	0.72	0.54	0.4	9	124.1	0.50	0.50	0.00	1.41	25.4	35.9	UnDef	0.00
9.19	129.1	0.80	0.62	1.0	9	124.1	0.56	0.56	0.00	1.34	24.7	33.0	UnDef	0.00
10.17	123.8	2.20	1.78	0.7	7	117.8	0.62	0.62	0.00	1.27	39.5	50.2	UnDef	0.00
11.15	151.1	4.29	2.84	0.7	7	117.8	0.68	0.68	0.00	1.21	48.2	58.6	UnDef	0.00
12.14	103.0	3.82	3.71	1.7	6	114.6	0.74	0.74	0.00	1.17	39.5	46.0	8.18	0.00
13.21	599.9	8.26	1.38	6.0	9	124.1	0.80	0.80	0.00	1.12	114.9	128.5	UnDef	0.00
14.27	251.5	5.42	2.16	8.5	7	117.8	0.86	0.86	0.00	1.08	80.3	86.4	UnDef	0.00
15.26	151.5	4.49	2.96	9.1	7	117.8	0.92	0.92	0.00	1.04	48.4	50.4	UnDef	0.00
16.24	93.4	2.65	2.83	8.1	6	114.6	0.98	0.98	0.00	1.01	35.8	36.2	7.39	0.45
17.22	127.0	3.63	2.86	7.8	6	114.6	1.04	1.04	0.00	0.98	48.6	47.8	10.07	0.00
18.21	115.4	4.33	3.75	7.4	6	114.6	1.09	1.09	0.00	0.96	44.2	42.3	9.14	0.00
19.19	65.2	2.23	3.42	6.8	5	114.6	1.15	1.15	0.00	0.93	31.2	29.1	5.13	0.00
20.18	67.7	2.34	3.45	6.6	5	114.6	1.20	1.20	0.00	0.91	32.4	29.5	5.32	0.00
21.16	66.0	2.26	3.42	6.4	5	114.6	1.26	1.26	0.00	0.89	31.6	28.2	5.18	0.00
22.15	85.6	2.72	3.17	6.2	6	114.6	1.32	1.32	0.00	0.87	32.8	28.6	6.74	0.00
23.13	98.1	3.54	3.61	6.1	6	114.6	1.37	1.37	0.00	0.85	37.6	32.1	7.74	0.00
24.11	127.7	4.30	3.36	6.1	6	114.6	1.43	1.43	0.00	0.84	48.9	40.9	10.10	0.00
25.10	200.5	7.69	3.83	6.8	12	120.9	1.49	1.49	0.00	0.82	96.0	78.7	UnDef	0.00
26.08	340.6	11.06	3.25	7.3	12	120.9	1.55	1.55	0.00	0.80	163.1	131.1	UnDef	0.00
27.07	421.5	11.31	2.68	8.2	12	120.9	1.61	1.61	0.00	0.79	201.8	159.2	UnDef	0.00
28.05	475.3	11.87	2.50	8.8	12	120.9	1.67	1.67	0.00	0.77	227.6	176.3	UnDef	0.00
29.04	438.0	10.01	2.28	8.9	8	120.9	1.73	1.73	0.00	0.76	104.9	79.8	UnDef	0.00
30.02	522.9	9.18	1.76	8.6	8	120.9	1.79	1.79	0.00	0.75	125.2	93.7	UnDef	0.00
31.00	492.3	10.18	2.07	8.0	8	120.9	1.85	1.85	0.00	0.74	117.9	86.8	UnDef	0.00
31.99	366.6	11.28	3.08	7.0	12	120.9	1.90	1.90	0.00	0.72	175.5	127.2	UnDef	0.00
32.97	423.5	9.77	2.31	6.3	8	120.9	1.96	1.96	0.00	0.71	101.4	72.4	UnDef	0.00
33.96	358.8	11.81	3.29	5.6	12	120.9	2.02	2.02	0.00	0.70	171.8	120.8	UnDef	0.00
34.94	327.5	10.19	3.11	5.5	12	120.9	2.08	2.08	0.00	0.69	156.8	108.7	UnDef	0.00
35.92	392.7	8.91	2.27	5.4	8	120.9	2.14	2.14	0.00	0.68	94.0	64.2	UnDef	0.00
36.91	259.0	6.95	2.68	5.3	7	117.8	2.20	2.20	0.00	0.67	82.7	55.7	UnDef	0.00
37.89	92.6	2.80	3.02	5.2	6	114.6	2.26	2.26	0.00	0.67	35.5	23.6	7.23	0.00
38.88	315.6	11.80	3.74	5.0	12	120.9	2.32	2.32	0.00	0.66	151.1	99.3	UnDef	0.00
39.86	181.5	8.98	4.95	4.9	11	130.5	2.38	2.38	0.00	0.65	173.8	112.7	UnDef	0.00
40.85	106.1	5.11	4.81	4.9	11	130.5	2.44	2.44	0.00	0.64	101.6	65.0	UnDef	0.00

Gregg In Situ, Inc.
Run No: 02-0916-2137-2925
CPT File: 226C02.COR

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60	(N1)60 (blows/ft)	Su (tsf)	CRR
41.83	152.6	6.68	4.38	4.8	11	130.5	2.51	2.51	0.00	0.63	146.1	92.3	UnDef	0.00
42.81	102.3	4.46	4.36	4.5	11	130.5	2.57	2.57	0.00	0.62	98.0	61.1	UnDef	0.00
43.80	94.3	4.26	4.52	4.4	11	130.5	2.64	2.64	0.00	0.62	90.3	55.6	UnDef	0.00
44.78	122.3	5.46	4.47	4.5	11	130.5	2.70	2.70	0.00	0.61	117.1	71.3	UnDef	0.00
45.77	111.9	5.03	4.49	4.5	11	130.5	2.76	2.76	0.00	0.60	107.2	64.5	UnDef	0.00
46.75	108.0	4.55	4.22	4.7	11	130.5	2.83	2.80	0.02	0.60	103.4	61.8	UnDef	0.00
47.74	117.4	5.11	4.35	4.9	11	130.5	2.89	2.84	0.05	0.59	112.5	66.8	UnDef	0.00
48.72	100.7	4.07	4.04	5.0	5	114.6	2.95	2.87	0.08	0.59	48.2	28.5	7.82	0.00
49.70	106.6	3.39	3.18	5.3	6	114.6	3.01	2.89	0.12	0.59	40.8	24.0	8.29	0.00
50.69	119.8	1.73	1.44	5.7	8	120.9	3.07	2.92	0.15	0.59	28.7	16.8	UnDef	0.32
51.67	130.0	2.69	2.07	6.0	7	117.8	3.13	2.95	0.18	0.58	41.5	24.2	UnDef	0.00
52.66	100.4	2.50	2.49	6.4	7	117.8	3.18	2.98	0.21	0.58	32.0	18.6	UnDef	0.00
53.64	101.1	2.47	2.44	6.6	7	117.8	3.24	3.00	0.24	0.58	32.3	18.6	UnDef	0.00
54.63	143.4	2.42	1.68	6.9	8	120.9	3.30	3.03	0.27	0.57	34.3	19.7	UnDef	0.44

