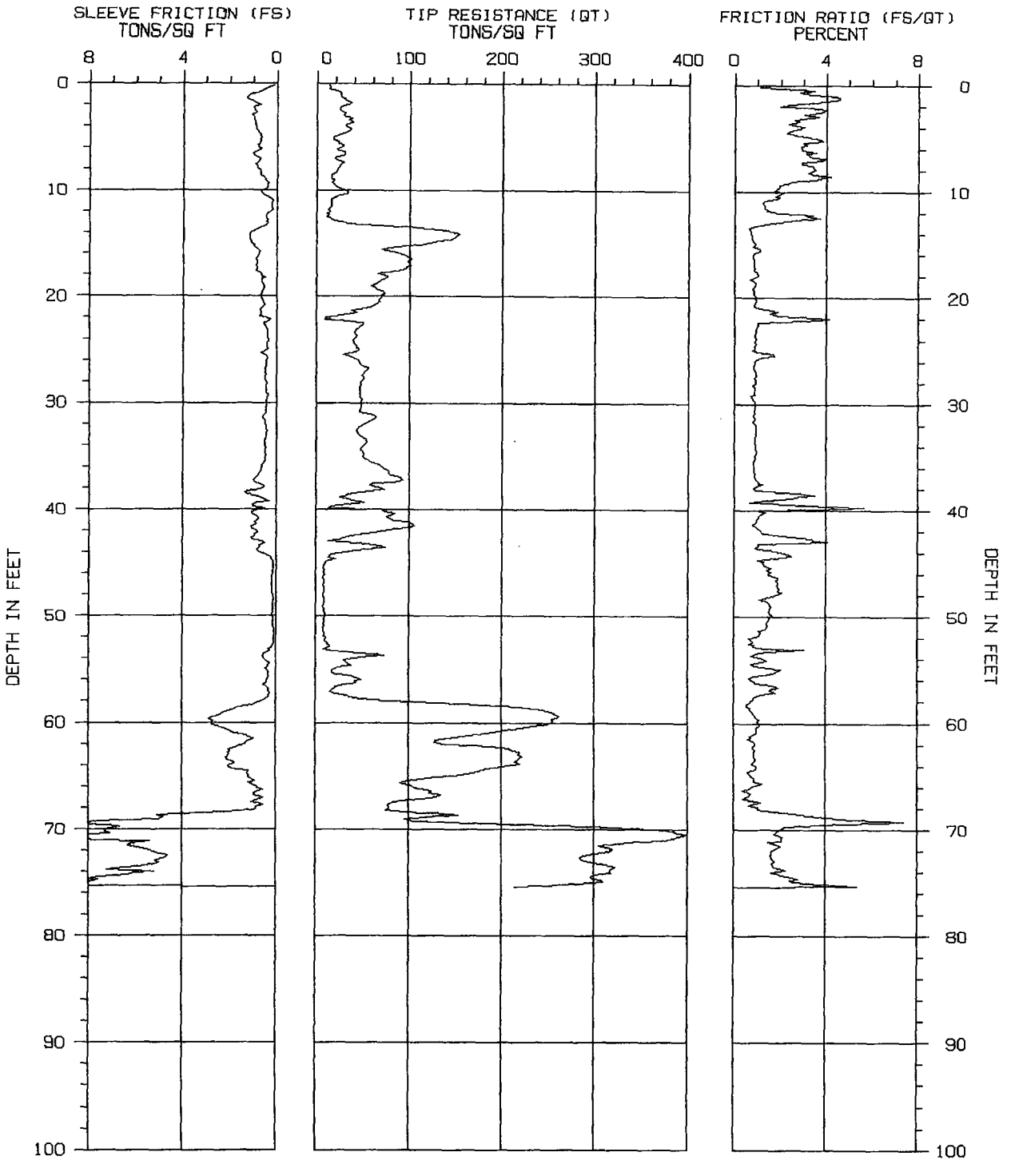
Previous



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST SOUNDING NUMBER: CPT-08

PROJECT NAME : ALAMEDA NAS #2 CONE/RIG : 408/GO-VO/R#4

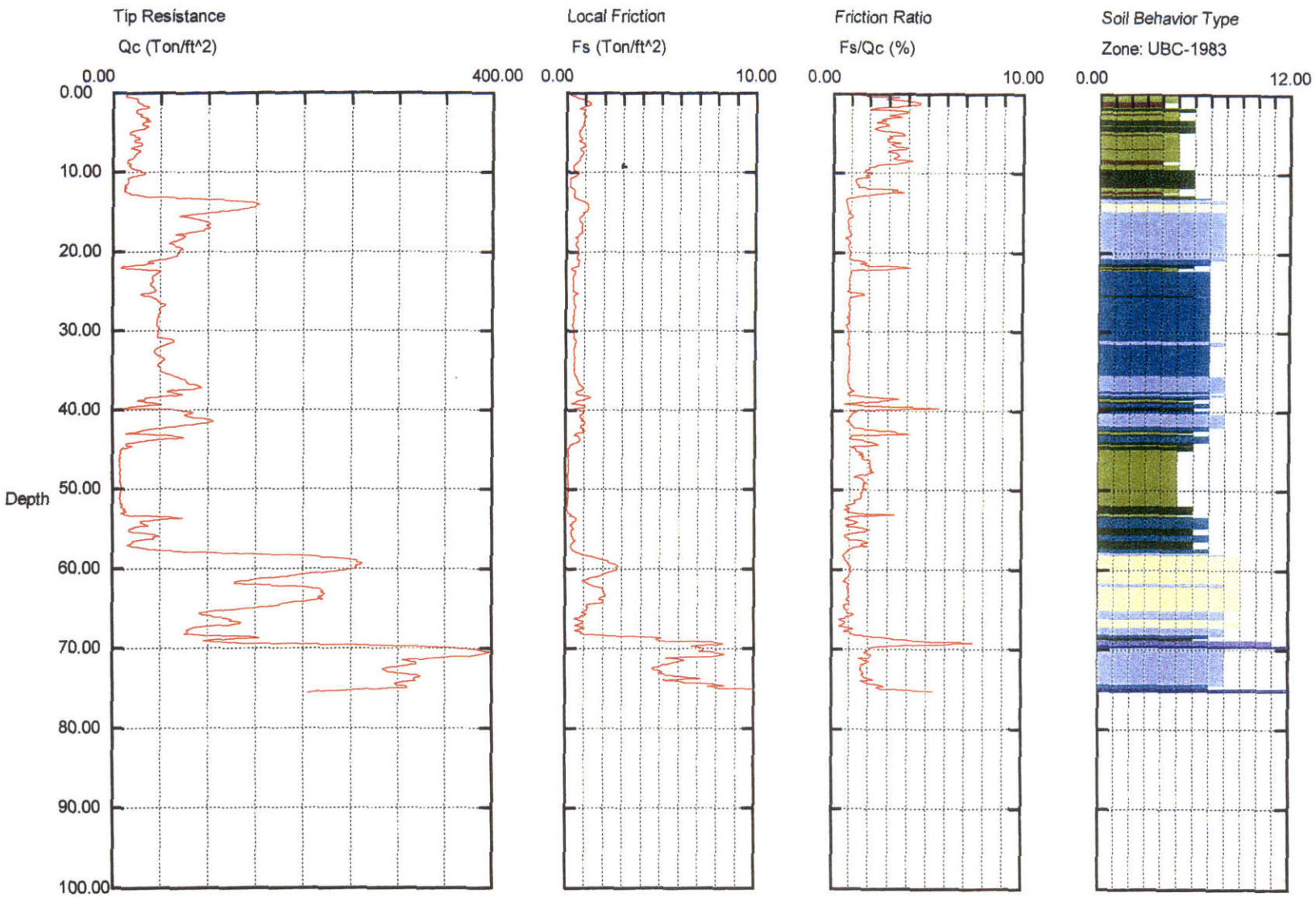
PROJECT NUMBER : 010810 DATE/TIME: 02-20-02 13:48

HFA

Hushmand Associates

Operator: ALAMEDA NAS #2
Sounding: SDF126
Cone Used: 408/GO-VO/R#4

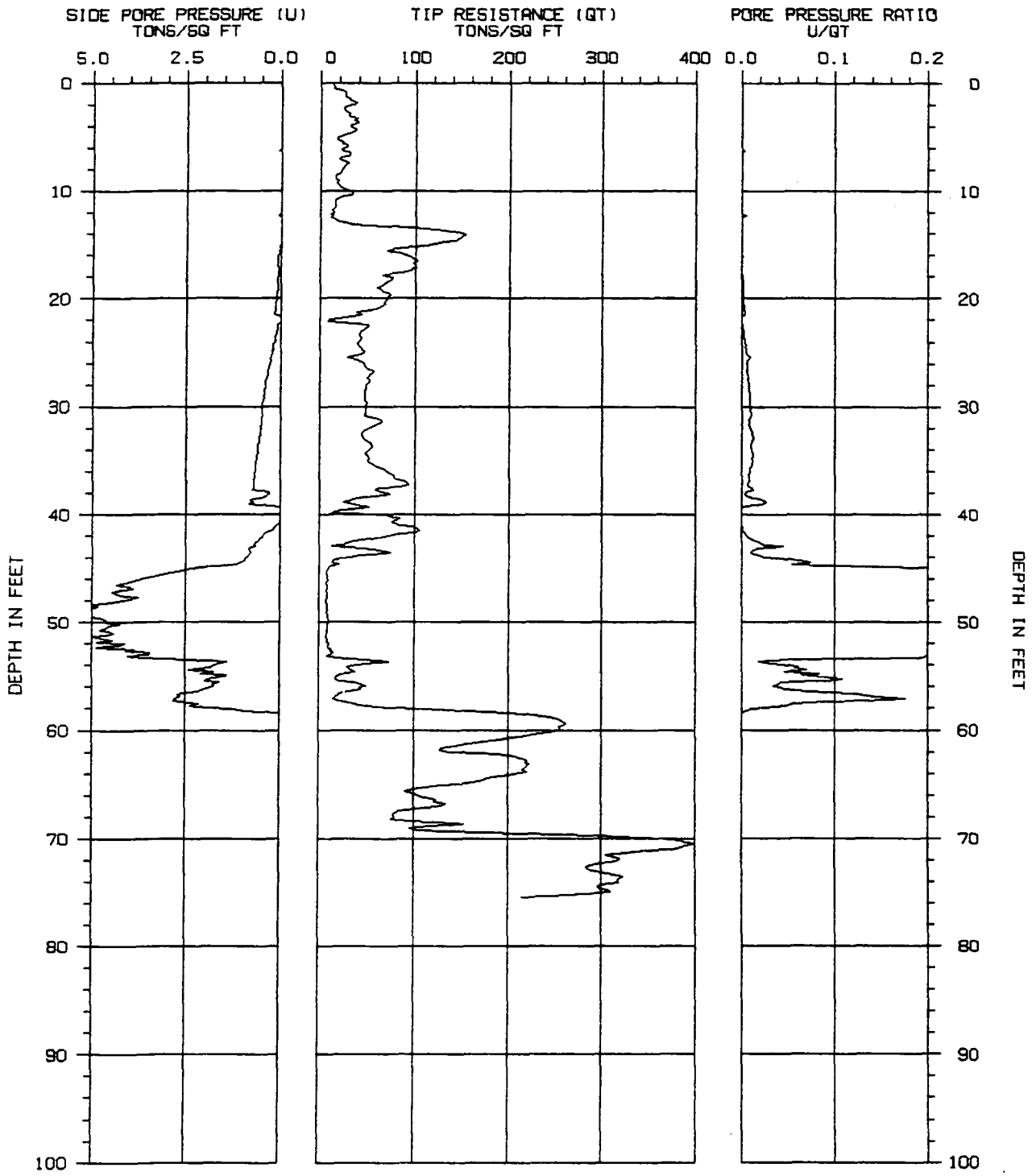
CPT Date/Time: 02-20-02 13:48
Location: CPT-08
Job Number: 010810



Maximum Depth = 75.62 feet

Depth Increment = 0.16 feet

sitive fine grained
rganic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-08

PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 408/GO-VO/R#4

DATE/TIME: 02-20-02 13:48

HFA

CPT INTERPRETATIONS

SOUNDING : CPT-08 PROJECT No.: 010810
PROJECT : ALAMEDA NAS #2 CONE/RIG : 408/GO-VO/R#4
DATE/TIME: 02-20-02 13:48

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	13.64	3.49	CLAY to SILTY CLAY	9	15		.9	
.300	.98	25.92	4.09	CLAY to SILTY CLAY	17	28		1.7	
.450	1.48	30.10	4.31	CLAY to SILTY CLAY	20	32		1.8	
.600	1.97	35.31	1.99	SANDY SILT to CLAYEY SILT	14	23		2.3	
.750	2.46	25.09	3.89	CLAY to SILTY CLAY	17	27		1.7	
.900	2.95	29.17	3.65	CLAYEY SILT to SILTY CLAY	15	23		1.9	
1.050	3.44	34.67	2.83	CLAYEY SILT to SILTY CLAY	17	28		2.3	
1.200	3.94	31.04	3.01	CLAYEY SILT to SILTY CLAY	16	25		2.1	
1.350	4.43	35.14	2.26	SANDY SILT to CLAYEY SILT	14	22		2.3	
1.500	4.92	20.27	3.52	CLAY to SILTY CLAY	14	22		1.3	
1.650	5.41	23.48	3.00	CLAYEY SILT to SILTY CLAY	12	19		1.5	
1.800	5.91	27.64	2.92	CLAYEY SILT to SILTY CLAY	14	22		1.8	
1.950	6.40	29.87	3.10	CLAYEY SILT to SILTY CLAY	15	24		2.0	
2.100	6.89	21.65	3.97	CLAY to SILTY CLAY	14	23		1.4	
2.250	7.38	28.96	2.93	CLAYEY SILT to SILTY CLAY	14	22		1.9	
2.400	7.87	23.41	3.52	CLAYEY SILT to SILTY CLAY	12	17		1.5	
2.550	8.37	20.27	3.42	CLAY to SILTY CLAY	14	19		1.3	
2.700	8.86	15.93	3.47	CLAY to SILTY CLAY	11	15		1.0	
2.850	9.35	18.21	1.97	CLAYEY SILT to SILTY CLAY	9	12		1.4	
3.000	9.84	28.66	1.74	SANDY SILT to CLAYEY SILT	11	15		2.2	
3.150	10.33	32.46	1.80	SANDY SILT to CLAYEY SILT	13	17		2.5	
3.300	10.83	15.98	1.30	SANDY SILT to CLAYEY SILT	6	8		1.2	
3.450	11.32	16.29	1.31	SANDY SILT to CLAYEY SILT	7	8		1.3	
3.600	11.81	12.64	1.41	CLAYEY SILT to SILTY CLAY	6	8		1.0	
3.750	12.30	13.68	3.17	CLAY to SILTY CLAY	9	11		.9	
3.900	12.80	19.10	1.99	CLAYEY SILT to SILTY CLAY	10	11		1.5	
4.050	13.29	67.26	.74	SAND to SILTY SAND	17	19	59		39.5
4.200	13.78	139.73	.71	SAND	28	31	80		43.0
4.350	14.27	149.54	.78	SAND	30	33	81		43.5
4.500	14.76	131.21	.84	SAND to SILTY SAND	33	36	77		42.5
4.650	15.26	96.64	1.01	SAND to SILTY SAND	24	26	68		40.5
4.800	15.75	81.50	.88	SAND to SILTY SAND	20	22	63		39.5
4.950	16.24	96.60	.81	SAND to SILTY SAND	24	26	68		40.5
5.100	16.73	98.19	.86	SAND to SILTY SAND	25	26	68		40.5
5.250	17.22	96.43	.88	SAND to SILTY SAND	24	25	67		40.0
5.400	17.72	76.25	1.01	SAND to SILTY SAND	19	20	60		39.0
5.550	18.21	75.33	.66	SAND to SILTY SAND	19	19	60		39.0
5.700	18.70	65.71	.92	SAND to SILTY SAND	16	17	56		38.5
5.850	19.19	63.67	.83	SAND to SILTY SAND	16	16	54		38.5
6.000	19.69	73.32	.87	SAND to SILTY SAND	18	18	58		38.5
6.150	20.18	69.15	.97	SAND to SILTY SAND	17	17	56		38.5