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0916-2137-2925
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-02
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 08:33
CPT File: 226C02.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 14.02 (ft): 46.0
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.49	5.0E-03	0.00	1000.0	0.60	10	146.8	0.0	146.8	0.0	50	95.0	1.0	-0.35	0.0	36.7
1.48	5.0E-03	0.00	858.9	1.10	9	147.0	0.0	147.0	1.2	50	93.7	1.0	-0.40	0.0	36.8
2.46	5.0E-03	0.00	679.8	0.61	10	194.0	0.0	194.0	0.0	50	94.3	1.0	-0.32	0.0	48.5
3.44	5.0E-02	0.00	523.7	0.61	10	210.1	0.0	210.1	0.0	48	91.7	1.0	-0.29	0.0	42.0
4.43	5.0E-03	0.00	327.7	0.45	10	167.0	0.0	167.0	0.3	48	82.0	1.0	-0.22	0.0	40.9
5.41	5.0E-03	0.00	362.5	0.84	9	204.0	0.0	204.0	2.3	48	87.7	1.0	-0.29	0.0	49.9
6.40	5.0E-03	0.00	294.5	1.02	9	180.2	0.0	180.2	4.1	46	84.2	1.0	-0.29	0.0	44.1
7.30	5.0E-02	0.00	269.4	0.61	9	176.3	0.0	176.3	2.1	46	83.5	1.0	-0.23	0.0	34.5
8.20	5.0E-02	0.00	264.1	0.54	9	183.4	0.0	183.4	1.8	46	84.7	1.0	-0.22	0.0	35.9
9.19	5.0E-02	0.00	229.3	0.62	9	168.7	0.0	168.7	2.9	46	82.3	1.0	-0.22	0.0	33.0
10.17	5.0E-04	0.00	198.5	1.79	9	153.8	23.4	177.2	10.0	46	79.6	1.0	-0.32	4.5	54.7
11.15	5.0E-04	0.00	221.8	2.85	12	179.6	UnDef	UnDef	0.0	46	84.1	1.0	-0.42	UnDef	UnDef
12.14	5.0E-05	0.00	139.0	3.74	12	117.5	UnDef	UnDef	0.0	44	71.9	10.0	-0.45	UnDef	UnDef
13.21	5.0E-02	0.00	749.6	1.38	9	656.7	0.0	656.7	2.6	50	95.0	1.0	-0.42	0.0	128.5
14.27	5.0E-04	0.00	290.1	2.16	9	264.8	34.2	299.0	9.3	46	95.0	1.0	-0.39	6.7	93.0
15.26	5.0E-04	0.00	163.3	2.98	7	154.4	65.1	219.5	16.1	44	79.7	1.0	-0.40	11.5	61.8
16.24	5.0E-05	0.00	94.4	2.86	7	92.3	65.9	158.3	20.6	42	65.0	10.0	-0.32	12.7	48.9
17.22	5.0E-05	0.00	121.6	2.89	7	122.1	66.8	188.9	18.2	42	73.0	10.0	-0.35	13.6	61.4
18.21	5.0E-05	0.00	104.7	3.78	12	108.1	UnDef	UnDef	0.0	42	69.5	10.0	-0.41	UnDef	UnDef
19.19	5.0E-06	0.00	55.8	3.48	6	59.6	107.9	167.4	29.1	UnDef	UnDef	10.0	UnDef	19.7	48.8
20.18	5.0E-06	0.00	55.2	3.52	6	60.4	112.8	173.2	29.4	UnDef	UnDef	10.0	UnDef	20.3	49.8
21.16	5.0E-06	0.00	51.4	3.49	6	57.5	119.1	176.7	30.3	UnDef	UnDef	10.0	UnDef	20.5	48.7
22.15	5.0E-05	0.00	64.0	3.22	7	73.0	97.1	170.0	26.4	40	58.2	10.0	-0.29	15.9	44.4
23.13	5.0E-05	0.00	70.4	3.66	6	81.9	114.9	196.8	26.9	40	61.6	10.0	-0.34	18.4	50.5
24.11	5.0E-05	0.00	88.3	3.40	7	104.5	100.3	204.8	23.3	42	68.5	10.0	-0.35	18.1	59.0
25.10	1.0E-15	0.00	133.7	3.86	12	160.8	UnDef	UnDef	0.0	44	80.9	1.0	-0.45	UnDef	UnDef
26.08	1.0E-15	0.00	219.1	3.26	12	267.9	UnDef	UnDef	0.0	46	95.0	1.0	-0.46	UnDef	UnDef
27.07	1.0E-15	0.00	261.3	2.69	12	325.4	UnDef	UnDef	0.0	46	95.0	1.0	-0.43	UnDef	UnDef
28.05	1.0E-15	0.00	284.2	2.51	12	360.3	UnDef	UnDef	0.0	46	95.0	1.0	-0.42	UnDef	UnDef
29.04	5.0E-03	0.00	252.8	2.29	9	326.3	56.9	383.2	10.6	46	95.0	1.0	-0.39	8.2	88.0
30.02	5.0E-03	0.00	291.9	1.76	9	383.0	29.1	412.0	7.6	46	95.0	1.0	-0.36	4.3	98.0
31.00	5.0E-03	0.00	265.8	2.08	9	354.7	47.5	402.2	9.4	46	95.0	1.0	-0.38	6.9	93.7
31.99	1.0E-15	0.00	191.5	3.09	12	260.0	UnDef	UnDef	0.0	44	94.7	1.0	-0.43	UnDef	UnDef
32.97	5.0E-03	0.00	214.6	2.32	9	295.7	64.1	359.8	11.7	46	95.0	1.0	-0.37	9.1	81.4
33.96	1.0E-15	0.00	176.3	3.31	12	246.8	UnDef	UnDef	0.0	44	93.2	1.0	-0.44	UnDef	UnDef
34.94	1.0E-15	0.00	156.2	3.13	12	222.1	UnDef	UnDef	0.0	44	90.1	1.0	-0.40	UnDef	UnDef
35.92	5.0E-03	0.00	182.3	2.28	9	262.5	67.2	329.8	12.6	44	94.9	1.0	-0.35	9.4	73.6
36.91	5.0E-04	0.00	116.6	2.71	7	170.8	90.0	260.8	17.9	42	82.6	1.0	-0.33	15.3	71.1
37.89	5.0E-05	0.00	40.0	3.10	6	60.3	160.0	220.3	32.2	38	52.8	6.0	-0.23	19.6	43.2
38.88	1.0E-15	0.00	135.2	3.77	12	202.9	UnDef	UnDef	0.0	44	87.6	1.0	-0.44	UnDef	UnDef
39.86	1.0E-15	0.00	75.3	5.01	11	115.1	UnDef	UnDef	0.0	40	71.3	1.0	-0.50	UnDef	UnDef
40.85	1.0E-15	0.00	42.4	4.93	6	66.5	265.8	332.3	38.1	38	55.6	1.0	-0.38	65.0	130.1

Gregg In Situ, Inc.
Run No: 02-0916-2137-2925
CPT File: 226C02.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
41.83	1.0E-15	0.00	59.9	4.45	6	94.3	232.6	326.9	31.6	40	65.6	1.0	-0.39	74.0	166.3
42.81	1.0E-15	0.00	38.8	4.47	6	62.5	249.8	312.3	38.0	38	53.8	1.0	-0.32	61.1	122.3
43.80	1.0E-15	0.00	34.8	4.65	6	56.8	227.3	284.1	40.4	36	51.1	1.0	-0.31	55.6	111.2
44.78	1.0E-15	0.00	44.3	4.57	6	72.8	291.4	364.2	36.3	38	58.2	1.0	-0.35	71.3	142.6
45.77	1.0E-15	0.00	39.5	4.61	6	65.9	263.5	329.3	38.2	38	55.3	1.0	-0.33	64.5	128.9
46.75	1.0E-15	0.00	37.5	4.33	6	63.1	252.4	315.5	38.0	38	54.1	1.0	-0.30	61.8	123.5
47.74	1.0E-15	0.00	40.4	4.46	6	68.2	272.9	341.1	37.3	38	56.3	1.0	-0.32	66.8	133.5
48.72	5.0E-06	0.00	34.1	4.16	6	58.2	232.8	291.0	39.0	UnDef	UnDef	6.0	UnDef	28.5	57.0
49.70	5.0E-05	0.00	35.8	3.27	6	61.3	232.3	293.6	34.6	38	53.3	6.0	-0.22	23.5	47.5
50.69	5.0E-03	0.00	40.0	1.48	7	68.6	67.6	136.2	23.6	38	56.5	1.0	-0.13	7.6	24.3
51.67	5.0E-04	0.00	43.0	2.12	7	74.1	99.2	173.3	26.4	38	58.7	1.0	-0.18	13.5	37.6
52.66	5.0E-04	0.00	32.7	2.57	6	56.9	163.9	220.9	32.8	36	51.1	1.0	-0.17	16.1	34.7
53.64	5.0E-04	0.00	32.6	2.52	6	57.1	159.0	216.1	32.6	36	51.2	1.0	-0.17	15.9	34.5
54.63	5.0E-03	0.00	46.2	1.72	7	80.6	76.6	157.2	23.2	38	61.1	1.0	-0.16	8.6	28.4