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-08

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	65.35	.87	SAND to SILTY SAND	16	16	55		38.0
6.450	21.16	45.44	1.60	SILTY SAND to SANDY SILT	15	15	44		37.0
6.600	21.65	34.08	1.97	SANDY SILT to CLAYEY SILT	14	13		2.2	
6.750	22.15	9.41	3.05	CLAY to SILTY CLAY	6	6		.5	
6.900	22.64	49.95	1.04	SILTY SAND to SANDY SILT	17	16	46		37.0
7.050	23.13	42.19	.96	SILTY SAND to SANDY SILT	14	14	41		36.5
7.200	23.62	43.15	.91	SILTY SAND to SANDY SILT	14	14	42		36.5
7.350	24.11	39.43	.92	SILTY SAND to SANDY SILT	13	13	39		36.0
7.500	24.61	43.87	.92	SILTY SAND to SANDY SILT	15	14	42		36.5
7.650	25.10	44.38	1.05	SILTY SAND to SANDY SILT	15	14	42		36.5
7.800	25.59	33.16	1.28	SILTY SAND to SANDY SILT	11	10	33		34.0
7.950	26.08	46.25	.92	SILTY SAND to SANDY SILT	15	14	43		36.5
8.100	26.57	51.37	.84	SILTY SAND to SANDY SILT	17	16	46		37.0
8.250	27.07	50.88	.93	SILTY SAND to SANDY SILT	17	16	45		36.5
8.400	27.56	51.05	.92	SILTY SAND to SANDY SILT	17	16	45		36.5
8.550	28.05	48.31	.95	SILTY SAND to SANDY SILT	16	15	43		36.5
8.700	28.54	47.23	.92	SILTY SAND to SANDY SILT	16	14	43		36.0
8.850	29.04	47.16	.92	SILTY SAND to SANDY SILT	16	14	42		36.0
9.000	29.53	48.31	.82	SILTY SAND to SANDY SILT	16	14	43		36.0
9.150	30.02	48.08	.88	SILTY SAND to SANDY SILT	16	14	43		36.0
9.300	30.51	47.74	.92	SILTY SAND to SANDY SILT	16	14	42		36.0
9.450	31.00	52.98	.87	SILTY SAND to SANDY SILT	18	16	45		36.5
9.600	31.50	63.50	.89	SAND to SILTY SAND	16	14	50		37.0
9.750	31.99	51.94	.93	SILTY SAND to SANDY SILT	17	15	44		36.5
9.900	32.48	43.93	.96	SILTY SAND to SANDY SILT	15	13	39		35.5
10.050	32.97	45.49	.95	SILTY SAND to SANDY SILT	15	13	40		36.0
10.200	33.46	53.73	.90	SILTY SAND to SANDY SILT	18	15	45		36.5
10.350	33.96	52.35	.95	SILTY SAND to SANDY SILT	17	15	44		36.0
10.500	34.45	48.03	.98	SILTY SAND to SANDY SILT	16	14	41		36.0
10.650	34.94	50.56	.89	SILTY SAND to SANDY SILT	17	14	43		36.0
10.800	35.43	56.47	.87	SILTY SAND to SANDY SILT	19	16	46		36.5
10.950	35.93	69.70	.87	SAND to SILTY SAND	17	15	52		37.5
11.100	36.42	77.82	.88	SAND to SILTY SAND	19	16	55		38.0
11.250	36.91	87.83	.92	SAND to SILTY SAND	22	18	58		38.0
11.400	37.40	84.94	1.07	SAND to SILTY SAND	21	18	57		38.0
11.550	37.89	64.37	.86	SAND to SILTY SAND	16	13	49		36.5
11.700	38.39	47.97	2.74	SANDY SILT to CLAYEY SILT	19	16		3.1	
11.850	38.88	25.81	2.53	CLAYEY SILT to SILTY CLAY	13	11		1.6	
12.000	39.37	51.28	1.60	SILTY SAND to SANDY SILT	17	14	42		36.0
12.150	39.86	13.34	3.66	CLAY to SILTY CLAY	9	7		.7	
12.300	40.35	84.70	1.19	SAND to SILTY SAND	21	17	56		38.0
12.450	40.85	78.82	.98	SAND to SILTY SAND	20	16	54		37.5
12.600	41.34	103.70	.82	SAND to SILTY SAND	26	21	62		38.5
12.750	41.83	85.34	1.12	SAND to SILTY SAND	21	17	56		38.0
12.900	42.32	52.94	1.78	SILTY SAND to SANDY SILT	18	14	42		35.5
13.050	42.81	25.28	3.48	CLAYEY SILT to SILTY CLAY	13	10		1.5	
13.200	43.31	62.78	1.10	SILTY SAND to SANDY SILT	21	17	47		36.5
13.350	43.80	42.64	1.85	SANDY SILT to CLAYEY SILT	17	13		2.7	
13.500	44.29	14.62	2.51	CLAYEY SILT to SILTY CLAY	7	6		.8	
13.650	44.78	14.97	1.28	SANDY SILT to CLAYEY SILT	6	5		1.0	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-08

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	8.70	1.42	CLAYEY SILT to SILTY CLAY	4	3		.5	
13.950	45.77	8.97	1.62	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.100	46.26	8.64	1.92	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.250	46.75	8.97	1.93	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.400	47.24	8.86	1.91	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.550	47.74	9.04	2.12	CLAYEY SILT to SILTY CLAY	5	3		.5	
14.700	48.23	9.21	1.37	CLAYEY SILT to SILTY CLAY	5	3		.5	
14.850	48.72	8.98	1.53	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.000	49.21	9.43	1.56	CLAYEY SILT to SILTY CLAY	5	4		.5	
15.150	49.70	9.93	1.56	CLAYEY SILT to SILTY CLAY	5	4		.6	
15.300	50.20	9.50	1.55	CLAYEY SILT to SILTY CLAY	5	4		.5	
15.450	50.69	8.56	1.44	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.600	51.18	7.96	1.35	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.750	51.67	8.87	1.13	CLAYEY SILT to SILTY CLAY	4	3		.6	
15.900	52.17	10.54	.79	CLAYEY SILT to SILTY CLAY	5	4		.8	
16.050	52.66	12.19	.90	SANDY SILT to CLAYEY SILT	5	4		.9	
16.200	53.15	9.83	3.07	CLAY to SILTY CLAY	7	5		.5	
16.350	53.64	73.70	.75	SAND to SILTY SAND	18	13	49		36.5
16.500	54.13	29.96	1.44	SANDY SILT to CLAYEY SILT	12	9		2.1	
16.650	54.63	37.76	.89	SILTY SAND to SANDY SILT	13	9	30		31.0
16.800	55.12	17.89	1.88	CLAYEY SILT to SILTY CLAY	9	6		1.2	
16.950	55.61	37.80	.87	SILTY SAND to SANDY SILT	13	9	30		31.0
17.100	56.10	42.86	.90	SILTY SAND to SANDY SILT	14	10	33		32.0
17.250	56.59	21.39	1.96	SANDY SILT to CLAYEY SILT	9	6		1.5	
17.400	57.09	15.78	1.83	CLAYEY SILT to SILTY CLAY	8	6		1.0	
17.550	57.58	37.46	.88	SILTY SAND to SANDY SILT	12	9	29		31.0
17.700	58.07	108.33	.70	SAND to SILTY SAND	27	19	59		38.0
17.850	58.56	217.12	.73	SAND	43	31	79		40.5
18.000	59.06	256.11	.87	SAND	51	36	84		42.0
18.150	59.55	259.59	1.06	SAND	52	36	84		42.0
18.300	60.04	253.47	1.07	SAND	51	35	83		41.5
18.450	60.53	219.71	1.01	SAND	44	31	79		40.5
18.600	61.02	183.60	.91	SAND	37	26	74		39.5
18.750	61.52	142.87	.64	SAND	29	20	67		38.5
18.900	62.01	138.01	.94	SAND to SILTY SAND	35	24	66		38.5
19.050	62.50	209.67	.95	SAND	42	29	77		40.0
19.200	62.99	217.65	.92	SAND	44	30	78		40.0
19.350	63.48	217.36	.96	SAND	43	30	78		40.0
19.500	63.98	212.13	.93	SAND	42	29	78		40.0
19.650	64.47	175.61	.65	SAND	35	24	72		39.0
19.800	64.96	148.54	.78	SAND	30	20	67		38.5
19.950	65.45	99.60	.90	SAND to SILTY SAND	25	17	56		37.0
20.100	65.94	103.31	.82	SAND to SILTY SAND	26	17	57		37.0
20.250	66.44	124.77	.60	SAND	25	17	62		38.0
20.400	66.93	133.16	.58	SAND	27	18	64		38.0
20.550	67.42	84.66	1.21	SAND to SILTY SAND	21	14	51		36.0
20.700	67.91	79.07	1.09	SAND to SILTY SAND	20	13	49		36.0
20.850	68.41	95.56	2.22	SILTY SAND to SANDY SILT	32	21	54		36.5
21.000	68.90	118.25	4.06	*VERY STIFF FINE GRAINED	100	78			
21.150	69.39	135.61	6.16	*VERY STIFF FINE GRAINED	100	90			

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-08

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
21.300	69.88	341.40	2.06	SAND to SILTY SAND	85	56	90		42.5
21.450	70.37	390.61	1.81	SAND to SILTY SAND	98	64	94		43.0
21.600	70.87	386.32	2.11	SAND to SILTY SAND	97	63	94		43.0
21.750	71.36	327.70	1.88	SAND to SILTY SAND	82	54	89		42.0
21.900	71.85	319.20	1.78	SAND to SILTY SAND	80	52	88		42.0
22.050	72.34	300.17	1.65	SAND to SILTY SAND	75	49	86		42.0
22.200	72.83	286.59	1.75	SAND to SILTY SAND	72	46	85		41.5
22.350	73.33	311.94	1.71	SAND to SILTY SAND	78	50	87		42.0
22.500	73.82	317.16	2.26	SILTY SAND to SANDY SILT	100	68	87		42.0
22.650	74.31	301.10	2.10	SAND to SILTY SAND	75	48	86		41.5
22.800	74.80	307.75	2.46	SILTY SAND to SANDY SILT	100	66	86		42.0
22.950	75.30	245.06	5.37	*VERY STIFF FINE GRAINED	100	100			

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

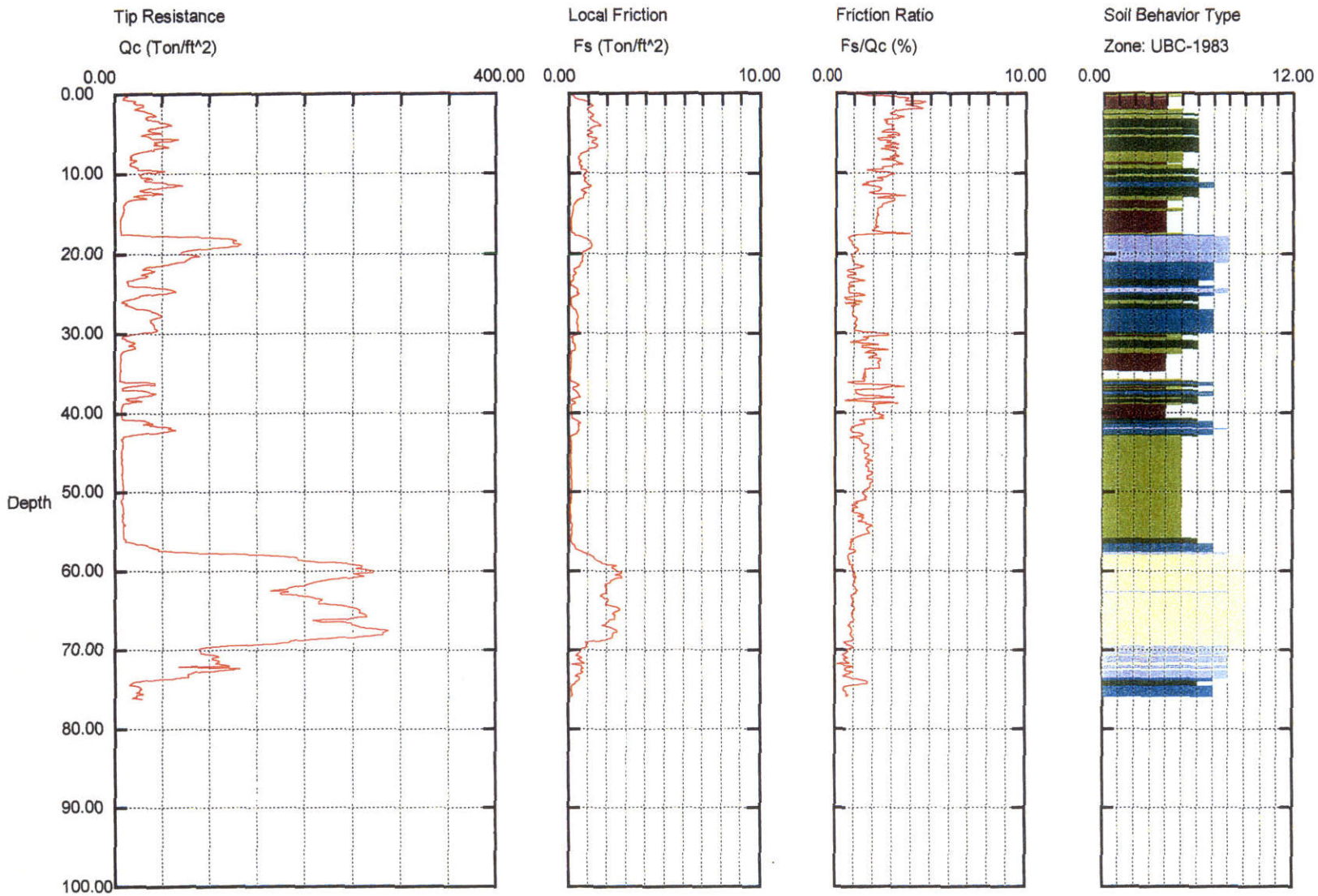
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on: Robertson and Campanella, 1989.

Hushman Associates

Operator: ALAMEDA NAS #2
Sounding: SDF127
Cone Used: 408/GO-VO/R#4

CPT Date/Time: 02-20-02 15:10
Location: CPT-09
Job Number: 010810



Maximum Depth = 76.28 feet

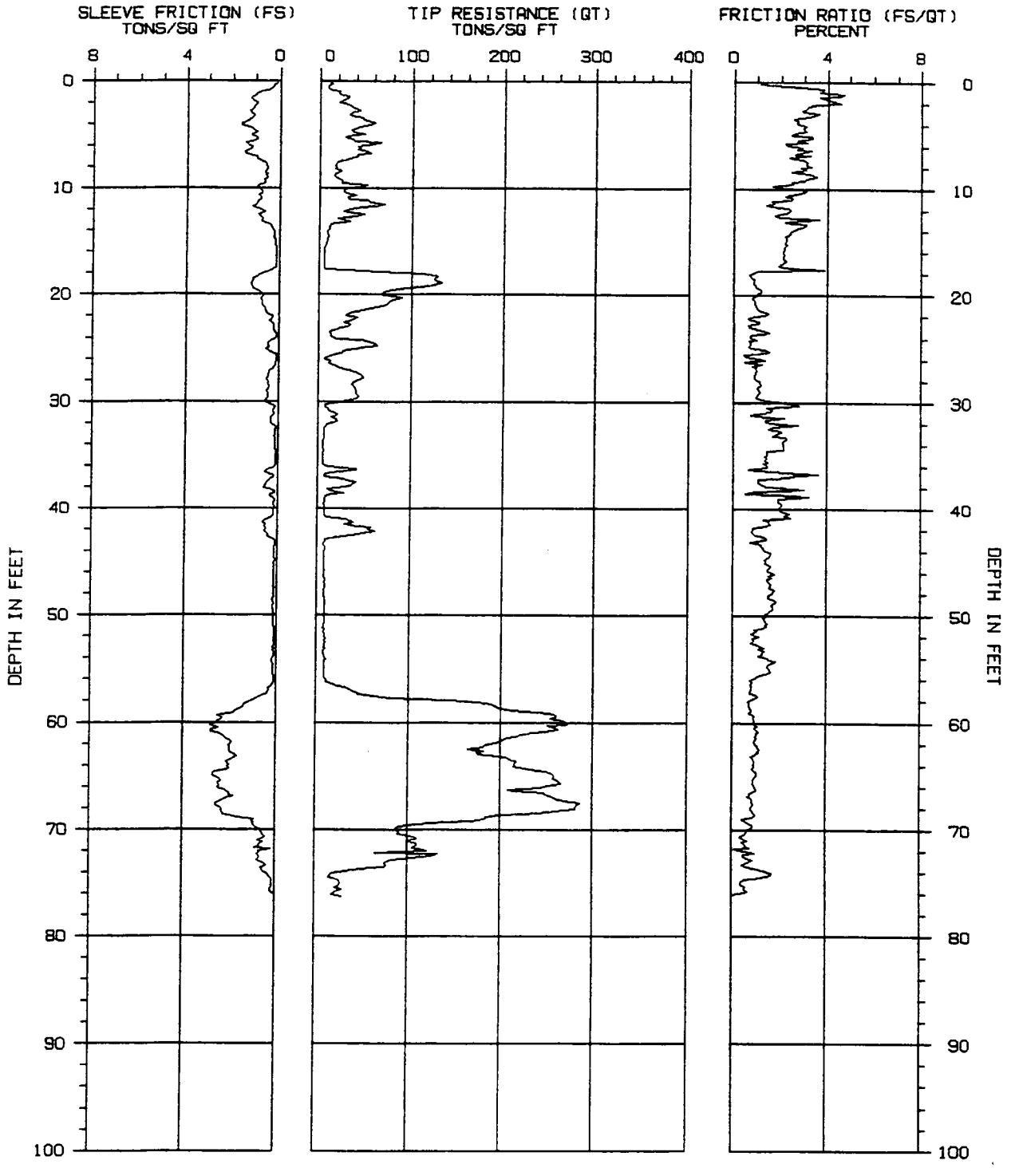
Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
clay