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e

Run No: 02-0916-2137-2980
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-03
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 09:51
CPT File: 226C03.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 9.60 (ft): 31.5
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.49	189.7	0.95	0.50	4.7	9	124.1	0.03	0.03	0.00	2.00	36.3	72.7	UnDef	0.00
1.48	138.2	1.65	1.19	15.5	8	120.9	0.09	0.09	0.00	2.00	33.1	66.2	UnDef	0.00
2.46	59.5	0.54	0.90	12.2	8	120.9	0.15	0.15	0.00	2.00	14.2	28.5	UnDef	0.22
3.44	30.7	0.63	2.06	7.8	6	114.6	0.21	0.21	0.00	2.00	11.7	23.5	2.44	0.12
4.43	48.3	0.26	0.53	7.9	8	120.9	0.27	0.27	0.00	1.94	11.6	22.4	UnDef	0.15
5.41	80.3	0.95	1.19	11.6	8	120.9	0.33	0.33	0.00	1.75	19.2	33.7	UnDef	0.34
6.40	59.6	0.65	1.09	10.5	7	117.8	0.38	0.38	0.00	1.61	19.0	30.7	UnDef	0.18
7.30	88.8	0.74	0.83	13.7	8	120.9	0.44	0.44	0.00	1.51	21.3	32.1	UnDef	0.29
8.20	87.7	0.62	0.71	13.0	8	120.9	0.49	0.49	0.00	1.42	21.0	29.9	UnDef	0.25
9.19	75.8	0.76	1.00	11.6	8	120.9	0.55	0.55	0.00	1.35	18.2	24.4	UnDef	0.20
10.17	188.7	1.99	1.06	15.3	9	124.1	0.61	0.61	0.00	1.28	36.1	46.2	UnDef	0.00
11.15	247.9	4.02	1.62	24.0	8	120.9	0.67	0.67	0.00	1.22	59.3	72.4	UnDef	0.00
12.14	117.5	5.83	4.96	27.4	11	130.5	0.73	0.73	0.00	1.17	112.5	131.3	UnDef	0.00
13.21	86.1	4.36	5.07	27.0	11	130.5	0.80	0.80	0.00	1.12	82.4	91.9	UnDef	0.00
14.27	122.6	6.31	5.15	27.9	11	130.5	0.87	0.87	0.00	1.07	117.4	125.6	UnDef	0.00
15.26	149.2	7.91	5.30	28.4	11	130.5	0.94	0.94	0.00	1.03	142.9	147.6	UnDef	0.00
16.24	209.4	10.43	4.98	29.0	11	130.5	1.00	1.00	0.00	1.00	200.5	200.3	UnDef	0.00
17.22	223.0	10.94	4.90	29.9	11	130.5	1.07	1.07	0.00	0.97	213.5	206.8	UnDef	0.00
18.21	190.0	10.23	5.38	30.6	11	130.5	1.13	1.13	0.00	0.94	182.0	171.2	UnDef	0.00
19.19	155.6	7.45	4.79	31.4	11	130.5	1.20	1.20	0.00	0.91	149.0	136.3	UnDef	0.00
20.18	144.5	6.73	4.65	31.2	11	130.5	1.26	1.26	0.00	0.89	138.4	123.3	UnDef	0.00
21.16	129.2	5.68	4.40	31.0	11	130.5	1.32	1.32	0.00	0.87	123.7	107.5	UnDef	0.00
22.15	133.2	6.05	4.54	30.8	11	130.5	1.39	1.39	0.00	0.85	127.5	108.3	UnDef	0.00
23.13	132.3	6.01	4.54	30.3	11	130.5	1.45	1.45	0.00	0.83	126.7	105.2	UnDef	0.00
24.11	146.3	7.07	4.84	30.4	11	130.5	1.52	1.52	0.00	0.81	140.1	113.8	UnDef	0.00
25.10	164.1	7.83	4.77	30.3	11	130.5	1.58	1.58	0.00	0.80	157.2	125.0	UnDef	0.00
26.08	188.9	9.72	5.15	29.0	11	130.5	1.64	1.64	0.00	0.78	180.9	141.1	UnDef	0.00
27.07	214.0	12.02	5.61	29.6	11	130.5	1.71	1.71	0.00	0.77	205.0	156.8	UnDef	0.00
28.05	195.8	11.18	5.71	30.5	11	130.5	1.77	1.77	0.00	0.75	187.5	140.8	UnDef	0.00
29.04	167.2	9.99	5.97	31.2	11	130.5	1.84	1.84	0.00	0.74	160.2	118.2	UnDef	0.00
30.02	160.6	9.50	5.92	31.6	11	130.5	1.90	1.90	0.00	0.73	153.8	111.5	UnDef	0.00
31.00	161.4	9.66	5.98	32.1	11	130.5	1.97	1.97	0.00	0.71	154.6	110.3	UnDef	0.00
31.99	176.8	10.31	5.83	32.8	11	130.5	2.03	2.01	0.02	0.70	169.3	119.3	UnDef	0.00
32.97	173.1	10.46	6.04	33.2	11	130.5	2.09	2.05	0.05	0.70	165.7	115.8	UnDef	0.00
33.96	149.6	9.24	6.18	33.5	11	130.5	2.16	2.08	0.08	0.69	143.3	99.3	UnDef	0.00
34.94	92.5	4.59	4.96	33.7	11	130.5	2.22	2.12	0.11	0.69	88.6	60.9	UnDef	0.00
35.92	105.5	4.11	3.89	33.3	5	114.6	2.28	2.14	0.14	0.68	50.5	34.5	8.26	0.00
36.91	205.7	7.60	3.70	35.9	12	120.9	2.34	2.17	0.17	0.68	98.5	66.8	UnDef	0.00
37.89	128.3	6.42	5.01	36.5	11	130.5	2.40	2.20	0.20	0.67	122.9	82.8	UnDef	0.00
38.88	266.8	8.55	3.20	43.4	12	120.9	2.46	2.23	0.23	0.67	127.8	85.5	UnDef	0.00
39.86	127.1	5.06	3.98	41.9	11	130.5	2.53	2.27	0.26	0.66	121.7	80.9	UnDef	0.00
40.85	131.2	3.77	2.87	41.1	6	114.6	2.59	2.29	0.29	0.66	50.3	33.2	10.29	0.00

Gregg In Situ, Inc.
Run No: 02-0916-2137-2980
CPT File: 226C03.COR

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60	(N1)60 (blows/ft)	Su (tsf)	CRR
41.83	109.0	3.32	3.05	37.9	6	114.6	2.64	2.32	0.32	0.66	41.7	27.4	8.51	0.00
42.81	143.8	4.57	3.18	46.2	6	114.6	2.70	2.35	0.35	0.65	55.1	36.0	11.29	0.00
43.80	126.7	6.72	5.30	57.0	11	130.5	2.76	2.38	0.38	0.65	121.4	78.8	UnDef	0.00
44.78	195.9	7.67	3.92	60.6	12	120.9	2.82	2.41	0.41	0.64	93.8	60.5	UnDef	0.00
45.77	147.7	6.51	4.41	64.5	11	130.5	2.88	2.44	0.45	0.64	141.4	90.6	UnDef	0.00
46.75	157.2	5.94	3.78	63.5	12	120.9	2.95	2.47	0.48	0.64	75.3	47.9	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e