4 silty clay to clay
5 clayey silt to silty clay
6 *sandy silt to clayey silt*

7 *silty sand to sandy silt*
8 sand to silty sand
9 sand

10 *gravelly sand to sand*
11 very stiff fine grained (*)
12 sand to clayey sand (*)



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-09

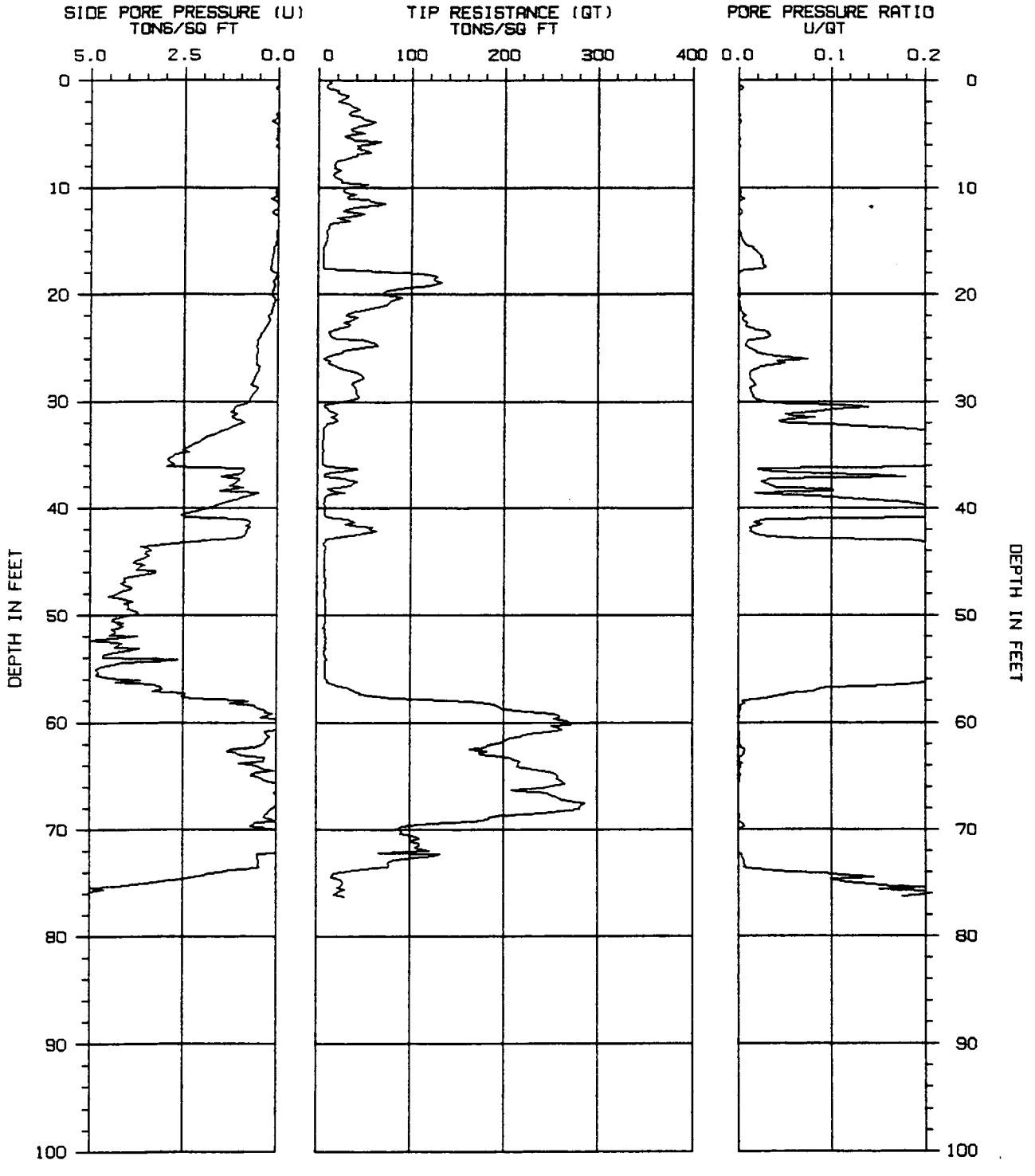
PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 408/GO-VO/R#4

DATE/TIME: 02-20-02 15:10

HFA



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-09

PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 408/GO-VO/R#4

DATE/TIME: 02-20-02 15:10

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CPT INTERPRETATIONS

SOUNDING : CPT-09
PROJECT : ALAMEDA NAS #2
DATE/TIME: 02-20-02 15:10

PROJECT No.: 010810
CONE/RIG : 408/GO-VO/R#4

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	9.58	2.87	CLAY to SILTY CLAY	6	10		.6	
.300	.98	21.99	3.64	CLAY to SILTY CLAY	15	23		1.5	
.450	1.48	31.02	3.67	CLAYEY SILT to SILTY CLAY	16	25		2.1	
.600	1.97	21.75	4.57	CLAY	22	35		1.4	
.750	2.46	36.05	3.09	CLAYEY SILT to SILTY CLAY	18	29		2.4	
.900	2.95	34.71	3.59	CLAYEY SILT to SILTY CLAY	17	28		2.3	
1.050	3.44	46.91	2.56	SANDY SILT to CLAYEY SILT	19	30		3.1	
1.200	3.94	60.40	2.74	SANDY SILT to CLAYEY SILT	24	39		4.0	
1.350	4.43	38.39	2.98	CLAYEY SILT to SILTY CLAY	19	31		2.5	
1.500	4.92	49.48	2.44	SANDY SILT to CLAYEY SILT	20	32		3.3	
1.650	5.41	35.46	2.72	SANDY SILT to CLAYEY SILT	14	23		2.3	
1.800	5.91	59.53	2.29	SANDY SILT to CLAYEY SILT	24	38		3.9	
1.950	6.40	41.02	3.29	CLAYEY SILT to SILTY CLAY	21	33		2.7	
2.100	6.89	41.30	3.26	CLAYEY SILT to SILTY CLAY	21	33		2.7	
2.250	7.38	26.98	3.13	CLAYEY SILT to SILTY CLAY	13	21		1.8	
2.400	7.87	16.87	3.29	CLAY to SILTY CLAY	11	17		1.1	
2.550	8.37	23.24	2.44	CLAYEY SILT to SILTY CLAY	12	17		1.5	
2.700	8.86	16.08	3.53	CLAY to SILTY CLAY	11	15		1.0	
2.850	9.35	25.03	2.46	CLAYEY SILT to SILTY CLAY	13	17		1.6	
3.000	9.84	43.45	2.20	SANDY SILT to CLAYEY SILT	17	23		2.9	
3.150	10.33	27.19	2.79	CLAYEY SILT to SILTY CLAY	14	18		1.8	
3.300	10.83	31.72	2.50	SANDY SILT to CLAYEY SILT	13	16		2.1	
3.450	11.32	55.64	1.70	SILTY SAND to SANDY SILT	19	23	56		39.0
3.600	11.81	45.44	2.30	SANDY SILT to CLAYEY SILT	18	22		3.0	
3.750	12.30	31.04	2.21	SANDY SILT to CLAYEY SILT	12	15		2.0	
3.900	12.80	19.89	3.66	CLAY to SILTY CLAY	13	15		1.3	
4.050	13.29	17.74	3.07	CLAYEY SILT to SILTY CLAY	9	10		1.1	
4.200	13.78	11.24	2.64	CLAY to SILTY CLAY	7	8		.8	
4.350	14.27	9.67	2.41	CLAY to SILTY CLAY	6	7		.7	
4.500	14.76	9.54	2.22	CLAYEY SILT to SILTY CLAY	5	5		.7	
4.650	15.26	7.84	2.26	CLAY to SILTY CLAY	5	6		.6	
4.800	15.75	6.16	2.17	CLAY to SILTY CLAY	4	4		.4	
4.950	16.24	5.71	2.14	CLAY to SILTY CLAY	4	4		.4	
5.100	16.73	5.99	2.25	CLAY to SILTY CLAY	4	4		.4	
5.250	17.22	6.33	1.91	CLAY to SILTY CLAY	4	4		.4	
5.400	17.72	30.53	1.07	SILTY SAND to SANDY SILT	10	11	34		35.5
5.550	18.21	123.58	.73	SAND to SILTY SAND	31	32	74		42.0
5.700	18.70	125.75	.87	SAND to SILTY SAND	31	32	74		42.0
5.850	19.19	119.37	.96	SAND to SILTY SAND	30	30	72		41.5
6.000	19.69	74.44	1.15	SILTY SAND to SANDY SILT	25	25	59		38.5
6.150	20.18	81.33	.84	SAND to SILTY SAND	20	20	61		39.0

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-09

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	78.14	.90	SAND to SILTY SAND	20	19	60		39.0
6.450	21.16	64.31	.98	SILTY SAND to SANDY SILT	21	21	54		38.0
6.600	21.65	36.39	1.49	SILTY SAND to SANDY SILT	12	12	37		36.0
6.750	22.15	42.11	.64	SILTY SAND to SANDY SILT	14	14	41		36.5
6.900	22.64	28.15	1.07	SILTY SAND to SANDY SILT	9	9	30		33.0
7.050	23.13	24.41	.91	SILTY SAND to SANDY SILT	8	8	25		32.0
7.200	23.62	13.85	.79	SANDY SILT to CLAYEY SILT	6	5		1.2	
7.350	24.11	19.61	.98	SANDY SILT to CLAYEY SILT	8	7		1.5	
7.500	24.61	61.99	.73	SAND to SILTY SAND	15	15	52		38.0
7.650	25.10	40.54	1.28	SILTY SAND to SANDY SILT	14	13	39		36.0
7.800	25.59	20.73	.47	SILTY SAND to SANDY SILT	7	6	20		31.0
7.950	26.08	7.50	1.37	CLAYEY SILT to SILTY CLAY	4	3		.6	
8.100	26.57	16.53	.83	SANDY SILT to CLAYEY SILT	7	6		1.5	
8.250	27.07	33.97	.99	SILTY SAND to SANDY SILT	11	10	34		34.0
8.400	27.56	46.78	.92	SILTY SAND to SANDY SILT	16	14	43		36.5
8.550	28.05	43.36	1.11	SILTY SAND to SANDY SILT	14	13	40		36.0
8.700	28.54	38.56	1.07	SILTY SAND to SANDY SILT	13	12	37		35.0
8.850	29.04	41.89	1.11	SILTY SAND to SANDY SILT	14	13	39		36.0
9.000	29.53	44.83	.99	SILTY SAND to SANDY SILT	15	13	41		36.0
9.150	30.02	25.43	2.15	SANDY SILT to CLAYEY SILT	10	9		1.6	
9.300	30.51	8.07	1.45	CLAYEY SILT to SILTY CLAY	4	4		.5	
9.450	31.00	15.80	1.26	SANDY SILT to CLAYEY SILT	6	6		1.1	
9.600	31.50	14.75	2.19	CLAYEY SILT to SILTY CLAY	7	6		1.0	
9.750	31.99	17.12	1.88	CLAYEY SILT to SILTY CLAY	9	7		1.2	
9.900	32.48	7.28	1.52	CLAYEY SILT to SILTY CLAY	4	3		.4	
10.050	32.97	6.84	1.82	CLAY to SILTY CLAY	5	4		.4	
10.200	33.46	6.70	2.26	CLAY to SILTY CLAY	4	4		.4	
10.350	33.96	6.12	2.15	CLAY to SILTY CLAY	4	3		.3	
10.500	34.45	6.31	2.15	CLAY to SILTY CLAY	4	4		.3	
10.650	34.94	6.02	1.45	SENSITIVE FINE GRAINED	3	3		.4	
10.800	35.43	6.12	1.34	SENSITIVE FINE GRAINED	3	3		.4	
10.950	35.93	5.75	1.41	SENSITIVE FINE GRAINED	3	2		.4	
11.100	36.42	42.36	1.09	SILTY SAND to SANDY SILT	14	12	37		34.5
11.250	36.91	7.80	2.68	CLAY to SILTY CLAY	5	4		.5	
11.400	37.40	35.79	1.09	SILTY SAND to SANDY SILT	12	10	32		32.5
11.550	37.89	35.56	1.44	SILTY SAND to SANDY SILT	12	10	32		32.5
11.700	38.39	14.87	.92	SANDY SILT to CLAYEY SILT	6	5		1.3	
11.850	38.88	9.26	3.26	CLAY	9	8		.5	
12.000	39.37	7.67	1.91	CLAY to SILTY CLAY	5	4		.4	
12.150	39.86	7.74	1.97	CLAY to SILTY CLAY	5	4		.4	
12.300	40.35	7.78	2.28	CLAY to SILTY CLAY	5	4		.4	
12.450	40.85	10.66	2.45	CLAY to SILTY CLAY	7	6		.7	
12.600	41.34	40.39	1.53	SILTY SAND to SANDY SILT	13	11	35		33.0
12.750	41.83	59.19	.88	SILTY SAND to SANDY SILT	20	16	45		36.0
12.900	42.32	55.70	.86	SILTY SAND to SANDY SILT	19	15	44		36.0
13.050	42.81	16.03	1.45	SANDY SILT to CLAYEY SILT	6	5		1.1	
13.200	43.31	7.19	1.20	SENSITIVE FINE GRAINED	4	3		.5	
13.350	43.80	8.94	1.29	CLAYEY SILT to SILTY CLAY	4	4		.5	
13.500	44.29	8.69	1.59	CLAYEY SILT to SILTY CLAY	4	3		.5	
13.650	44.78	8.13	1.36	CLAYEY SILT to SILTY CLAY	4	3		.4	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-09

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	8.08	1.59	CLAYEY SILT to SILTY CLAY	4	3		.4	
13.950	45.77	9.10	1.47	CLAYEY SILT to SILTY CLAY	5	4		.5	
14.100	46.26	8.03	1.54	CLAYEY SILT to SILTY CLAY	4	3		.4	
14.250	46.75	8.79	1.47	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.400	47.24	8.95	1.63	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.550	47.74	8.15	1.76	CLAYEY SILT to SILTY CLAY	4	3		.4	
14.700	48.23	8.44	1.54	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.850	48.72	8.82	1.82	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.000	49.21	9.33	1.68	CLAYEY SILT to SILTY CLAY	5	4		.5	
15.150	49.70	8.98	1.54	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.300	50.20	9.51	1.29	CLAYEY SILT to SILTY CLAY	5	4		.5	
15.450	50.69	8.79	1.48	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.600	51.18	7.13	1.20	SENSITIVE FINE GRAINED	4	3		.4	
15.750	51.67	9.77	.80	CLAYEY SILT to SILTY CLAY	5	4		.7	
15.900	52.17	9.96	.86	CLAYEY SILT to SILTY CLAY	5	4		.7	
16.050	52.66	9.88	.93	CLAYEY SILT to SILTY CLAY	5	4		.7	
16.200	53.15	9.89	1.12	CLAYEY SILT to SILTY CLAY	5	4		.7	
16.350	53.64	8.52	1.27	CLAYEY SILT to SILTY CLAY	4	3		.5	
16.500	54.13	11.47	1.53	CLAYEY SILT to SILTY CLAY	6	4		.7	
16.650	54.63	9.43	1.53	CLAYEY SILT to SILTY CLAY	5	3		.5	
16.800	55.12	9.60	1.57	CLAYEY SILT to SILTY CLAY	5	3		.5	
16.950	55.61	9.61	1.18	CLAYEY SILT to SILTY CLAY	5	3		.6	
17.100	56.10	11.88	.77	SANDY SILT to CLAYEY SILT	5	3		.9	
17.250	56.59	23.10	.83	SILTY SAND to SANDY SILT	8	6	15		29.5
17.400	57.09	40.37	.76	SILTY SAND to SANDY SILT	13	10	31		31.5
17.550	57.58	63.34	1.06	SILTY SAND to SANDY SILT	21	15	44		35.0
17.700	58.07	163.69	.68	SAND	33	23	71		39.0
17.850	58.56	192.88	.71	SAND	39	27	76		39.5
18.000	59.06	238.86	.74	SAND	48	34	82		41.0
18.150	59.55	258.76	.88	SAND	52	36	84		42.0
18.300	60.04	271.44	.91	SAND	54	38	85		42.0
18.450	60.53	258.00	.94	SAND	52	36	84		41.5
18.600	61.02	235.56	1.04	SAND	47	33	81		41.0
18.750	61.52	207.48	1.04	SAND	41	29	77		40.0
18.900	62.01	189.93	1.00	SAND	38	26	75		39.5
19.050	62.50	164.27	1.19	SAND to SILTY SAND	41	28	70		39.0
19.200	62.99	175.63	.99	SAND	35	24	72		39.0
19.350	63.48	210.43	.89	SAND	42	29	77		40.0
19.500	63.98	215.17	.91	SAND	43	29	78		40.0
19.650	64.47	241.00	.95	SAND	48	33	81		40.5
19.800	64.96	257.36	1.04	SAND	51	35	83		41.0
19.950	65.45	262.35	.88	SAND	52	35	83		41.5
20.100	65.94	250.65	.96	SAND	50	34	82		41.0
20.250	66.44	216.65	.95	SAND	43	29	78		39.5
20.400	66.93	253.00	.70	SAND	51	34	82		41.0
20.550	67.42	277.71	.86	SAND	56	37	85		41.5
20.700	67.91	281.39	.83	SAND	56	37	85		41.5
20.850	68.41	251.73	.90	SAND	50	33	82		40.5
21.000	68.90	184.83	.89	SAND	37	24	73		39.0
21.150	69.39	139.58	.63	SAND	28	18	65		38.0