Run No: 02-0916-2137-2980
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-03
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 09:51
CPT File: 226C03.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 9.60 (ft): 31.5
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.49	5.0E-02	0.00	1000.0	0.50	10	363.4	0.0	363.4	0.0	50	95.0	1.0	-0.33	0.0	72.7
1.48	5.0E-03	0.00	1000.0	1.19	9	264.7	0.0	264.7	1.3	50	95.0	1.0	-0.43	0.0	66.2
2.46	5.0E-03	0.01	394.4	0.91	9	113.9	0.0	113.9	2.4	48	78.9	1.0	-0.31	0.0	28.5
3.44	5.0E-05	0.01	146.2	2.08	7	58.7	17.0	75.7	13.4	44	55.3	10.0	-0.31	3.8	27.3
4.43	5.0E-03	0.01	180.2	0.54	9	91.5	0.0	91.5	3.4	44	64.7	1.0	-0.19	0.0	22.4
5.41	5.0E-03	0.00	245.4	1.19	9	137.7	3.3	141.0	5.9	46	76.4	1.0	-0.29	0.5	34.2
6.40	5.0E-04	0.01	153.9	1.10	9	94.0	8.5	102.5	8.1	44	65.5	1.0	-0.24	1.7	32.3
7.30	5.0E-03	0.00	201.6	0.83	9	131.2	0.0	131.2	4.9	46	75.1	1.0	-0.24	0.0	32.1
8.20	5.0E-03	0.00	176.9	0.71	9	122.2	0.0	122.2	4.8	44	73.0	1.0	-0.21	0.0	29.9
9.19	5.0E-03	0.00	136.3	1.00	9	99.9	9.7	109.6	8.3	44	67.2	1.0	-0.22	1.4	25.9
10.17	5.0E-02	0.00	307.0	1.06	9	235.9	0.0	235.9	4.1	46	91.9	1.0	-0.30	0.0	46.2
11.15	5.0E-03	0.00	367.3	1.63	9	295.7	8.1	303.8	6.0	48	95.0	1.0	-0.37	1.2	73.6
12.14	1.0E-15	0.01	158.9	4.99	11	134.1	UnDef	UnDef	0.0	44	75.7	1.0	-0.63	UnDef	UnDef
13.21	1.0E-15	0.01	106.0	5.12	11	93.9	UnDef	UnDef	0.0	42	65.5	1.0	-0.58	UnDef	UnDef
14.27	1.0E-15	0.01	139.3	5.19	11	128.3	UnDef	UnDef	0.0	44	74.4	1.0	-0.64	UnDef	UnDef
15.26	1.0E-15	0.01	158.1	5.33	11	150.8	UnDef	UnDef	0.0	44	79.0	1.0	-0.70	UnDef	UnDef
16.24	1.0E-15	0.00	207.9	5.01	11	204.7	UnDef	UnDef	0.0	46	87.8	1.0	-0.69	UnDef	UnDef
17.22	1.0E-15	0.00	208.0	4.93	11	211.3	UnDef	UnDef	0.0	46	88.7	1.0	-0.67	UnDef	UnDef
18.21	1.0E-15	0.01	167.1	5.42	11	174.9	UnDef	UnDef	0.0	44	83.3	1.0	-0.73	UnDef	UnDef
19.19	1.0E-15	0.01	129.2	4.82	11	139.3	UnDef	UnDef	0.0	44	76.8	1.0	-0.57	UnDef	UnDef
20.18	1.0E-15	0.01	113.7	4.70	11	126.0	UnDef	UnDef	0.0	42	73.9	1.0	-0.53	UnDef	UnDef
21.16	1.0E-15	0.01	96.6	4.44	11	109.9	UnDef	UnDef	0.0	42	70.0	1.0	-0.47	UnDef	UnDef
22.15	1.0E-15	0.01	95.0	4.59	11	110.6	UnDef	UnDef	0.0	42	70.2	1.0	-0.48	UnDef	UnDef
23.13	1.0E-15	0.01	90.1	4.59	11	107.4	UnDef	UnDef	0.0	42	69.3	1.0	-0.47	UnDef	UnDef
24.11	1.0E-15	0.01	95.5	4.89	11	116.2	UnDef	UnDef	0.0	42	71.6	1.0	-0.52	UnDef	UnDef
25.10	1.0E-15	0.01	102.8	4.82	11	127.7	UnDef	UnDef	0.0	42	74.3	1.0	-0.52	UnDef	UnDef
26.08	1.0E-15	0.00	113.9	5.19	11	144.2	UnDef	UnDef	0.0	42	77.8	1.0	-0.60	UnDef	UnDef
27.07	1.0E-15	0.00	124.3	5.66	11	160.2	UnDef	UnDef	0.0	42	80.8	1.0	-0.72	UnDef	UnDef
28.05	1.0E-15	0.00	109.4	5.76	11	143.9	UnDef	UnDef	0.0	42	77.7	1.0	-0.71	UnDef	UnDef
29.04	1.0E-15	0.01	90.0	6.04	11	120.7	UnDef	UnDef	0.0	42	72.7	1.0	-0.73	UnDef	UnDef
30.02	1.0E-15	0.01	83.4	5.99	11	113.9	UnDef	UnDef	0.0	42	71.0	1.0	-0.70	UnDef	UnDef
31.00	1.0E-15	0.01	81.1	6.06	11	112.7	UnDef	UnDef	0.0	42	70.7	1.0	-0.71	UnDef	UnDef
31.99	1.0E-15	0.01	86.8	5.90	11	121.9	UnDef	UnDef	0.0	42	73.0	1.0	-0.69	UnDef	UnDef
32.97	1.0E-15	0.01	83.5	6.12	11	118.3	UnDef	UnDef	0.0	42	72.1	1.0	-0.73	UnDef	UnDef
33.96	1.0E-15	0.01	70.8	6.27	11	101.5	UnDef	UnDef	0.0	40	67.7	1.0	-0.73	UnDef	UnDef
34.94	1.0E-15	0.01	42.7	5.09	6	62.3	249.0	311.3	38.6	38	53.7	1.0	-0.39	60.9	121.9
35.92	5.0E-06	0.01	48.1	3.98	6	70.5	209.1	279.6	33.0	UnDef	UnDef	6.0	UnDef	30.3	64.8
36.91	1.0E-15	0.00	93.6	3.74	7	136.6	139.1	275.7	23.9	42	76.2	1.0	-0.39	30.8	97.7
37.89	1.0E-15	0.01	57.2	5.10	6	84.6	305.5	390.1	34.3	40	62.5	1.0	-0.45	79.5	162.3
38.88	1.0E-15	0.00	118.3	3.23	7	174.7	114.0	288.7	19.8	42	83.3	1.0	-0.38	28.0	113.5
39.86	1.0E-15	0.01	55.0	4.06	6	82.6	199.1	281.7	31.5	40	61.8	1.0	-0.34	64.1	144.9
40.85	5.0E-05	0.01	56.0	2.93	7	84.7	118.3	203.1	26.8	40	62.5	10.0	-0.26	19.0	52.2

Gregg In Situ, Inc.
Run No: 02-0916-2137-2980
CPT File: 226C03.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
41.83	5.0E-05	0.01	45.8	3.13	6	70.0	146.8	216.8	30.4	38	57.1	6.0	-0.24	20.1	47.5
42.81	5.0E-05	0.01	60.1	3.24	6	91.9	133.9	225.8	27.2	40	64.8	10.0	-0.29	21.2	57.2
43.80	1.0E-15	0.01	52.2	5.42	6	80.5	321.9	402.3	36.6	38	61.0	1.0	-0.48	78.8	157.5
44.78	1.0E-15	0.01	80.2	3.97	6	123.5	165.1	288.7	26.4	42	73.3	1.0	-0.39	33.7	94.1
45.77	1.0E-15	0.01	59.4	4.50	6	92.5	236.0	328.5	31.9	40	65.1	1.0	-0.39	73.9	164.5
46.75	1.0E-15	0.01	62.5	3.85	6	97.9	175.4	273.3	29.0	40	66.7	1.0	-0.34	32.1	80.0

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0916-2137-3040
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-04
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 10:34
CPT File: 226C04.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 7.92 (ft): 26.0
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.49	80.6	0.29	0.36	3.8	8	120.9	0.03	0.03	0.00	2.00	19.3	38.6	UnDef	0.42
1.48	81.5	0.28	0.35	5.6	8	120.9	0.09	0.09	0.00	2.00	19.5	39.0	UnDef	0.43
2.46	42.8	0.14	0.33	3.6	8	120.9	0.15	0.15	0.00	2.00	10.3	20.5	UnDef	0.13
3.44	40.9	0.12	0.29	2.6	8	120.9	0.21	0.21	0.00	2.00	9.8	19.6	UnDef	0.12
4.43	40.9	0.15	0.37	2.0	8	120.9	0.27	0.27	0.00	1.93	9.8	18.9	UnDef	0.12
5.41	61.5	0.21	0.34	2.0	8	120.9	0.33	0.33	0.00	1.75	14.7	25.7	UnDef	0.19
6.40	93.0	0.41	0.44	4.8	8	120.9	0.39	0.39	0.00	1.61	22.3	35.8	UnDef	0.37
7.30	91.9	0.42	0.45	7.0	8	120.9	0.44	0.44	0.00	1.51	22.0	33.1	UnDef	0.31
8.20	113.9	1.83	1.61	8.5	8	120.9	0.50	0.50	0.00	1.42	27.3	38.7	UnDef	0.00
9.19	116.3	0.83	0.71	10.4	9	124.1	0.56	0.56	0.00	1.34	22.3	29.9	UnDef	0.41
10.17	111.3	0.59	0.53	10.4	9	124.1	0.62	0.62	0.00	1.27	21.3	27.1	UnDef	0.33
11.15	157.3	2.79	1.77	12.5	8	120.9	0.68	0.68	0.00	1.21	37.7	45.7	UnDef	0.00
12.14	103.6	1.33	1.28	11.0	8	120.9	0.74	0.74	0.00	1.16	24.8	28.9	UnDef	0.31
13.21	108.6	0.79	0.73	10.7	8	120.9	0.80	0.80	0.00	1.12	26.0	29.0	UnDef	0.26
14.27	126.9	1.26	0.99	11.4	8	120.9	0.87	0.87	0.00	1.07	30.4	32.6	UnDef	0.36
15.26	298.0	3.63	1.22	14.7	9	124.1	0.93	0.93	0.00	1.04	57.1	59.3	UnDef	0.00
16.24	161.5	2.35	1.45	18.3	8	120.9	0.99	0.99	0.00	1.01	38.7	38.9	UnDef	0.00
17.22	107.0	1.35	1.26	19.4	8	120.9	1.05	1.05	0.00	0.98	25.6	25.0	UnDef	0.27
18.21	130.7	1.07	0.82	18.8	9	124.1	1.11	1.11	0.00	0.95	25.0	23.8	UnDef	0.30
19.19	100.7	1.12	1.11	16.7	8	120.9	1.17	1.17	0.00	0.93	24.1	22.3	UnDef	0.22
20.18	125.9	1.65	1.31	16.8	8	120.9	1.23	1.23	0.00	0.90	30.1	27.2	UnDef	0.33
21.16	144.4	1.21	0.84	9.0	9	124.1	1.29	1.29	0.00	0.88	27.7	24.4	UnDef	0.33
22.15	145.9	1.60	1.10	9.3	8	120.9	1.35	1.35	0.00	0.86	34.9	30.1	UnDef	0.37
23.13	140.8	2.41	1.71	9.5	8	120.9	1.41	1.41	0.00	0.84	33.7	28.4	UnDef	0.45
24.11	184.9	2.11	1.14	10.3	8	120.9	1.47	1.47	0.00	0.83	44.3	36.6	UnDef	0.00
25.10	169.1	1.60	0.95	10.9	9	124.1	1.53	1.53	0.00	0.81	32.4	26.2	UnDef	0.41
26.08	298.6	4.51	1.51	11.8	8	120.9	1.59	1.58	0.00	0.79	71.5	56.8	UnDef	0.00
27.07	426.8	7.13	1.67	10.9	8	120.9	1.65	1.61	0.03	0.79	102.2	80.5	UnDef	0.00
28.05	502.9	4.99	0.99	1.3	9	124.1	1.71	1.64	0.06	0.78	96.3	75.2	UnDef	0.00
29.04	601.2	3.98	0.66	1.7	10	127.3	1.77	1.67	0.09	0.77	96.0	74.2	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e

Run No: 02-0916-2137-3040
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-04
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 10:34
CPT File: 226C04.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 7.92 (ft): 26.0
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.49	5.0E-03	0.00	1000.0	0.36	10	154.3	0.0	154.3	0.0	50	95.0	1.0	-0.30	0.0	38.6
1.48	5.0E-03	0.00	911.5	0.35	10	156.0	0.0	156.0	0.0	50	95.0	1.0	-0.29	0.0	39.0
2.46	5.0E-03	0.00	286.8	0.33	10	82.0	0.0	82.0	0.0	46	69.7	1.0	-0.19	0.0	20.5
3.44	5.0E-03	0.00	195.5	0.29	9	78.4	0.0	78.4	1.1	44	63.5	1.0	-0.14	0.0	19.6
4.43	5.0E-03	0.00	151.5	0.37	9	77.2	0.0	77.2	3.0	44	59.9	1.0	-0.14	0.0	18.9
5.41	5.0E-03	0.00	186.8	0.34	9	105.2	0.0	105.2	1.7	44	68.7	1.0	-0.15	0.0	25.7
6.40	5.0E-03	0.00	239.5	0.44	9	146.4	0.0	146.4	1.4	46	78.2	1.0	-0.19	0.0	35.8
7.30	5.0E-03	0.00	207.1	0.45	9	135.3	0.0	135.3	2.1	46	75.9	1.0	-0.18	0.0	33.1
8.20	5.0E-03	0.00	228.7	1.62	9	158.3	15.5	173.8	8.3	46	80.4	1.0	-0.32	2.3	41.0
9.19	5.0E-02	0.00	208.0	0.71	9	152.5	0.0	152.5	4.0	46	79.4	1.0	-0.22	0.0	29.9
10.17	5.0E-02	0.00	179.2	0.54	9	138.6	0.0	138.6	3.5	44	76.6	1.0	-0.18	0.0	27.1
11.15	5.0E-03	0.00	231.1	1.78	9	186.9	22.3	209.3	9.0	46	85.2	1.0	-0.34	3.3	49.0
12.14	5.0E-03	0.00	139.6	1.29	9	118.1	17.7	135.8	9.9	44	72.0	1.0	-0.24	2.6	31.5
13.21	5.0E-03	0.00	134.5	0.73	9	118.7	5.3	124.1	6.6	44	72.2	1.0	-0.19	0.8	29.9
14.27	5.0E-03	0.00	145.5	1.00	9	133.4	11.0	144.4	7.9	44	75.5	1.0	-0.22	1.6	34.3
15.26	5.0E-02	0.00	320.7	1.22	9	303.0	0.0	303.0	4.8	46	95.0	1.0	-0.32	0.0	59.3
16.24	5.0E-03	0.00	162.7	1.46	9	159.1	23.0	182.1	9.7	44	80.6	1.0	-0.27	3.3	42.3
17.22	5.0E-03	0.01	101.2	1.27	9	102.3	24.7	127.1	12.3	42	67.9	1.0	-0.21	3.5	28.5
18.21	5.0E-02	0.00	117.1	0.83	9	121.6	11.5	133.0	8.2	42	72.9	1.0	-0.18	1.4	25.2
19.19	5.0E-03	0.01	85.3	1.12	9	91.2	24.1	115.3	12.8	42	64.6	1.0	-0.18	3.4	25.7
20.18	5.0E-03	0.00	101.6	1.32	9	111.2	28.1	139.3	12.6	42	70.3	1.0	-0.22	3.9	31.1
21.16	5.0E-02	0.00	111.2	0.84	9	124.6	13.7	138.3	8.7	42	73.6	1.0	-0.18	1.6	26.0
22.15	5.0E-03	0.00	107.3	1.11	9	123.0	22.5	145.5	10.8	42	73.2	1.0	-0.20	3.2	33.3
23.13	5.0E-03	0.00	99.1	1.73	7	116.2	42.3	158.5	15.0	42	71.6	1.0	-0.24	5.7	34.1
24.11	5.0E-03	0.00	125.1	1.15	9	149.5	22.3	171.7	9.9	44	78.8	1.0	-0.22	3.2	39.8
25.10	5.0E-02	0.00	109.8	0.96	9	133.9	18.7	152.7	9.6	42	75.7	1.0	-0.19	2.2	28.4
26.08	5.0E-03	0.00	187.5	1.52	9	232.1	28.3	260.5	9.1	44	91.4	1.0	-0.29	4.1	60.9
27.07	5.0E-03	0.00	263.6	1.68	9	328.9	26.6	355.5	7.8	46	95.0	1.0	-0.34	4.0	84.4
28.05	5.0E-02	0.00	305.2	1.00	9	384.0	0.0	384.0	3.8	46	95.0	1.0	-0.29	0.0	75.2
29.04	5.0E+00	0.00	358.2	0.66	9	454.8	0.0	454.8	1.4	48	95.0	1.0	-0.27	0.0	74.2