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-09

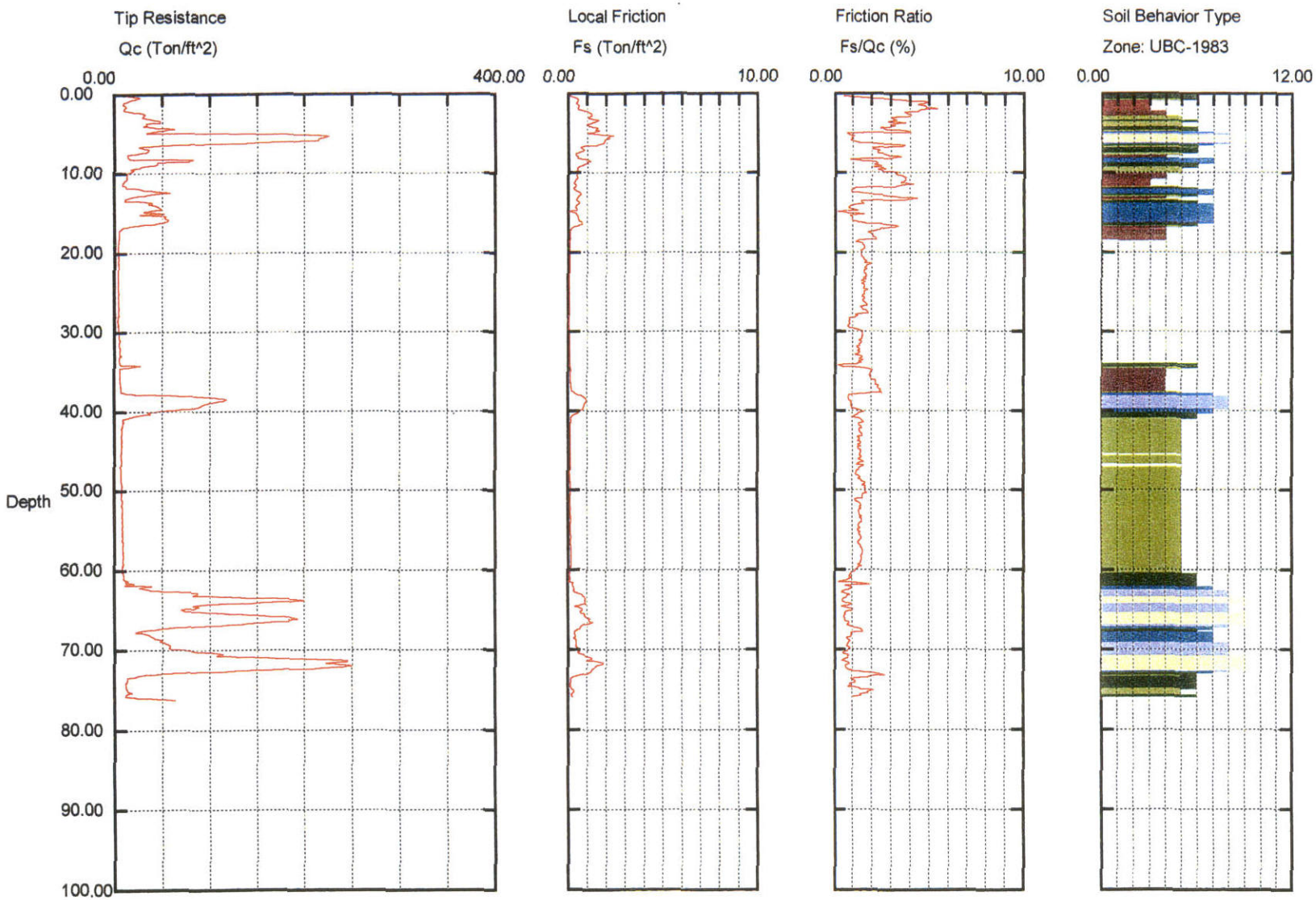
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
21.300	69.88	88.02	.77	SAND to SILTY SAND	22	14	51		36.0
21.450	70.37	90.48	.58	SAND to SILTY SAND	23	15	52		36.5
21.600	70.87	109.62	.52	SAND	22	14	57		37.0
21.750	71.36	109.77	.56	SAND	22	14	57		37.0
21.900	71.85	111.56	.16	SAND	22	15	58		37.0
22.050	72.34	132.14	.57	SAND	26	17	63		38.0
22.200	72.83	84.79	.90	SAND to SILTY SAND	21	14	50		36.0
22.350	73.33	77.80	.45	SAND to SILTY SAND	19	13	47		35.0
22.500	73.82	41.72	1.28	SILTY SAND to SANDY SILT	14	9	29		30.5
22.650	74.31	17.25	1.64	SANDY SILT to CLAYEY SILT	7	4		1.0	
22.800	74.80	26.50	.47	SILTY SAND to SANDY SILT	9	6	16		29.5
22.950	75.30	25.94	.57	SILTY SAND to SANDY SILT	9	6	15		29.0
23.100	75.79	23.70	.67	SILTY SAND to SANDY SILT	8	5	13		29.0
23.250	76.28	29.99	*****		0	0			.0

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Hushman Associates

Operator: ALAMEDA NAS #2
Sounding: SDF129
Cone Used: 408/GO-VO/R#4

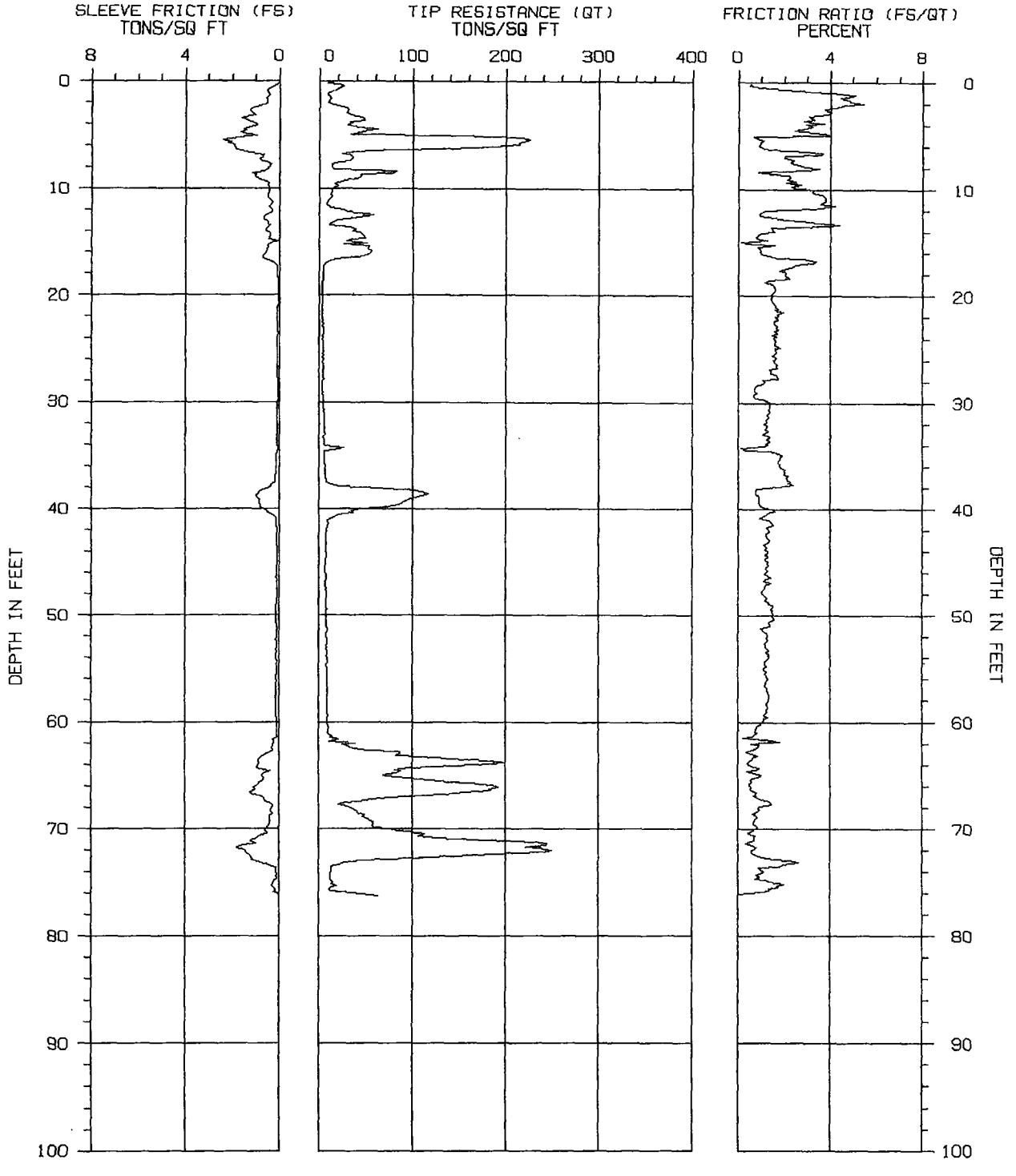
CPT Date/Time: 02-21-02 10:14
Location: CPT-10
Job Number: 010810



Maximum Depth = 76.28 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-10

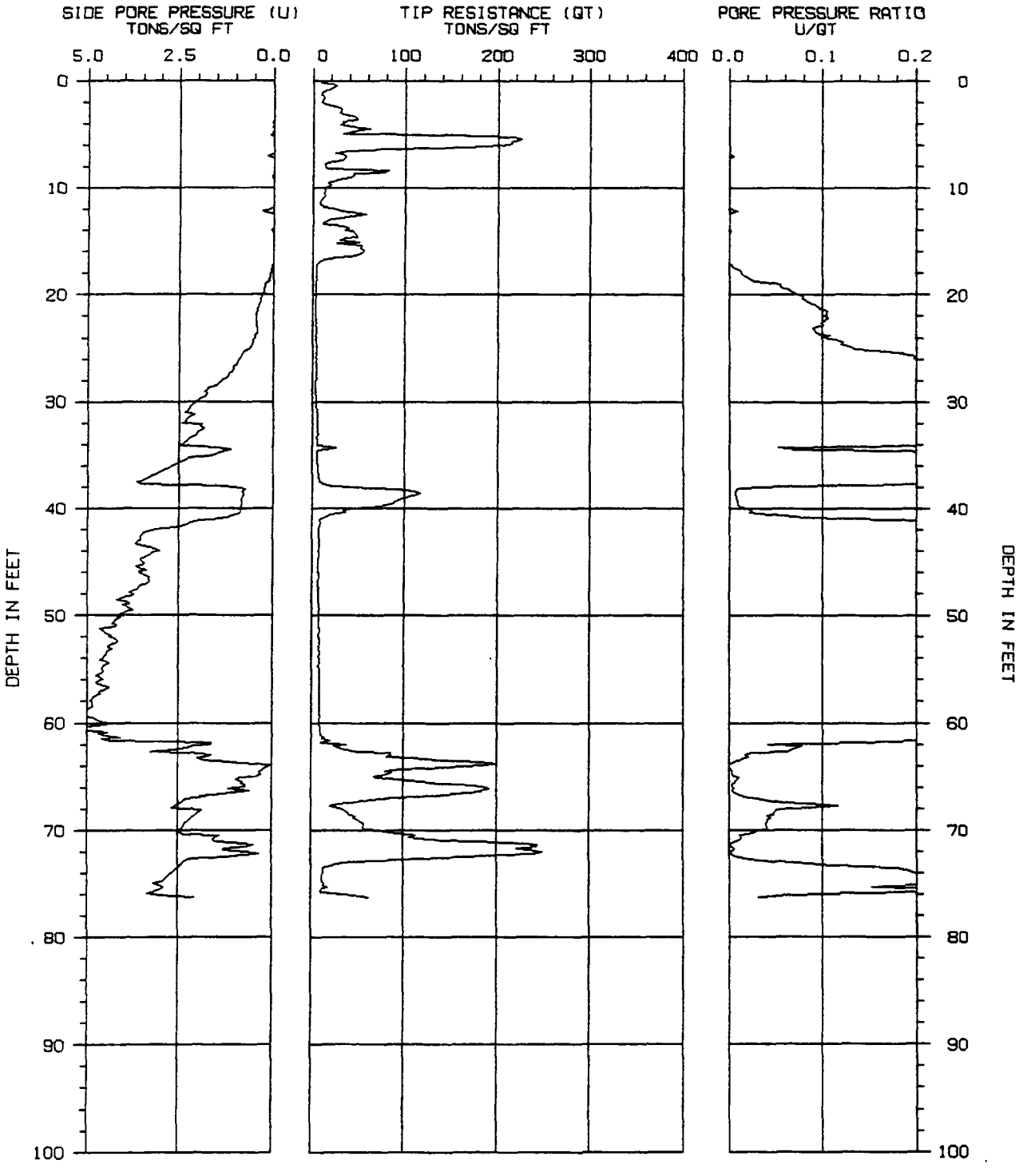
PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 408/GO-VO/R#4

DATE/TIME: 02-21-02 10:14

HFA



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-10

PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 408/GO-VO/R#4

DATE/TIME: 02-21-02 10:14

HFA

CPT INTERPRETATIONS

SOUNDING : CPT-10
PROJECT : ALAMEDA NAS #2
DATE/TIME: 02-21-02 10:14

PROJECT No.: 010810
CONE/RIG : 408/GO-VO/R#4

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	26.36	.93	SILTY SAND to SANDY SILT	9	14	38		
.300	.98	13.00	3.99	CLAY	13	21		.9	
.450	1.48	11.13	4.43	CLAY	11	18		.7	
.600	1.97	9.52	5.44	CLAY	10	15		.6	
.750	2.46	29.57	3.74	CLAYEY SILT to SILTY CLAY	15	24		2.0	
.900	2.95	29.13	3.88	CLAY to SILTY CLAY	19	31		1.9	
1.050	3.44	47.86	3.30	CLAYEY SILT to SILTY CLAY	24	38		3.2	
1.200	3.94	34.27	2.96	CLAYEY SILT to SILTY CLAY	17	27		2.3	
1.350	4.43	62.37	2.45	SANDY SILT to CLAYEY SILT	25	40		4.1	
1.500	4.92	33.82	4.02	CLAY to SILTY CLAY	23	36		2.0	
1.650	5.41	225.15	1.06	SAND	45	72	100		49.0
1.800	5.91	214.02	.88	SAND	43	68	98		48.0
1.950	6.40	78.65	2.28	SILTY SAND to SANDY SILT	26	42	69		44.0
2.100	6.89	31.04	2.08	SANDY SILT to CLAYEY SILT	12	20		2.0	
2.250	7.38	33.14	2.29	SANDY SILT to CLAYEY SILT	13	20		2.2	
2.400	7.87	13.45	2.90	CLAY to SILTY CLAY	9	13		.9	
2.550	8.37	82.07	.85	SAND to SILTY SAND	21	30	71		43.0
2.700	8.86	44.42	2.29	SANDY SILT to CLAYEY SILT	18	25		2.9	
2.850	9.35	25.71	2.11	SANDY SILT to CLAYEY SILT	10	14		2.0	
3.000	9.84	17.59	2.55	CLAYEY SILT to SILTY CLAY	9	12		1.1	
3.150	10.33	13.68	3.35	CLAY to SILTY CLAY	9	12		.9	
3.300	10.83	12.58	3.79	CLAY	13	16		.8	
3.450	11.32	8.50	3.55	CLAY	9	11		.5	
3.600	11.81	12.39	3.25	CLAY to SILTY CLAY	8	10		.8	
3.750	12.30	43.06	.94	SILTY SAND to SANDY SILT	14	17	48		38.0
3.900	12.80	31.89	2.12	SANDY SILT to CLAYEY SILT	13	15		2.1	
4.050	13.29	11.11	4.40	CLAY	11	13		.7	
4.200	13.78	39.45	1.50	SILTY SAND to SANDY SILT	13	15	44		37.5
4.350	14.27	46.04	.84	SILTY SAND to SANDY SILT	15	17	48		38.0
4.500	14.76	36.31	1.26	SILTY SAND to SANDY SILT	12	13	40		36.5
4.650	15.26	26.62	1.60	SANDY SILT to CLAYEY SILT	11	11		2.1	
4.800	15.75	53.62	.97	SILTY SAND to SANDY SILT	18	19	51		38.0
4.950	16.24	51.14	1.29	SILTY SAND to SANDY SILT	17	18	49		38.0
5.100	16.73	13.70	3.39	CLAY to SILTY CLAY	9	10		.8	
5.250	17.22	4.93	2.42	CLAY	5	5		.3	
5.400	17.72	4.74	2.02	CLAY	5	5		.3	
5.550	18.21	4.80	2.20	CLAY	5	5		.3	
5.700	18.70	4.33	1.16	SENSITIVE FINE GRAINED	2	2		.3	
5.850	19.19	4.06	1.58	SENSITIVE FINE GRAINED	2	2		.3	
6.000	19.69	3.89	1.53	SENSITIVE FINE GRAINED	2	2		.3	
6.150	20.18	3.80	1.44	SENSITIVE FINE GRAINED	2	2		.3	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-10