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0916-2137-3095
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-05
Engineer: T. MCCARTHY
CPT Date: 02/12/09 oct 12 2002
CPT Time: 12:05
CPT File: 226C05.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 9.60 (ft): 31.5
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60	(N1)60 (blows/ft)	Su (tsf)	CRR
0.49	124.8	0.39	0.31	2.4	9	124.1	0.03	0.03	0.00	2.00	23.9	47.8	UnDef	0.00
1.48	97.5	1.05	1.08	3.4	8	120.9	0.09	0.09	0.00	2.00	23.3	46.7	UnDef	0.00
2.46	34.5	0.61	1.77	2.0	6	114.6	0.15	0.15	0.00	2.00	13.2	26.4	2.74	0.12
3.44	36.6	0.20	0.54	1.8	7	117.8	0.21	0.21	0.00	2.00	11.7	23.4	UnDef	0.11
4.43	62.1	0.28	0.44	1.5	8	120.9	0.26	0.26	0.00	1.94	14.9	28.9	UnDef	0.23
5.41	82.8	0.34	0.41	0.6	8	120.9	0.32	0.32	0.00	1.76	19.8	34.8	UnDef	0.35
6.40	101.7	0.51	0.50	0.8	9	124.1	0.38	0.38	0.00	1.61	19.5	31.4	UnDef	0.00
7.30	115.3	0.55	0.48	1.5	9	124.1	0.44	0.44	0.00	1.51	22.1	33.3	UnDef	0.00
8.20	141.3	0.75	0.53	3.1	9	124.1	0.50	0.50	0.00	1.42	27.1	38.4	UnDef	0.00
9.19	170.2	1.90	1.12	3.8	8	120.9	0.56	0.56	0.00	1.34	40.8	54.6	UnDef	0.00
10.17	292.9	3.84	1.31	9.1	9	124.1	0.62	0.62	0.00	1.27	56.1	71.4	UnDef	0.00
11.15	92.7	1.44	1.55	8.6	7	117.8	0.68	0.68	0.00	1.22	29.6	36.0	UnDef	0.30
12.14	36.0	0.61	1.70	6.8	6	114.6	0.73	0.73	0.00	1.17	13.8	16.1	2.82	0.13
13.21	72.9	0.69	0.94	5.7	8	120.9	0.80	0.80	0.00	1.12	17.5	19.6	UnDef	0.16
14.27	147.3	0.93	0.63	5.6	9	124.1	0.86	0.86	0.00	1.08	28.2	30.4	UnDef	0.43
15.26	179.1	1.36	0.76	5.7	9	124.1	0.92	0.92	0.00	1.04	34.3	35.7	UnDef	0.00
16.24	78.5	0.92	1.17	5.7	8	120.9	0.98	0.98	0.00	1.01	18.8	19.0	UnDef	0.18
17.22	39.2	0.67	1.71	5.4	7	117.8	1.04	1.04	0.00	0.98	12.5	12.2	UnDef	0.14
18.21	57.7	0.67	1.16	5.2	7	117.8	1.10	1.10	0.00	0.95	18.4	17.6	UnDef	0.13
19.19	105.5	0.64	0.61	4.4	8	120.9	1.16	1.16	0.00	0.93	25.3	23.5	UnDef	0.19
20.18	180.2	2.06	1.14	4.5	8	120.9	1.22	1.22	0.00	0.91	43.2	39.1	UnDef	0.00
21.16	260.6	3.36	1.29	7.4	8	120.9	1.28	1.28	0.00	0.88	62.4	55.2	UnDef	0.00
22.15	351.8	2.55	0.72	1.5	9	124.1	1.34	1.34	0.00	0.86	67.4	58.3	UnDef	0.00
23.13	248.7	2.53	1.02	-2.3	9	124.1	1.40	1.40	0.00	0.85	47.6	40.3	UnDef	0.00
24.11	268.9	2.45	0.91	-1.7	9	124.1	1.46	1.46	0.00	0.83	51.5	42.6	UnDef	0.00
25.10	442.9	5.02	1.13	-1.3	9	124.1	1.52	1.52	0.00	0.81	84.8	68.8	UnDef	0.00
26.08	599.6	9.21	1.54	-0.7	9	124.1	1.58	1.58	0.00	0.80	114.8	91.3	UnDef	0.00
27.07	620.7	7.47	1.20	0.5	9	124.1	1.64	1.64	0.00	0.78	118.9	92.7	UnDef	0.00
28.05	612.5	7.98	1.30	1.6	9	124.1	1.70	1.70	0.00	0.77	117.3	89.9	UnDef	0.00
29.04	745.3	8.88	1.19	-1.5	9	124.1	1.77	1.77	0.00	0.75	142.8	107.4	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0916-2137-3095
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-05
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 12:05
CPT File: 226C05.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 9.60 (ft): 31.5
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.49	5.0E-02	0.00	1000.0	0.31	10	239.1	0.0	239.1	0.0	50	95.0	1.0	-0.29	0.0	47.8
1.48	5.0E-03	0.00	1000.0	1.08	9	186.7	0.0	186.7	0.8	50	95.0	1.0	-0.41	0.0	46.7
2.46	5.0E-05	0.00	230.5	1.78	9	66.0	7.9	73.9	9.0	46	63.4	10.0	-0.34	1.9	28.3
3.44	5.0E-04	0.00	176.8	0.55	9	70.1	0.0	70.1	3.6	44	60.5	1.0	-0.19	0.0	23.4
4.43	5.0E-03	0.00	233.5	0.45	9	118.1	0.0	118.1	1.6	46	72.0	1.0	-0.19	0.0	28.9
5.41	5.0E-03	0.00	254.4	0.41	10	142.3	0.0	142.3	0.9	46	77.4	1.0	-0.19	0.0	34.8
6.40	5.0E-02	0.00	263.6	0.50	9	160.6	0.0	160.6	1.5	46	80.8	1.0	-0.21	0.0	31.4
7.30	5.0E-02	0.00	260.8	0.48	9	170.1	0.0	170.1	1.3	46	82.5	1.0	-0.21	0.0	33.3
8.20	5.0E-02	0.00	283.6	0.53	9	196.3	0.0	196.3	1.4	46	86.6	1.0	-0.23	0.0	38.4
9.19	5.0E-03	0.00	304.7	1.12	9	223.2	0.0	223.2	4.5	46	90.3	1.0	-0.31	0.0	54.6
10.17	5.0E-02	0.00	473.6	1.31	9	364.9	0.0	364.9	3.7	48	95.0	1.0	-0.37	0.0	71.4
11.15	5.0E-04	0.00	136.0	1.56	9	110.3	23.2	133.5	11.5	44	70.1	1.0	-0.26	4.4	40.4
12.14	5.0E-05	0.01	48.0	1.74	7	41.1	37.4	78.6	22.9	38	41.8	6.0	-0.17	6.8	22.9
13.21	5.0E-03	0.00	90.5	0.95	9	79.9	15.7	95.6	11.1	42	60.9	1.0	-0.17	2.2	21.8
14.27	5.0E-02	0.00	169.9	0.64	9	155.3	0.0	155.3	4.5	44	79.9	1.0	-0.20	0.0	30.4
15.26	5.0E-02	0.00	193.1	0.76	9	182.5	0.0	182.5	4.7	44	84.5	1.0	-0.22	0.0	35.7
16.24	5.0E-03	0.00	78.9	1.19	9	77.5	24.4	101.9	14.0	42	60.0	1.0	-0.18	3.3	22.3
17.22	5.0E-04	0.00	36.6	1.75	7	37.5	51.0	88.5	26.6	38	39.2	1.0	-0.14	6.9	19.1
18.21	5.0E-04	0.00	51.4	1.18	7	53.8	30.0	83.8	18.4	38	49.5	1.0	-0.14	5.1	22.6
19.19	5.0E-03	0.00	90.0	0.61	9	95.9	10.1	106.0	8.6	42	66.1	1.0	-0.13	1.5	25.0
20.18	5.0E-03	0.00	146.9	1.15	9	159.8	17.6	177.4	8.7	44	80.7	1.0	-0.24	2.6	41.7
21.16	5.0E-03	0.00	203.0	1.29	9	225.6	15.8	241.4	7.5	46	90.6	1.0	-0.28	2.4	57.6
22.15	5.0E-02	0.00	261.9	0.73	9	297.7	0.0	297.7	3.0	46	95.0	1.0	-0.25	0.0	58.3
23.13	5.0E-02	0.00	176.7	1.02	9	205.7	10.3	216.0	6.8	44	88.0	1.0	-0.24	1.2	41.5
24.11	5.0E-02	0.00	183.2	0.92	9	217.8	5.5	223.3	5.9	44	89.6	1.0	-0.24	0.7	43.3
25.10	5.0E-02	0.00	290.1	1.14	9	351.4	0.0	351.4	4.8	46	95.0	1.0	-0.30	0.0	68.8
26.08	5.0E-02	0.00	377.9	1.54	9	466.5	6.4	472.9	5.5	48	95.0	1.0	-0.37	0.8	92.1
27.07	5.0E-02	0.00	376.6	1.21	9	473.8	0.0	473.8	4.0	48	95.0	1.0	-0.33	0.0	92.7
28.05	5.0E-02	0.00	358.3	1.31	9	459.1	0.0	459.1	4.7	48	95.0	1.0	-0.34	0.0	89.9
29.04	5.0E-02	0.00	421.1	1.19	9	548.9	0.0	548.9	3.6	48	95.0	1.0	-0.34	0.0	107.4