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	4.12	1.54	SENSITIVE FINE GRAINED	2	2		.3	
6.450	21.16	4.04	1.74	SENSITIVE FINE GRAINED	2	2		.3	
6.600	21.65	4.19	1.71	SENSITIVE FINE GRAINED	2	2		.3	
6.750	22.15	4.16	1.74	SENSITIVE FINE GRAINED	2	2		.3	
6.900	22.64	4.53	1.58	SENSITIVE FINE GRAINED	2	2		.3	
7.050	23.13	4.61	1.76	SENSITIVE FINE GRAINED	2	2		.3	
7.200	23.62	4.38	1.48	SENSITIVE FINE GRAINED	2	2		.3	
7.350	24.11	4.33	1.62	SENSITIVE FINE GRAINED	2	2		.3	
7.500	24.61	4.63	1.60	SENSITIVE FINE GRAINED	2	2		.3	
7.650	25.10	4.65	1.62	SENSITIVE FINE GRAINED	2	2		.3	
7.800	25.59	4.42	1.50	SENSITIVE FINE GRAINED	2	2		.3	
7.950	26.08	4.40	1.53	SENSITIVE FINE GRAINED	2	2		.3	
8.100	26.57	4.53	1.66	SENSITIVE FINE GRAINED	2	2		.3	
8.250	27.07	4.87	1.45	SENSITIVE FINE GRAINED	2	2		.3	
8.400	27.56	4.64	1.72	SENSITIVE FINE GRAINED	2	2		.3	
8.550	28.05	4.16	1.17	SENSITIVE FINE GRAINED	2	2		.3	
8.700	28.54	3.72	.79	SENSITIVE FINE GRAINED	2	2		.2	
8.850	29.04	4.44	.80	SENSITIVE FINE GRAINED	2	2		.3	
9.000	29.53	4.65	.78	SENSITIVE FINE GRAINED	2	2		.3	
9.150	30.02	5.12	1.42	SENSITIVE FINE GRAINED	3	2		.3	
9.300	30.51	5.41	1.40	SENSITIVE FINE GRAINED	3	2		.4	
9.450	31.00	6.17	1.34	SENSITIVE FINE GRAINED	3	3		.4	
9.600	31.50	5.42	1.31	SENSITIVE FINE GRAINED	3	2		.4	
9.750	31.99	6.26	1.13	SENSITIVE FINE GRAINED	3	3		.4	
9.900	32.48	5.76	1.19	SENSITIVE FINE GRAINED	3	3		.4	
10.050	32.97	7.41	1.07	SENSITIVE FINE GRAINED	4	3		.6	
10.200	33.46	5.43	1.24	SENSITIVE FINE GRAINED	3	2		.4	
10.350	33.96	5.73	1.32	SENSITIVE FINE GRAINED	3	2		.4	
10.500	34.45	15.60	.38	SANDY SILT to CLAYEY SILT	6	5		1.4	
10.650	34.94	6.04	1.93	CLAY to SILTY CLAY	4	3		.3	
10.800	35.43	6.47	1.75	CLAY to SILTY CLAY	4	4		.4	
10.950	35.93	6.62	1.81	CLAY to SILTY CLAY	4	4		.4	
11.100	36.42	6.85	2.02	CLAY to SILTY CLAY	5	4		.4	
11.250	36.91	7.35	2.17	CLAY to SILTY CLAY	5	4		.4	
11.400	37.40	7.87	2.27	CLAY to SILTY CLAY	5	4		.5	
11.550	37.89	22.06	1.70	SANDY SILT to CLAYEY SILT	9	7		1.6	
11.700	38.39	109.92	.76	SAND to SILTY SAND	27	23	64		38.5
11.850	38.88	106.03	.91	SAND to SILTY SAND	27	22	63		38.5
12.000	39.37	90.35	.92	SAND to SILTY SAND	23	18	58		38.0
12.150	39.86	64.88	1.21	SILTY SAND to SANDY SILT	22	18	49		36.5
12.300	40.35	37.52	1.29	SILTY SAND to SANDY SILT	13	10	33		32.5
12.450	40.85	15.14	.95	SANDY SILT to CLAYEY SILT	6	5		1.0	
12.600	41.34	10.11	1.47	CLAYEY SILT to SILTY CLAY	5	4		.6	
12.750	41.83	8.66	1.26	CLAYEY SILT to SILTY CLAY	4	3		.6	
12.900	42.32	8.47	1.23	CLAYEY SILT to SILTY CLAY	4	3		.6	
13.050	42.81	8.08	1.34	CLAYEY SILT to SILTY CLAY	4	3		.4	
13.200	43.31	7.96	1.14	SENSITIVE FINE GRAINED	4	3		.5	
13.350	43.80	8.34	1.17	CLAYEY SILT to SILTY CLAY	4	3		.6	
13.500	44.29	8.14	1.17	CLAYEY SILT to SILTY CLAY	4	3		.6	
13.650	44.78	7.53	1.17	SENSITIVE FINE GRAINED	4	3		.5	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-10

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	7.18	1.28	SENSITIVE FINE GRAINED	4	3		.5	
13.950	45.77	7.17	1.31	SENSITIVE FINE GRAINED	4	3		.5	
14.100	46.26	7.72	1.29	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.250	46.75	7.31	1.10	SENSITIVE FINE GRAINED	4	3		.5	
14.400	47.24	7.57	1.18	SENSITIVE FINE GRAINED	4	3		.5	
14.550	47.74	7.72	1.04	SENSITIVE FINE GRAINED	4	3		.5	
14.700	48.23	7.74	1.22	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.850	48.72	7.88	1.33	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.000	49.21	8.68	1.52	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.150	49.70	8.37	1.50	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.300	50.20	8.38	1.51	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.450	50.69	8.21	1.36	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.600	51.18	8.87	1.00	CLAYEY SILT to SILTY CLAY	4	3		.6	
15.750	51.67	8.41	1.26	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.900	52.17	8.85	1.25	CLAYEY SILT to SILTY CLAY	4	3		.6	
16.050	52.66	8.93	1.19	CLAYEY SILT to SILTY CLAY	4	3		.6	
16.200	53.15	8.68	1.24	CLAYEY SILT to SILTY CLAY	4	3		.6	
16.350	53.64	8.98	1.33	CLAYEY SILT to SILTY CLAY	4	3		.5	
16.500	54.13	8.85	1.26	CLAYEY SILT to SILTY CLAY	4	3		.6	
16.650	54.63	8.62	1.17	CLAYEY SILT to SILTY CLAY	4	3		.5	
16.800	55.12	9.09	1.13	CLAYEY SILT to SILTY CLAY	5	3		.6	
16.950	55.61	8.85	1.22	CLAYEY SILT to SILTY CLAY	4	3		.6	
17.100	56.10	8.81	1.30	CLAYEY SILT to SILTY CLAY	4	3		.4	
17.250	56.59	9.76	1.15	CLAYEY SILT to SILTY CLAY	5	3		.7	
17.400	57.09	9.24	1.27	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.550	57.58	9.10	1.35	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.700	58.07	9.38	1.35	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.850	58.56	9.30	1.30	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.000	59.06	9.20	1.25	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.150	59.55	9.28	1.31	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.300	60.04	9.37	1.03	CLAYEY SILT to SILTY CLAY	5	3		.6	
18.450	60.53	10.40	.81	CLAYEY SILT to SILTY CLAY	5	4		.7	
18.600	61.02	10.34	.88	CLAYEY SILT to SILTY CLAY	5	4		.7	
18.750	61.52	12.39	.22	SANDY SILT to CLAYEY SILT	5	3		.9	
18.900	62.01	38.72	.61	SILTY SAND to SANDY SILT	13	9	29		31.0
19.050	62.50	38.42	.79	SILTY SAND to SANDY SILT	13	9	29		31.0
19.200	62.99	87.34	.58	SAND to SILTY SAND	22	15	52		36.5
19.350	63.48	137.70	.62	SAND	28	19	65		38.0
19.500	63.98	184.26	.46	SAND	37	25	74		39.0
19.650	64.47	81.84	.77	SAND to SILTY SAND	20	14	50		36.0
19.800	64.96	69.36	1.02	SAND to SILTY SAND	17	12	45		35.0
19.950	65.45	118.80	.57	SAND	24	16	61		38.0
20.100	65.94	185.79	.50	SAND	37	25	73		39.0
20.250	66.44	183.17	.60	SAND	37	25	73		39.0
20.400	66.93	112.80	.70	SAND to SILTY SAND	28	19	59		37.5
20.550	67.42	42.69	1.40	SILTY SAND to SANDY SILT	14	10	31		31.0
20.700	67.91	31.02	.92	SILTY SAND to SANDY SILT	10	7	22		29.5
20.850	68.41	41.04	.87	SILTY SAND to SANDY SILT	14	9	30		31.0
21.000	68.90	47.39	.84	SILTY SAND to SANDY SILT	16	10	34		31.5
21.150	69.39	57.67	.67	SAND to SILTY SAND	14	10	39		33.0

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-10

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
21.300	69.88	59.05	.86	SILTY SAND to SANDY SILT	20	13	40		33.0
21.450	70.37	107.26	.45	SAND	21	14	57		37.0
21.600	70.87	127.23	.72	SAND	25	17	62		38.0
21.750	71.36	244.61	.39	SAND	49	32	80		40.0
21.900	71.85	235.88	.75	SAND	47	31	79		40.0
22.050	72.34	210.62	.64	SAND	42	27	76		39.5
22.200	72.83	75.11	1.55	SILTY SAND to SANDY SILT	25	16	46		35.0
22.350	73.33	22.22	1.94	SANDY SILT to CLAYEY SILT	9	6		1.4	
22.500	73.82	13.63	.98	SANDY SILT to CLAYEY SILT	5	4		.9	
22.650	74.31	12.45	.83	SANDY SILT to CLAYEY SILT	5	3		.8	
22.800	74.80	13.07	1.22	SANDY SILT to CLAYEY SILT	5	3		.7	
22.950	75.30	18.76	1.71	SANDY SILT to CLAYEY SILT	8	5		1.2	
23.100	75.79	12.22	1.36	CLAYEY SILT to SILTY CLAY	6	4		.6	
23.250	76.28	63.12	*****		0	0			42.5

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

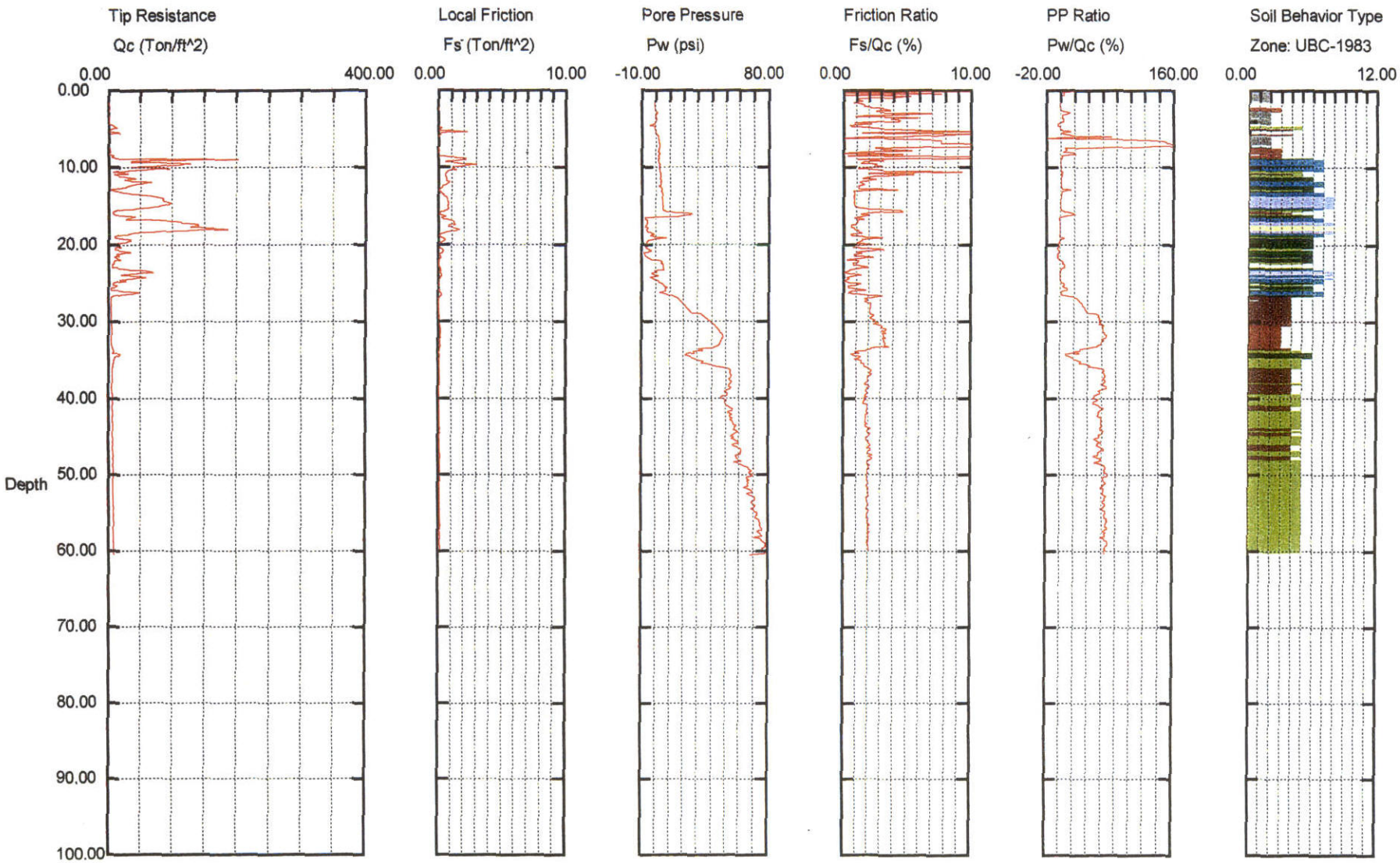
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on: Robertson and Campanella, 1989.