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e

Run No: 02-0916-2137-3150
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-06
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 12:58
CPT File: 226C06.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 8.23 (ft): 27.0
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.49	54.8	0.58	1.06	2.1	7	117.8	0.03	0.03	0.00	2.00	17.5	35.0	UnDef	0.19
1.48	172.6	1.34	0.78	4.8	9	124.1	0.09	0.09	0.00	2.00	33.1	66.1	UnDef	0.00
2.46	103.3	0.62	0.60	4.8	8	120.9	0.15	0.15	0.00	2.00	24.7	49.5	UnDef	0.00
3.44	61.8	0.27	0.44	4.4	8	120.9	0.21	0.21	0.00	2.00	14.8	29.6	UnDef	0.23
4.43	60.6	0.24	0.40	4.0	8	120.9	0.27	0.27	0.00	1.93	14.5	28.1	UnDef	0.22
5.41	75.5	0.30	0.40	3.3	8	120.9	0.33	0.33	0.00	1.75	18.1	31.6	UnDef	0.28
6.40	51.5	0.28	0.55	2.8	8	120.9	0.39	0.39	0.00	1.61	12.3	19.8	UnDef	0.13
7.30	33.4	0.46	1.39	2.7	7	117.8	0.44	0.44	0.00	1.51	10.7	16.1	UnDef	0.11
8.20	35.8	0.61	1.70	2.6	6	114.6	0.49	0.49	0.00	1.42	13.7	19.5	2.82	0.12
9.19	72.8	0.49	0.67	2.2	8	120.9	0.55	0.55	0.00	1.35	17.4	23.5	UnDef	0.17
10.17	60.2	0.48	0.80	2.0	8	120.9	0.61	0.61	0.00	1.28	14.4	18.4	UnDef	0.14
11.15	26.1	0.44	1.67	1.6	6	114.6	0.67	0.67	0.00	1.22	10.0	12.2	2.04	0.11
12.14	53.5	0.43	0.81	1.5	7	117.8	0.73	0.73	0.00	1.17	17.1	20.0	UnDef	0.12
13.21	120.7	0.71	0.59	1.8	9	124.1	0.79	0.79	0.00	1.12	23.1	26.0	UnDef	0.30
14.27	188.8	1.62	0.86	4.7	9	124.1	0.86	0.86	0.00	1.08	36.2	39.1	UnDef	0.00
15.26	238.5	2.37	0.99	6.8	9	124.1	0.92	0.92	0.00	1.04	45.7	47.7	UnDef	0.00
16.24	204.6	1.33	0.65	8.1	9	124.1	0.98	0.98	0.00	1.01	39.2	39.6	UnDef	0.00
17.22	156.2	2.42	1.55	8.4	8	120.9	1.04	1.04	0.00	0.98	37.4	36.7	UnDef	0.00
18.21	117.0	1.31	1.12	8.6	8	120.9	1.10	1.10	0.00	0.95	28.0	26.7	UnDef	0.29
19.19	168.8	1.48	0.87	8.2	9	124.1	1.16	1.16	0.00	0.93	32.3	30.0	UnDef	0.00
20.18	236.4	3.52	1.49	8.7	8	120.9	1.22	1.22	0.00	0.91	56.6	51.3	UnDef	0.00
21.16	293.0	3.97	1.35	10.7	8	120.9	1.28	1.28	0.00	0.88	70.2	62.0	UnDef	0.00
22.15	299.4	4.49	1.50	11.2	8	120.9	1.34	1.34	0.00	0.86	71.7	62.0	UnDef	0.00
23.13	510.4	11.93	2.34	12.2	12	120.9	1.40	1.40	0.00	0.85	244.4	206.7	UnDef	0.00
24.11	535.7	10.56	1.97	11.9	8	120.9	1.46	1.46	0.00	0.83	128.3	106.3	UnDef	0.00
25.10	226.7	5.42	2.39	9.4	7	117.8	1.52	1.52	0.00	0.81	72.4	58.8	UnDef	0.00
26.08	115.8	1.48	1.28	8.6	8	120.9	1.57	1.57	0.00	0.80	27.7	22.1	UnDef	0.26
27.07	187.1	2.18	1.17	8.0	8	120.9	1.63	1.63	0.00	0.78	44.8	35.1	UnDef	0.00
28.05	205.6	2.39	1.16	7.4	9	124.1	1.69	1.66	0.03	0.78	39.4	30.5	UnDef	0.00
29.04	348.5	5.28	1.52	6.7	8	120.9	1.75	1.69	0.06	0.77	83.4	64.2	UnDef	0.00
30.02	299.7	5.28	1.76	6.9	8	120.9	1.81	1.72	0.09	0.76	71.8	54.7	UnDef	0.00
31.00	297.4	5.31	1.78	7.5	8	120.9	1.87	1.75	0.13	0.76	71.2	53.9	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e

Run No: 02-0916-2137-3150
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-06
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 12:58
CPT File: 226C06.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 8.23 (ft): 27.0
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.49	5.0E-04	0.00	1000.0	1.07	9	104.9	0.0	104.9	0.8	50	95.0	1.0	-0.41	0.0	35.0
1.48	5.0E-02	0.00	1000.0	0.78	10	330.6	0.0	330.6	0.0	50	95.0	1.0	-0.38	0.0	66.1
2.46	5.0E-03	0.00	693.3	0.60	10	197.9	0.0	197.9	0.0	50	94.9	1.0	-0.32	0.0	49.5
3.44	5.0E-03	0.00	295.5	0.44	10	118.3	0.0	118.3	0.6	46	75.3	1.0	-0.21	0.0	29.6
4.43	5.0E-03	0.00	225.4	0.40	9	114.7	0.0	114.7	1.4	46	71.2	1.0	-0.18	0.0	28.1
5.41	5.0E-03	0.00	229.7	0.40	9	129.2	0.0	129.2	1.3	46	74.6	1.0	-0.18	0.0	31.6
6.40	5.0E-03	0.00	132.1	0.55	9	81.0	0.7	81.8	5.3	44	61.2	1.0	-0.16	0.1	19.9
7.30	5.0E-04	0.00	74.7	1.41	7	49.2	20.2	69.4	15.9	40	46.9	1.0	-0.19	3.6	19.6
8.20	5.0E-05	0.00	71.5	1.72	7	49.8	27.1	76.9	18.2	40	47.3	10.0	-0.21	5.5	25.0
9.19	5.0E-03	0.00	131.1	0.67	9	95.9	3.5	99.5	6.3	44	66.1	1.0	-0.18	0.5	24.0
10.17	5.0E-03	0.00	97.6	0.81	9	75.4	10.3	85.7	9.5	42	59.2	1.0	-0.17	1.5	19.9
11.15	5.0E-05	0.00	38.1	1.72	7	31.3	39.0	70.3	25.8	38	34.0	6.0	-0.14	6.5	18.8
12.14	5.0E-04	0.00	72.7	0.82	9	61.4	14.4	75.9	12.1	40	53.3	1.0	-0.14	2.7	22.8
13.21	5.0E-02	0.00	151.8	0.59	9	132.9	0.0	132.9	4.8	44	75.4	1.0	-0.18	0.0	26.0
14.27	5.0E-02	0.00	219.4	0.86	9	199.6	0.0	199.6	4.6	46	87.1	1.0	-0.25	0.0	39.1
15.26	5.0E-02	0.00	259.0	1.00	9	243.7	0.0	243.7	4.6	46	92.8	1.0	-0.28	0.0	47.7
16.24	5.0E-02	0.00	208.0	0.66	9	202.4	0.0	202.4	3.6	46	87.5	1.0	-0.22	0.0	39.6
17.22	5.0E-03	0.00	149.3	1.56	9	149.9	27.6	177.5	10.8	44	78.9	1.0	-0.27	3.9	40.6
18.21	5.0E-03	0.00	105.5	1.13	9	109.2	21.0	130.2	11.0	42	69.8	1.0	-0.20	3.0	29.7
19.19	5.0E-02	0.00	144.7	0.88	9	153.5	9.3	162.8	7.1	44	79.6	1.0	-0.21	1.1	31.2
20.18	5.0E-03	0.00	192.9	1.50	9	209.5	23.5	233.1	8.8	44	88.5	1.0	-0.29	3.5	54.7
21.16	5.0E-03	0.00	228.2	1.36	9	253.6	15.2	268.8	7.1	46	93.9	1.0	-0.30	2.3	64.3
22.15	5.0E-03	0.00	222.7	1.51	9	253.3	21.8	275.1	8.0	46	93.9	1.0	-0.31	3.2	65.2
23.13	1.0E-15	0.00	364.2	2.34	12	422.5	UnDef	UnDef	0.0	48	95.0	1.0	-0.44	UnDef	UnDef
24.11	5.0E-03	0.00	366.6	1.98	9	434.3	29.9	464.1	7.4	48	95.0	1.0	-0.40	4.5	110.7
25.10	5.0E-04	0.00	148.5	2.41	7	180.2	62.7	242.9	14.7	44	84.2	1.0	-0.34	11.3	70.1
26.08	5.0E-03	0.00	72.6	1.30	7	90.3	35.1	125.5	15.5	40	64.4	1.0	-0.18	4.7	26.8
27.07	5.0E-03	0.00	113.7	1.18	9	143.3	26.0	169.4	10.8	42	77.6	1.0	-0.22	3.7	38.8
28.05	5.0E-02	0.00	122.7	1.17	9	156.1	24.7	180.8	10.1	42	80.0	1.0	-0.22	2.9	33.4
29.04	5.0E-03	0.00	205.0	1.52	9	262.3	27.4	289.6	8.5	46	94.9	1.0	-0.30	4.0	68.2
30.02	5.0E-03	0.00	173.2	1.77	9	223.7	41.0	264.6	10.8	44	90.3	1.0	-0.31	5.9	60.6
31.00	5.0E-03	0.00	169.0	1.80	9	220.1	42.6	262.7	11.1	44	89.9	1.0	-0.31	6.1	59.9