Hushman Associates

Operator: ALAMEDA NAS #2
Sounding: SDF138
Cone Used: 472/GO-VO/R#4

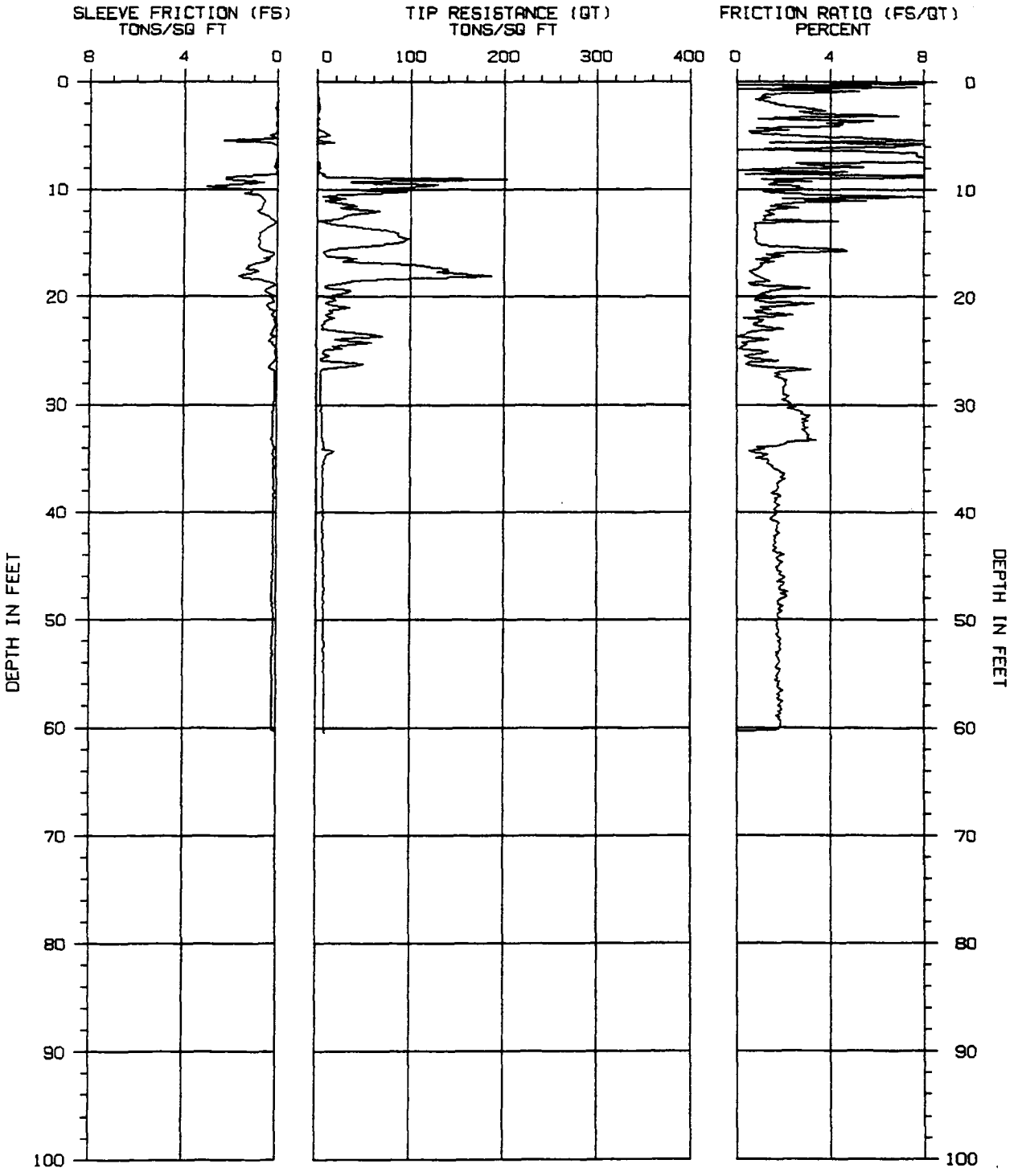
CPT Date/Time: 02-22-02 09:56
Location: CPT-11E
Job Number: 010810



Maximum Depth = 60.53 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-11E

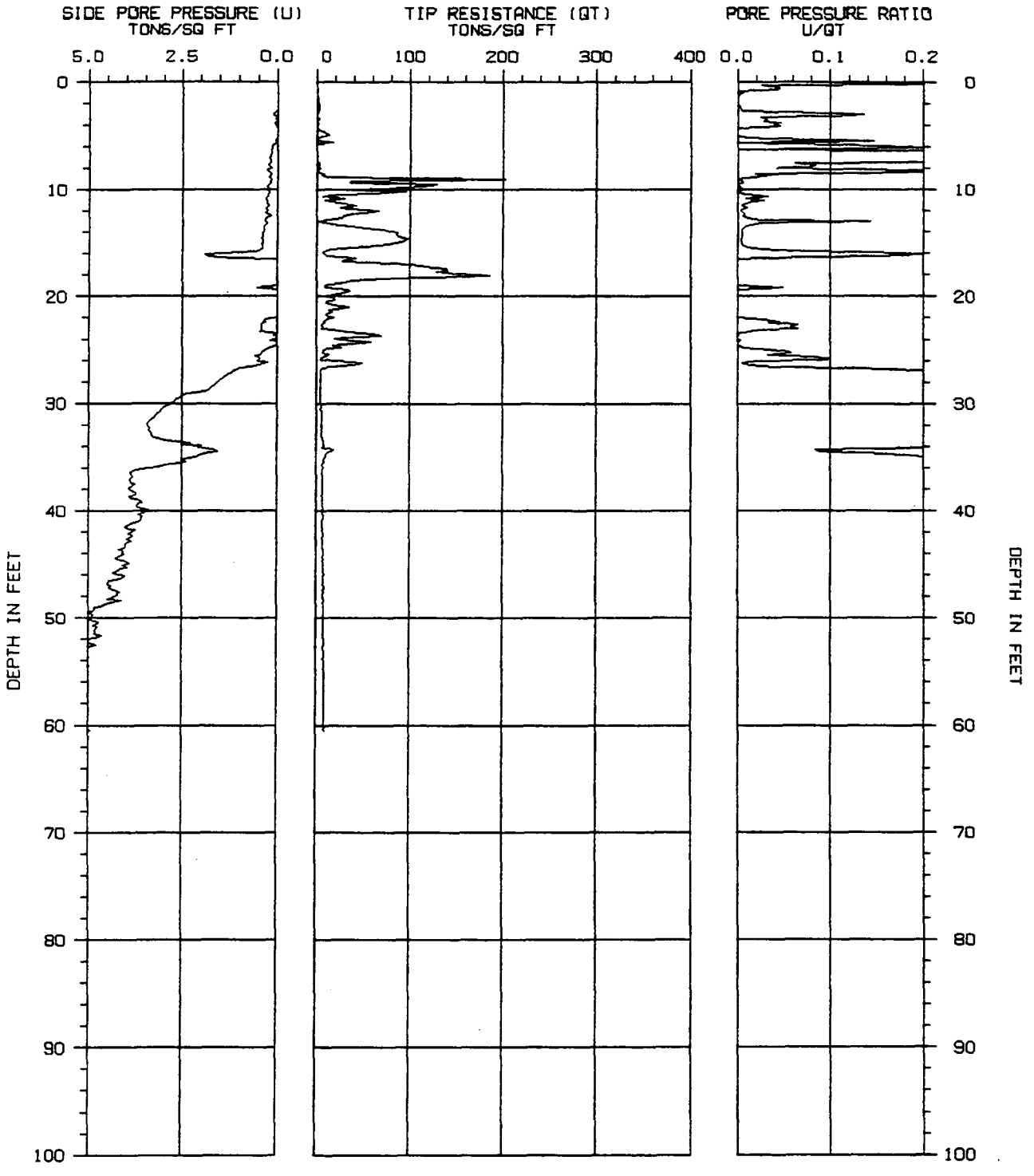
PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VO/R#4

DATE/TIME: 02-22-02 09:56

HFA



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-11E

PROJECT NAME : ALAMEDA NAS #2

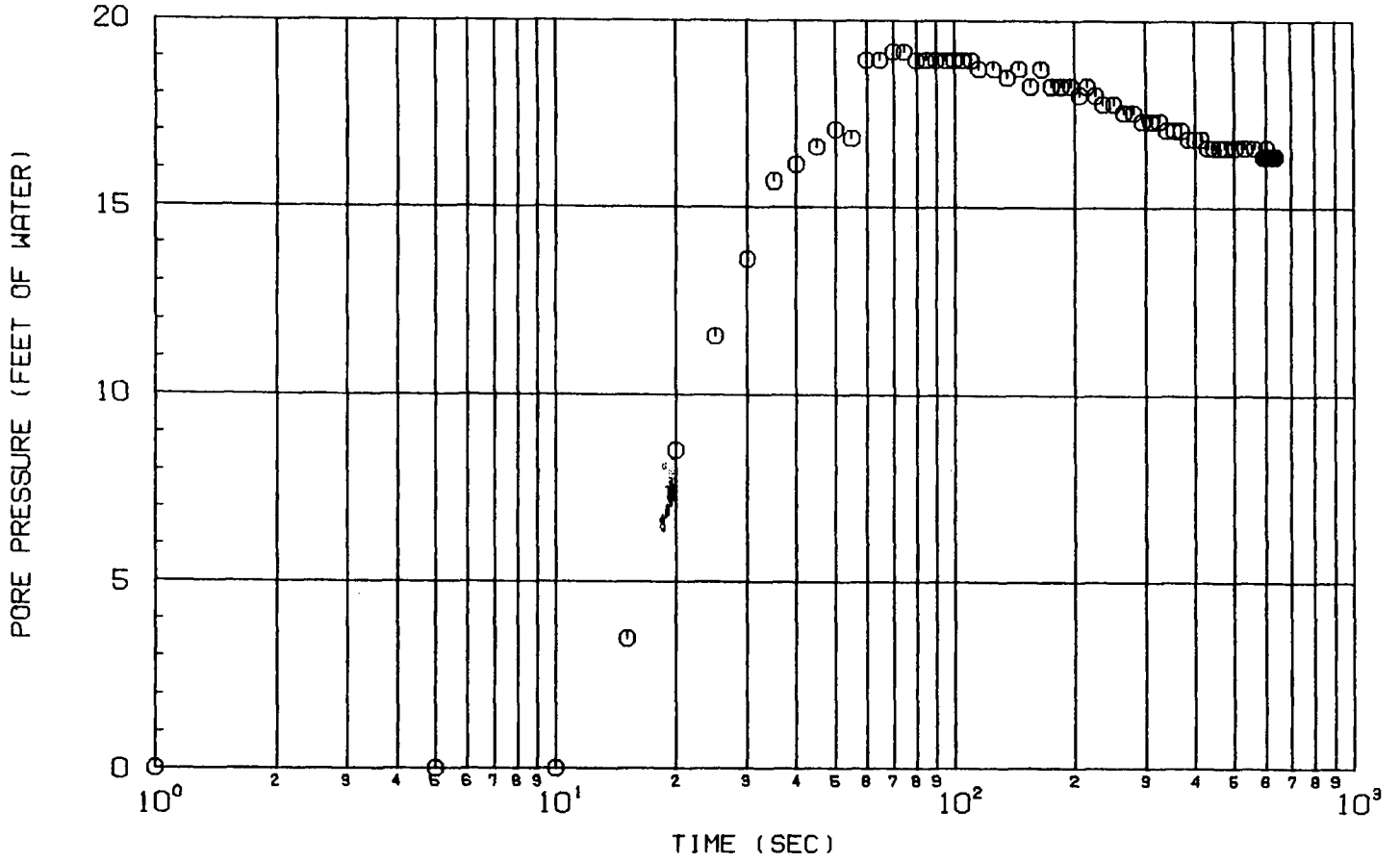
PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VG/R#4

DATE/TIME: 02-22-02 09:56

HFA

PORE PRESSURE DISSIPATION CURVES



DEPTH: ⊙ 17.7 FT

SIDE-SENSING PIEZOMETRIC CPT

SOUNDING NUMBER: CPT-11E

PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 472/CO-VO/R#4

DATE/TIME: 02-22-02 09:56

CPT INTERPRETATIONS

SOUNDING : CPT-11E
PROJECT : ALAMEDA NAS #2
DATE/TIME: 02-22-02 09:56

PROJECT No.: 010810
CONE/RIG : 472/GO-VO/R#4

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	.13	7.69	ORGANIC MATERIAL	0	0		.0	
.300	.98	.25	4.00	ORGANIC MATERIAL	0	0		.0	
.450	1.48	1.38	1.45	SENSITIVE FINE GRAINED	1	1		.1	
.600	1.97	1.76	1.70	SENSITIVE FINE GRAINED	1	1		.2	
.750	2.46	2.17	3.23	CLAY	2	3		.2	
.900	2.95	.91	3.30	ORGANIC MATERIAL	1	1		.1	
1.050	3.44	2.12	.94	SENSITIVE FINE GRAINED	1	2		.2	
1.200	3.94	1.32	4.55	ORGANIC MATERIAL	1	2		.1	
1.350	4.43	.89	2.25	ORGANIC MATERIAL	1	1		.1	
1.500	4.92	13.28	2.26	CLAYEY SILT to SILTY CLAY	7	11		1.0	
1.650	5.41	.30	*****	ORGANIC MATERIAL	0	0		.0	
1.800	5.91	.81	7.41	ORGANIC MATERIAL	1	1		.0	
1.950	6.40	.21	4.76	ORGANIC MATERIAL	0	0		.0	
2.100	6.89	.13	7.69	ORGANIC MATERIAL	0	0		.0	
2.250	7.38	.17	23.53	ORGANIC MATERIAL	0	0		.0	
2.400	7.87	2.40	5.42	CLAY	2	4		.1	
2.550	8.37	1.06	4.72	ORGANIC MATERIAL	1	2		.1	
2.700	8.86	11.62	18.93	CLAY	12	16		.7	
2.850	9.35	35.73	1.60	SANDY SILT to CLAYEY SILT	14	19		2.8	
3.000	9.84	76.27	2.53	SANDY SILT to CLAYEY SILT	31	41		5.0	
3.150	10.33	60.46	2.33	SANDY SILT to CLAYEY SILT	24	31		4.0	
3.300	10.83	30.17	1.99	SANDY SILT to CLAYEY SILT	12	15		2.4	
3.450	11.32	29.08	2.10	SANDY SILT to CLAYEY SILT	12	14		1.9	
3.600	11.81	36.31	1.79	SANDY SILT to CLAYEY SILT	15	18		2.9	
3.750	12.30	38.75	1.60	SANDY SILT to CLAYEY SILT	16	18		3.0	
3.900	12.80	14.11	1.13	SANDY SILT to CLAYEY SILT	6	7		1.1	
4.050	13.29	23.33	.81	SILTY SAND to SANDY SILT	8	9	29		34.5
4.200	13.78	72.10	.76	SAND to SILTY SAND	18	20	61		39.5
4.350	14.27	85.89	.86	SAND to SILTY SAND	21	24	65		40.0
4.500	14.76	95.79	.86	SAND to SILTY SAND	24	26	68		41.0
4.650	15.26	65.92	1.18	SILTY SAND to SANDY SILT	22	24	57		38.5
4.800	15.75	9.33	4.72	CLAY	9	10		.6	
4.950	16.24	11.90	2.02	CLAYEY SILT to SILTY CLAY	6	6		.9	
5.100	16.73	27.81	1.62	SANDY SILT to CLAYEY SILT	11	12		2.1	
5.250	17.22	115.83	1.04	SAND to SILTY SAND	29	30	72		41.5
5.400	17.72	128.51	.61	SAND	26	27	75		42.0
5.550	18.21	124.37	1.14	SAND to SILTY SAND	31	32	74		42.0
5.700	18.70	30.44	.56	SILTY SAND to SANDY SILT	10	10	33		35.0
5.850	19.19	10.90	3.12	CLAY to SILTY CLAY	7	7		.7	
6.000	19.69	28.87	1.18	SILTY SAND to SANDY SILT	10	10	32		34.0
6.150	20.18	18.80	.85	SANDY SILT to CLAYEY SILT	8	8		1.4	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-11E

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	10.90	3.30	CLAY to SILTY CLAY	7	7		.6	
6.450	21.16	21.95	1.46	SANDY SILT to CLAYEY SILT	9	9		1.7	
6.600	21.65	9.90	2.42	CLAY to SILTY CLAY	7	6		.7	
6.750	22.15	11.13	1.17	CLAYEY SILT to SILTY CLAY	6	5		.8	
6.900	22.64	6.44	.78	SENSITIVE FINE GRAINED	3	3		.5	
7.050	23.13	16.87	1.13	SANDY SILT to CLAYEY SILT	7	7		1.2	
7.200	23.62	69.94	.10	SAND to SILTY SAND	17	17	55		38.0
7.350	24.11	39.26	.74	SILTY SAND to SANDY SILT	13	12	39		36.0
7.500	24.61	18.10	.22	SILTY SAND to SANDY SILT	6	6	16		30.5
7.650	25.10	6.80	1.32	SENSITIVE FINE GRAINED	3	3		.5	
7.800	25.59	10.09	.40	SENSITIVE FINE GRAINED	5	5		.9	
7.950	26.08	23.41	.60	SILTY SAND to SANDY SILT	8	7	23		31.5
8.100	26.57	17.14	1.98	CLAYEY SILT to SILTY CLAY	9	8		1.2	
8.250	27.07	4.83	1.66	SENSITIVE FINE GRAINED	2	2		.3	
8.400	27.56	4.76	1.89	CLAY to SILTY CLAY	3	3		.3	
8.550	28.05	4.81	2.08	CLAY	5	4		.3	
8.700	28.54	4.98	2.01	CLAY to SILTY CLAY	3	3		.3	
8.850	29.04	5.00	2.00	CLAY to SILTY CLAY	3	3		.3	
9.000	29.53	5.11	1.96	CLAY to SILTY CLAY	3	3		.3	
9.150	30.02	5.57	2.15	CLAY to SILTY CLAY	4	3		.3	
9.300	30.51	5.41	2.59	CLAY	5	5		.3	
9.450	31.00	5.80	3.10	CLAY	6	5		.3	
9.600	31.50	5.92	3.04	CLAY	6	5		.3	
9.750	31.99	5.94	2.86	CLAY	6	5		.3	
9.900	32.48	6.16	2.92	CLAY	6	5		.3	
10.050	32.97	6.25	3.04	CLAY	6	5		.3	
10.200	33.46	7.81	2.18	CLAY to SILTY CLAY	5	4		.5	
10.350	33.96	9.80	.92	CLAYEY SILT to SILTY CLAY	5	4		.8	
10.500	34.45	17.26	.87	SANDY SILT to CLAYEY SILT	7	6		1.2	
10.650	34.94	10.45	.86	CLAYEY SILT to SILTY CLAY	5	4		.8	
10.800	35.43	8.87	1.35	CLAYEY SILT to SILTY CLAY	4	4		.5	
10.950	35.93	8.16	1.59	CLAYEY SILT to SILTY CLAY	4	3		.5	
11.100	36.42	6.85	2.04	CLAY to SILTY CLAY	5	4		.4	
11.250	36.91	6.87	2.04	CLAY to SILTY CLAY	5	4		.4	
11.400	37.40	6.91	1.74	CLAY to SILTY CLAY	5	4		.4	
11.550	37.89	6.89	1.74	CLAY to SILTY CLAY	5	4		.4	
11.700	38.39	6.63	1.81	CLAY to SILTY CLAY	4	4		.4	
11.850	38.88	7.06	1.70	CLAY to SILTY CLAY	5	4		.4	
12.000	39.37	7.13	1.82	CLAY to SILTY CLAY	5	4		.4	
12.150	39.86	7.46	1.74	CLAY to SILTY CLAY	5	4		.4	
12.300	40.35	7.76	1.55	CLAYEY SILT to SILTY CLAY	4	3		.4	
12.450	40.85	7.54	1.72	CLAYEY SILT to SILTY CLAY	4	3		.4	
12.600	41.34	6.94	1.73	CLAY to SILTY CLAY	5	4		.4	
12.750	41.83	7.53	1.73	CLAY to SILTY CLAY	5	4		.4	
12.900	42.32	7.91	1.64	CLAYEY SILT to SILTY CLAY	4	3		.4	
13.050	42.81	7.33	1.64	CLAYEY SILT to SILTY CLAY	4	3		.4	
13.200	43.31	7.62	1.71	CLAYEY SILT to SILTY CLAY	4	3		.4	
13.350	43.80	7.82	1.79	CLAYEY SILT to SILTY CLAY	4	3		.4	
13.500	44.29	7.56	1.72	CLAYEY SILT to SILTY CLAY	4	3		.4	
13.650	44.78	8.04	1.87	CLAYEY SILT to SILTY CLAY	4	3		.4	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-11E