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0916-2137-3205
Job No: 02-226SH
Client: PACIFIC SOILS
Project: CPT Site Investigation
Site: BORREGO WASH
Location: CPT-07
Engineer: T. MCCARTHY
CPT Date: 02/12/09
CPT Time: 13:49
CPT File: 226C07.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 8.53 (ft): 28.0
Su Nkt used: 12.50
Averaging Increment (m): 0.30
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60	(N1)60 (blows/ft)	Su (tsf)	CRR
0.49	178.8	0.14	0.08	1.8	9	124.1	0.03	0.03	0.00	2.00	34.2	68.5	UnDef	0.00
1.48	130.7	0.27	0.21	2.3	9	124.1	0.09	0.09	0.00	2.00	25.0	50.1	UnDef	0.00
2.46	98.6	0.14	0.14	2.5	9	124.1	0.15	0.15	0.00	2.00	18.9	37.8	UnDef	0.00
3.44	67.4	0.10	0.14	1.9	8	120.9	0.21	0.21	0.00	2.00	16.1	32.3	UnDef	0.28
4.43	88.7	0.08	0.09	1.8	9	124.1	0.27	0.27	0.00	1.91	17.0	32.5	UnDef	0.00
5.41	104.0	0.16	0.16	1.6	9	124.1	0.33	0.33	0.00	1.73	19.9	34.5	UnDef	0.00
6.40	93.3	0.24	0.26	1.1	9	124.1	0.40	0.40	0.00	1.59	17.9	28.4	UnDef	0.36
7.30	97.2	0.27	0.27	0.8	9	124.1	0.45	0.45	0.00	1.49	18.6	27.7	UnDef	0.34
8.20	60.9	0.14	0.23	1.0	8	120.9	0.51	0.51	0.00	1.40	14.6	20.5	UnDef	0.13
9.19	41.0	0.13	0.33	0.3	8	120.9	0.57	0.57	0.00	1.33	9.8	13.1	UnDef	0.09
10.17	37.1	0.09	0.23	-0.6	8	120.9	0.63	0.63	0.00	1.26	8.9	11.2	UnDef	0.09
11.15	41.8	0.33	0.79	-0.7	7	117.8	0.68	0.68	0.00	1.21	13.4	16.1	UnDef	0.11
12.14	59.2	0.20	0.34	-0.8	8	120.9	0.74	0.74	0.00	1.16	14.2	16.4	UnDef	0.11
13.21	94.2	0.99	1.05	-0.8	8	120.9	0.81	0.81	0.00	1.11	22.6	25.1	UnDef	0.23
14.27	125.7	0.74	0.59	-0.6	9	124.1	0.87	0.87	0.00	1.07	24.1	25.8	UnDef	0.29
15.26	95.6	0.23	0.24	-1.0	9	124.1	0.93	0.93	0.00	1.03	18.3	19.0	UnDef	0.16
16.24	105.6	0.26	0.25	-1.2	9	124.1	1.00	1.00	0.00	1.00	20.2	20.3	UnDef	0.18
17.22	116.9	0.51	0.44	-1.2	9	124.1	1.06	1.06	0.00	0.97	22.4	21.8	UnDef	0.21
18.21	74.1	0.18	0.24	-1.8	8	120.9	1.12	1.12	0.00	0.95	17.8	16.8	UnDef	0.11
19.19	87.9	0.28	0.32	-1.8	8	120.9	1.18	1.18	0.00	0.92	21.0	19.4	UnDef	0.13
20.18	58.0	0.46	0.79	-1.1	8	120.9	1.24	1.24	0.00	0.90	13.9	12.5	UnDef	0.12
21.16	110.1	0.46	0.42	-0.6	9	124.1	1.30	1.30	0.00	0.88	21.1	18.5	UnDef	0.16
22.15	138.6	0.96	0.69	-0.7	9	124.1	1.36	1.36	0.00	0.86	26.5	22.8	UnDef	0.27
23.13	117.6	0.46	0.39	-1.2	9	124.1	1.42	1.42	0.00	0.84	22.5	18.9	UnDef	0.16
24.11	97.7	0.42	0.43	-1.5	9	124.1	1.48	1.48	0.00	0.82	18.7	15.4	UnDef	0.13
25.10	192.5	0.65	0.34	-1.1	9	124.1	1.54	1.54	0.00	0.81	36.9	29.7	UnDef	0.41
26.08	193.5	0.82	0.42	-0.7	9	124.1	1.60	1.60	0.00	0.79	37.1	29.3	UnDef	0.39
27.07	170.4	1.05	0.61	0.1	9	124.1	1.66	1.66	0.00	0.78	32.6	25.3	UnDef	0.33
28.05	103.3	0.40	0.39	-0.3	9	124.1	1.72	1.72	0.00	0.76	19.8	15.1	UnDef	0.12
29.04	52.1	0.42	0.81	-0.7	7	117.8	1.78	1.75	0.03	0.76	16.6	12.6	UnDef	0.12
30.02	107.8	0.45	0.41	0.9	9	124.1	1.84	1.78	0.06	0.75	20.7	15.5	UnDef	0.13
31.00	167.9	0.63	0.38	2.2	9	124.1	1.90	1.81	0.09	0.74	32.2	23.9	UnDef	0.25
31.99	210.3	1.46	0.69	2.3	9	124.1	1.96	1.84	0.12	0.74	40.3	29.7	UnDef	0.00
32.97	284.0	2.52	0.89	2.6	9	124.1	2.03	1.87	0.16	0.73	54.4	39.8	UnDef	0.00
33.96	199.5	1.12	0.56	4.6	9	124.1	2.09	1.90	0.19	0.73	38.2	27.7	UnDef	0.39
34.94	38.3	0.50	1.30	1.8	7	117.8	2.15	1.93	0.22	0.72	12.2	8.8	UnDef	0.27
35.92	112.0	0.49	0.44	1.7	9	124.1	2.21	1.96	0.25	0.71	21.5	15.3	UnDef	0.12
36.91	90.4	0.46	0.50	1.4	8	120.9	2.27	1.99	0.28	0.71	21.6	15.3	UnDef	0.13
37.89	84.9	0.53	0.63	1.9	8	120.9	2.33	2.02	0.31	0.70	20.3	14.3	UnDef	0.14
38.88	96.4	0.47	0.49	1.0	8	120.9	2.39	2.05	0.34	0.70	23.1	16.1	UnDef	0.14
39.86	145.0	0.61	0.42	0.7	9	124.1	2.45	2.08	0.37	0.69	27.8	19.3	UnDef	0.17
40.85	131.8	0.69	0.52	0.3	9	124.1	2.51	2.11	0.40	0.69	25.2	17.4	UnDef	0.19

Gregg In Situ, Inc.
Run No: 02-0916-2137-3205
CPT File: 226C07.COR

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
41.83	171.0	0.44	0.26	0.2	9	124.1	2.57	2.14	0.43	0.68	32.8	22.4	UnDef	0.22
42.81	128.8	0.84	0.65	-0.2	9	124.1	2.63	2.17	0.46	0.68	24.7	16.8	UnDef	0.20
43.80	167.1	1.02	0.61	-0.2	9	124.1	2.69	2.20	0.49	0.67	32.0	21.6	UnDef	0.28
44.78	251.8	0.86	0.34	0.2	10	127.3	2.75	2.23	0.52	0.67	40.2	26.9	UnDef	0.00
45.77	237.0	0.36	0.15	0.7	10	127.3	2.81	2.26	0.55	0.67	37.8	25.2	UnDef	0.42
46.75	235.2	0.40	0.17	0.8	10	127.3	2.88	2.29	0.59	0.66	37.5	24.8	UnDef	0.41
47.74	233.4	1.06	0.46	1.2	9	124.1	2.94	2.32	0.62	0.66	44.7	29.3	UnDef	0.39
48.72	401.1	1.58	0.39	2.3	10	127.3	3.00	2.35	0.65	0.65	64.0	41.7	UnDef	0.00
49.70	250.4	1.68	0.67	2.7	9	124.1	3.06	2.38	0.68	0.65	48.0	31.1	UnDef	0.00
50.69	251.9	1.78	0.71	3.6	9	124.1	3.12	2.42	0.71	0.64	48.2	31.0	UnDef	0.00