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	8.69	1.73	CLAYEY SILT to SILTY CLAY	4	3		.5	
13.950	45.77	8.18	1.83	CLAYEY SILT to SILTY CLAY	4	3		.4	
14.100	46.26	8.10	1.97	CLAY to SILTY CLAY	5	4		.4	
14.250	46.75	7.90	2.03	CLAY to SILTY CLAY	5	4		.4	
14.400	47.24	8.81	1.82	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.550	47.74	8.55	2.11	CLAY to SILTY CLAY	6	4		.5	
14.700	48.23	8.84	1.81	CLAYEY SILT to SILTY CLAY	4	3		.5	
14.850	48.72	8.12	1.97	CLAY to SILTY CLAY	5	4		.4	
15.000	49.21	8.37	1.91	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.150	49.70	8.60	1.74	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.300	50.20	8.26	1.70	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.450	50.69	8.70	1.72	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.600	51.18	8.31	1.80	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.750	51.67	8.65	1.85	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.900	52.17	8.82	1.81	CLAYEY SILT to SILTY CLAY	4	3		.5	
16.050	52.66	8.65	1.85	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.200	53.15	8.94	1.79	CLAYEY SILT to SILTY CLAY	4	3		.5	
16.350	53.64	9.00	1.78	CLAYEY SILT to SILTY CLAY	5	3		.5	
16.500	54.13	9.06	1.77	CLAYEY SILT to SILTY CLAY	5	3		.5	
16.650	54.63	9.02	1.88	CLAYEY SILT to SILTY CLAY	5	3		.5	
16.800	55.12	9.11	1.76	CLAYEY SILT to SILTY CLAY	5	3		.5	
16.950	55.61	9.00	1.67	CLAYEY SILT to SILTY CLAY	4	3		.5	
17.100	56.10	8.84	1.81	CLAYEY SILT to SILTY CLAY	4	3		.4	
17.250	56.59	9.21	1.95	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.400	57.09	9.19	1.85	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.550	57.58	9.23	1.95	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.700	58.07	9.49	1.90	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.850	58.56	9.55	1.78	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.000	59.06	9.32	1.82	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.150	59.55	9.68	1.86	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.300	60.04	9.81	1.84	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.450	60.53	10.02	*****		0	0			

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

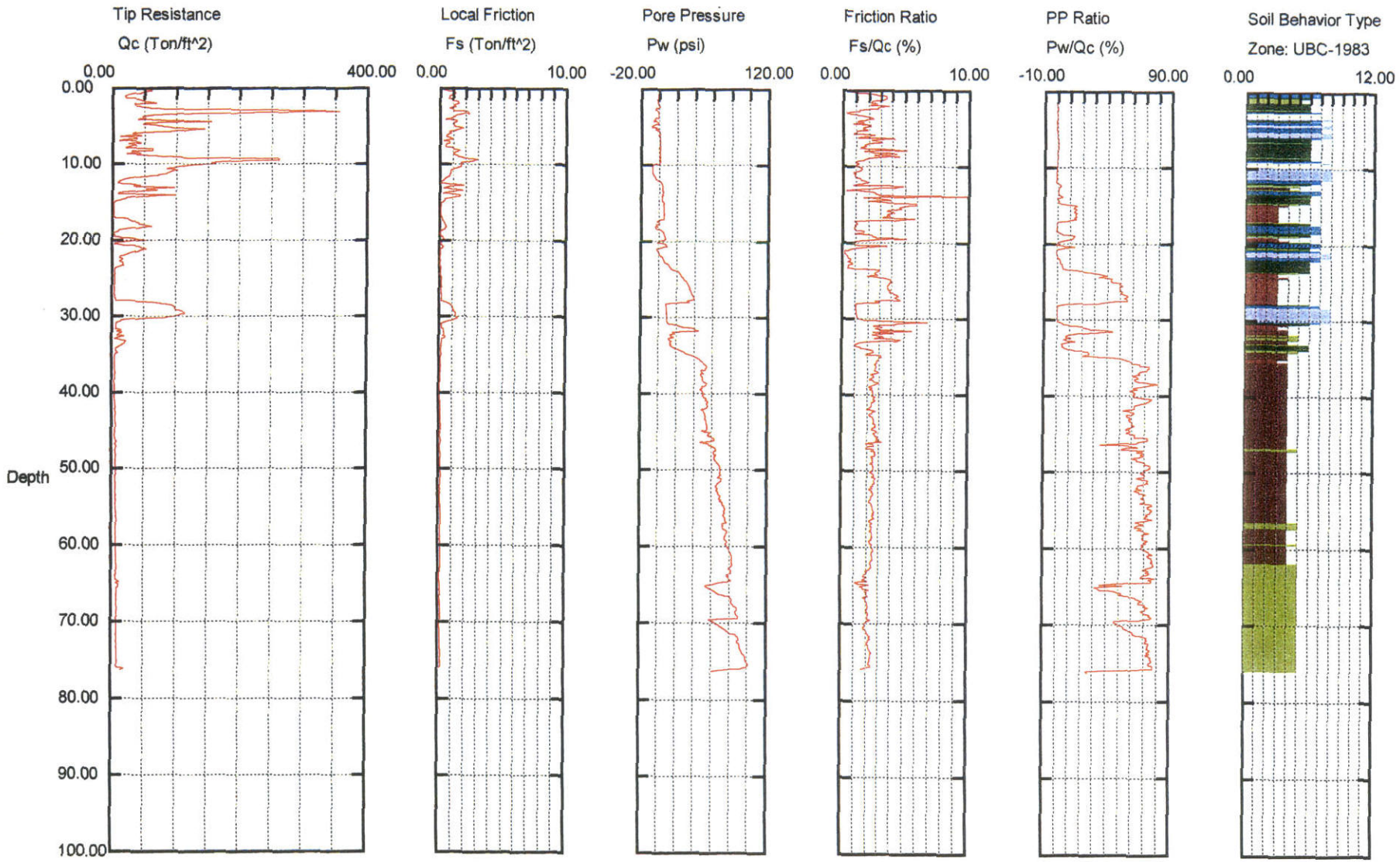
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on: Robertson and Campanella, 1989.

Hushman Associates

Operator: ALAMEDA NAS #2
Sounding: SDF134
Cone Used: 472/GO-VO/R#4

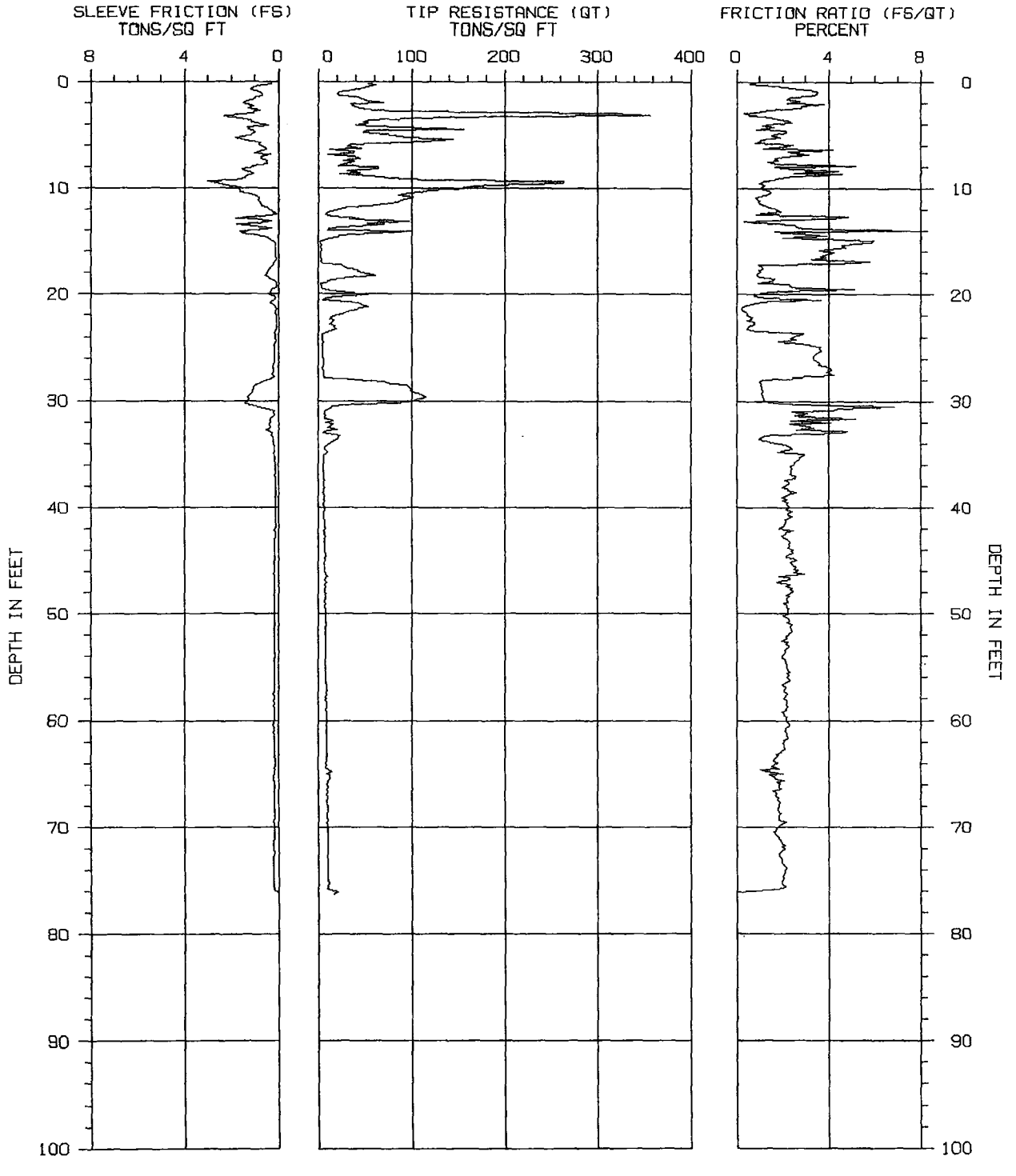
CPT Date/Time: 02-21-02 14:34
Location: CPT-12A
Job Number: 010810



Maximum Depth = 76.28 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-12A

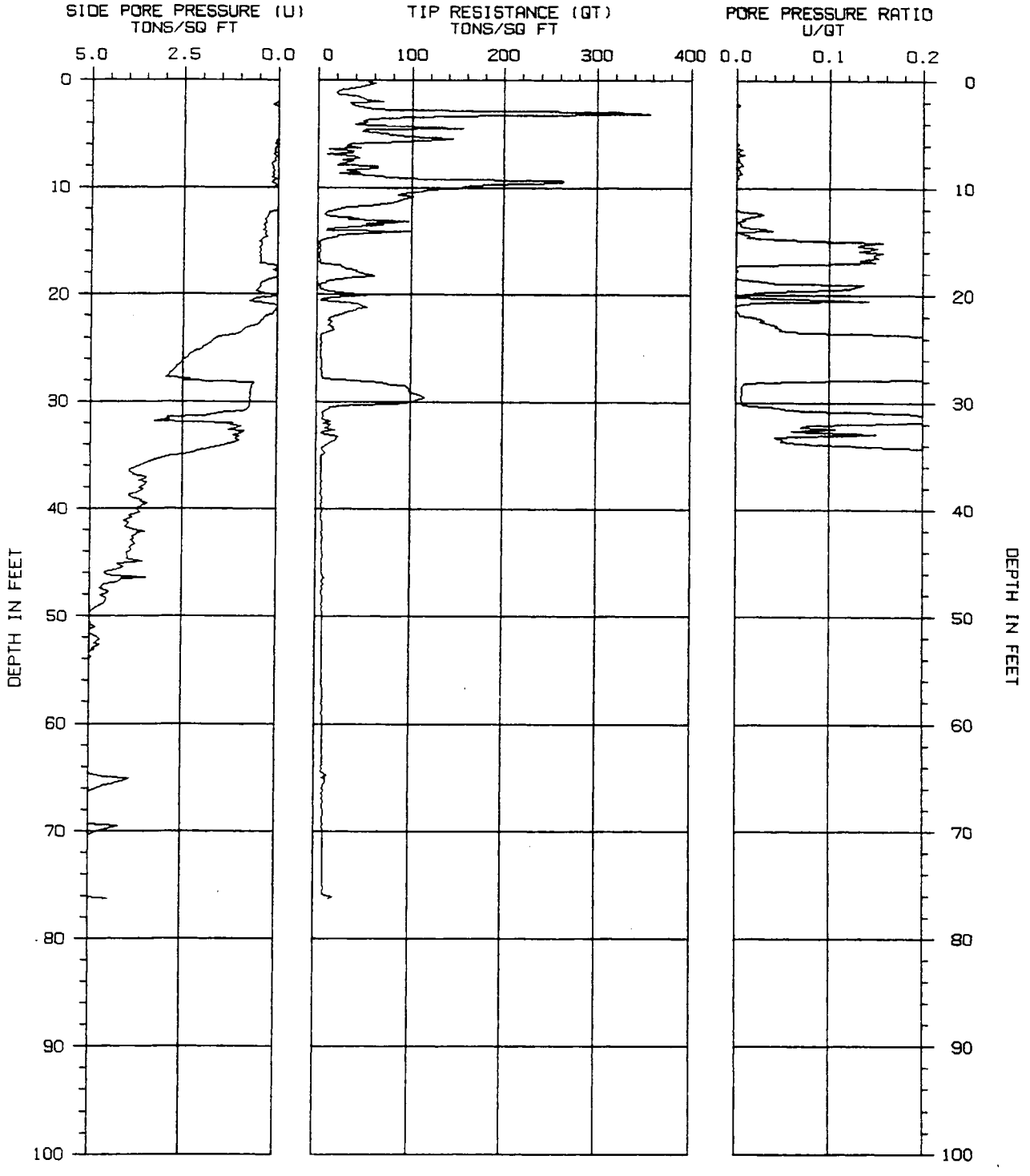
PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VO/R#4

DATE/TIME: 02-21-02 14:34

HFA



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-12A

PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VO/R#4

DATE/TIME: 02-21-02 14:34

HFA

CPT INTERPRETATIONS

SOUNDING : CPT-12A
PROJECT : ALAMEDA NAS #2
DATE/TIME: 02-21-02 14:34

PROJECT No.: 010810
CONE/RIG : 472/GO-VO/R#4

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	51.94	2.09	SANDY SILT to CLAYEY SILT	21	33		3.5	
.300	.98	22.67	3.52	CLAYEY SILT to SILTY CLAY	11	18		1.5	
.450	1.48	41.68	2.32	SANDY SILT to CLAYEY SILT	17	27		2.8	
.600	1.97	68.88	2.18	SILTY SAND to SANDY SILT	23	37	66		48.0
.750	2.46	45.19	2.82	SANDY SILT to CLAYEY SILT	18	29		3.0	
.900	2.95	317.59	.34	GRAVELLY SAND to SAND	53	85	100		
1.050	3.44	99.51	1.64	SILTY SAND to SANDY SILT	33	53	76		47.5
1.200	3.94	52.62	1.74	SILTY SAND to SANDY SILT	18	28	58		44.5
1.350	4.43	155.41	.84	SAND	31	50	89		48.0
1.500	4.92	70.81	1.61	SILTY SAND to SANDY SILT	24	38	66		44.5
1.650	5.41	144.25	1.06	SAND to SILTY SAND	36	58	87		47.0
1.800	5.91	35.18	2.45	SANDY SILT to CLAYEY SILT	14	23		2.3	
1.950	6.40	12.53	4.19	CLAY	13	20		.8	
2.100	6.89	10.81	3.12	CLAY to SILTY CLAY	7	11		.7	
2.250	7.38	26.68	1.77	SANDY SILT to CLAYEY SILT	11	16		2.1	
2.400	7.87	21.65	5.16	CLAY	22	32		1.2	
2.550	8.37	31.27	4.39	CLAY to SILTY CLAY	21	30		1.8	
2.700	8.86	55.85	2.43	SANDY SILT to CLAYEY SILT	22	31		3.7	
2.850	9.35	262.84	1.15	SAND	53	72	100		47.0
3.000	9.84	155.79	1.06	SAND to SILTY SAND	39	52	88		45.0
3.150	10.33	110.09	1.49	SAND to SILTY SAND	28	36	77		43.5
3.300	10.83	101.74	.83	SAND to SILTY SAND	25	32	74		43.0
3.450	11.32	84.58	.95	SAND to SILTY SAND	21	26	68		42.0
3.600	11.81	32.89	1.42	SANDY SILT to CLAYEY SILT	13	16		2.6	
3.750	12.30	10.58	1.54	CLAYEY SILT to SILTY CLAY	5	6		.8	
3.900	12.80	43.96	4.16	CLAYEY SILT to SILTY CLAY	22	26		2.5	
4.050	13.29	52.98	1.66	SILTY SAND to SANDY SILT	18	20	53		38.5
4.200	13.78	11.24	2.91	CLAY to SILTY CLAY	7	8		.7	
4.350	14.27	57.93	2.69	SANDY SILT to CLAYEY SILT	23	26		3.8	
4.500	14.76	12.41	3.65	CLAY	12	13		.8	
4.650	15.26	2.97	5.04	CLAY	3	3		.1	
4.800	15.75	3.23	3.98	CLAY	3	3		.2	
4.950	16.24	3.04	3.93	CLAY	3	3		.1	
5.100	16.73	3.38	3.23	CLAY	3	4		.2	
5.250	17.22	25.07	.93	SILTY SAND to SANDY SILT	8	9	28		33.5
5.400	17.72	42.40	.94	SILTY SAND to SANDY SILT	14	15	43		37.0
5.550	18.21	61.40	.91	SILTY SAND to SANDY SILT	20	21	54		38.0
5.700	18.70	10.52	1.57	CLAYEY SILT to SILTY CLAY	5	5		.8	
5.850	19.19	3.38	2.34	CLAY	3	3		.2	
6.000	19.69	14.89	1.97	CLAYEY SILT to SILTY CLAY	7	7		1.1	
6.150	20.18	29.87	.78	SILTY SAND to SANDY SILT	10	10	32		34.5

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on: Robertson and Campanella, 1989.

SOUNDING : CPT-12A

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	17.99	1.48	SANDY SILT to CLAYEY SILT	7	7		1.3	
6.450	21.16	53.79	.26	SAND to SILTY SAND	13	13	49		37.5
6.600	21.65	30.83	.42	SILTY SAND to SANDY SILT	10	10	33		34.5
6.750	22.15	14.09	.67	SANDY SILT to CLAYEY SILT	6	5		1.3	
6.900	22.64	14.53	.76	SANDY SILT to CLAYEY SILT	6	6		1.3	
7.050	23.13	17.40	.50	SANDY SILT to CLAYEY SILT	7	7		1.6	
7.200	23.62	6.09	2.90	CLAY	6	6		.4	
7.350	24.11	4.89	2.38	CLAY	5	5		.3	
7.500	24.61	4.55	2.79	CLAY	5	4		.3	
7.650	25.10	4.99	3.61	CLAY	5	5		.2	
7.800	25.59	4.92	3.41	CLAY	5	5		.2	
7.950	26.08	5.44	3.36	CLAY	5	5		.3	
8.100	26.57	5.64	3.57	CLAY	6	5		.3	
8.250	27.07	5.42	4.12	CLAY	5	5		.3	
8.400	27.56	5.76	4.25	CLAY	6	5		.3	
8.550	28.05	39.85	1.11	SILTY SAND to SANDY SILT	13	12	38		35.5
8.700	28.54	94.62	1.05	SAND to SILTY SAND	24	21	63		39.0
8.850	29.04	98.70	1.11	SAND to SILTY SAND	25	22	64		39.0
9.000	29.53	114.49	1.13	SAND to SILTY SAND	29	26	68		39.5
9.150	30.02	101.23	1.26	SAND to SILTY SAND	25	23	64		39.0
9.300	30.51	15.06	6.83	CLAY	15	13		.9	
9.450	31.00	7.41	2.41	CLAY to SILTY CLAY	5	4		.4	
9.600	31.50	7.59	2.86	CLAY	8	7		.5	
9.750	31.99	8.56	4.09	CLAY	9	7		.4	
9.900	32.48	10.21	3.35	CLAY to SILTY CLAY	7	6		.6	
10.050	32.97	6.22	4.52	CLAY	6	5		.3	
10.200	33.46	21.28	1.05	SANDY SILT to CLAYEY SILT	9	7		1.5	
10.350	33.96	13.80	1.48	CLAYEY SILT to SILTY CLAY	7	6		.9	
10.500	34.45	7.62	2.40	CLAY to SILTY CLAY	5	4		.5	
10.650	34.94	7.80	2.96	CLAY	8	7		.5	
10.800	35.43	6.38	2.70	CLAY	6	5		.3	
10.950	35.93	6.14	2.48	CLAY	6	5		.3	
11.100	36.42	6.11	2.41	CLAY to SILTY CLAY	4	3		.3	
11.250	36.91	6.52	2.31	CLAY to SILTY CLAY	4	4		.4	
11.400	37.40	6.81	2.08	CLAY to SILTY CLAY	5	4		.4	
11.550	37.89	6.45	2.13	CLAY to SILTY CLAY	4	4		.3	
11.700	38.39	5.68	2.25	CLAY to SILTY CLAY	4	3		.3	
11.850	38.88	6.61	2.19	CLAY to SILTY CLAY	4	4		.3	
12.000	39.37	6.90	2.03	CLAY to SILTY CLAY	5	4		.4	
12.150	39.86	6.63	2.29	CLAY to SILTY CLAY	4	4		.3	
12.300	40.35	5.96	2.42	CLAY to SILTY CLAY	4	3		.3	
12.450	40.85	6.06	2.39	CLAY to SILTY CLAY	4	3		.3	
12.600	41.34	7.14	2.12	CLAY to SILTY CLAY	5	4		.4	
12.750	41.83	7.57	1.96	CLAY to SILTY CLAY	5	4		.4	
12.900	42.32	6.73	2.18	CLAY to SILTY CLAY	4	4		.3	
13.050	42.81	7.45	2.04	CLAY to SILTY CLAY	5	4		.4	
13.200	43.31	7.23	2.31	CLAY to SILTY CLAY	5	4		.4	
13.350	43.80	7.28	2.24	CLAY to SILTY CLAY	5	4		.4	
13.500	44.29	7.70	2.45	CLAY to SILTY CLAY	5	4		.4	
13.650	44.78	7.56	2.47	CLAY to SILTY CLAY	5	4		.4	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-12A

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	7.48	2.42	CLAY to SILTY CLAY	5	4		.4	
13.950	45.77	6.89	2.51	CLAY to SILTY CLAY	5	4		.3	
14.100	46.26	7.72	2.95	CLAY	8	6		.4	
14.250	46.75	7.30	2.32	CLAY to SILTY CLAY	5	4		.4	
14.400	47.24	7.62	2.31	CLAY to SILTY CLAY	5	4		.4	
14.550	47.74	7.57	2.33	CLAY to SILTY CLAY	5	4		.4	
14.700	48.23	8.55	2.14	CLAY to SILTY CLAY	6	4		.5	
14.850	48.72	7.59	2.20	CLAY to SILTY CLAY	5	4		.4	
15.000	49.21	7.47	2.20	CLAY to SILTY CLAY	5	4		.4	
15.150	49.70	7.95	2.25	CLAY to SILTY CLAY	5	4		.4	
15.300	50.20	8.46	1.99	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.450	50.69	8.23	2.29	CLAY to SILTY CLAY	5	4		.4	
15.600	51.18	8.05	2.32	CLAY to SILTY CLAY	5	4		.4	
15.750	51.67	8.17	2.41	CLAY to SILTY CLAY	5	4		.4	
15.900	52.17	8.27	2.12	CLAY to SILTY CLAY	6	4		.4	
16.050	52.66	8.06	2.23	CLAY to SILTY CLAY	5	4		.4	
16.200	53.15	7.92	2.28	CLAY to SILTY CLAY	5	4		.4	
16.350	53.64	8.07	2.11	CLAY to SILTY CLAY	5	4		.4	
16.500	54.13	8.41	1.95	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.650	54.63	8.18	2.14	CLAY to SILTY CLAY	5	4		.4	
16.800	55.12	8.15	2.20	CLAY to SILTY CLAY	5	4		.4	
16.950	55.61	8.55	2.18	CLAY to SILTY CLAY	6	4		.4	
17.100	56.10	8.44	2.22	CLAY to SILTY CLAY	6	4		.4	
17.250	56.59	9.57	1.95	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.400	57.09	9.06	2.05	CLAYEY SILT to SILTY CLAY	5	3		.5	
17.550	57.58	9.08	2.19	CLAY to SILTY CLAY	6	4		.5	
17.700	58.07	8.66	2.15	CLAY to SILTY CLAY	6	4		.4	
17.850	58.56	9.00	2.16	CLAY to SILTY CLAY	6	4		.5	
18.000	59.06	8.42	2.14	CLAY to SILTY CLAY	6	4		.4	
18.150	59.55	9.13	2.06	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.300	60.04	9.31	2.13	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.450	60.53	8.95	2.28	CLAY to SILTY CLAY	6	4		.4	
18.600	61.02	9.25	2.11	CLAYEY SILT to SILTY CLAY	5	3		.5	
18.750	61.52	9.03	2.19	CLAY to SILTY CLAY	6	4		.4	
18.900	62.01	8.94	2.05	CLAYEY SILT to SILTY CLAY	4	3		.4	
19.050	62.50	9.09	2.07	CLAYEY SILT to SILTY CLAY	5	3		.4	
19.200	62.99	8.86	1.94	CLAYEY SILT to SILTY CLAY	4	3		.4	
19.350	63.48	9.34	1.72	CLAYEY SILT to SILTY CLAY	5	3		.5	
19.500	63.98	8.31	1.78	CLAYEY SILT to SILTY CLAY	4	3		.4	
19.650	64.47	8.98	1.84	CLAYEY SILT to SILTY CLAY	4	3		.4	
19.800	64.96	9.47	2.03	CLAYEY SILT to SILTY CLAY	5	3		.5	
19.950	65.45	12.70	1.64	CLAYEY SILT to SILTY CLAY	6	4		.7	
20.100	65.94	9.88	1.86	CLAYEY SILT to SILTY CLAY	5	3		.5	
20.250	66.44	9.60	1.90	CLAYEY SILT to SILTY CLAY	5	3		.5	
20.400	66.93	9.82	1.72	CLAYEY SILT to SILTY CLAY	5	3		.5	
20.550	67.42	9.56	1.81	CLAYEY SILT to SILTY CLAY	5	3		.5	
20.700	67.91	10.02	1.84	CLAYEY SILT to SILTY CLAY	5	3		.5	
20.850	68.41	10.34	1.80	CLAYEY SILT to SILTY CLAY	5	3		.5	
21.000	68.90	9.76	1.84	CLAYEY SILT to SILTY CLAY	5	3		.5	
21.150	69.39	10.86	1.84	CLAYEY SILT to SILTY CLAY	5	4		.5	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-12A

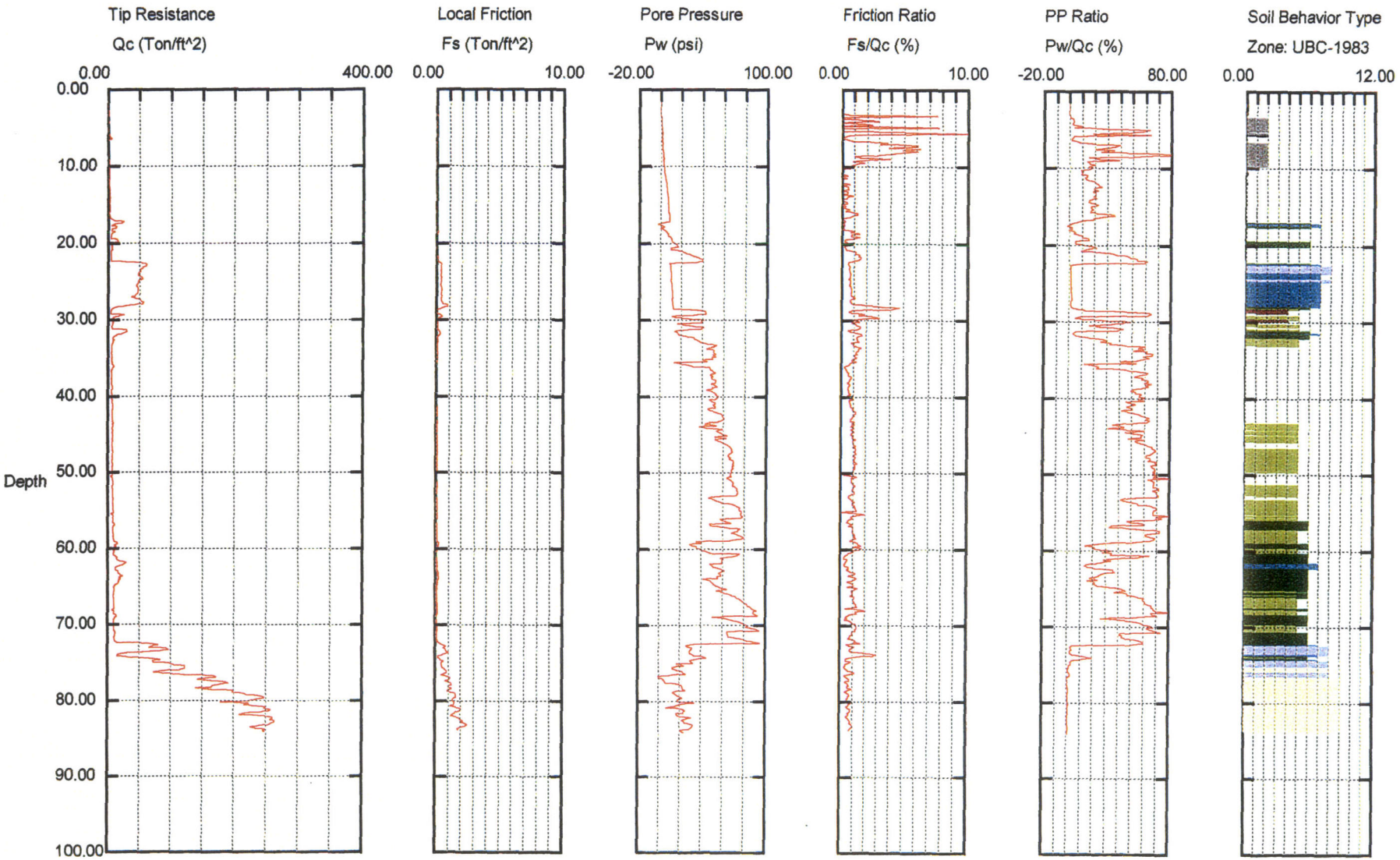
DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
21.300	69.88	10.40	1.83	CLAYEY SILT to SILTY CLAY	5	3		.5	
21.450	70.37	10.23	1.72	CLAYEY SILT to SILTY CLAY	5	3		.5	
21.600	70.87	10.10	1.80	CLAYEY SILT to SILTY CLAY	5	3		.5	
21.750	71.36	10.28	1.94	CLAYEY SILT to SILTY CLAY	5	3		.5	
21.900	71.85	10.35	1.99	CLAYEY SILT to SILTY CLAY	5	3		.5	
22.050	72.34	10.25	1.92	CLAYEY SILT to SILTY CLAY	5	3		.5	
22.200	72.83	10.42	1.94	CLAYEY SILT to SILTY CLAY	5	3		.5	
22.350	73.33	10.19	1.96	CLAYEY SILT to SILTY CLAY	5	3		.5	
22.500	73.82	10.50	2.18	CLAYEY SILT to SILTY CLAY	5	3		.5	
22.650	74.31	10.72	2.09	CLAYEY SILT to SILTY CLAY	5	3		.5	
22.800	74.80	10.73	2.03	CLAYEY SILT to SILTY CLAY	5	3		.5	
22.950	75.30	11.14	1.95	CLAYEY SILT to SILTY CLAY	6	4		.5	
23.100	75.79	10.76	1.75	CLAYEY SILT to SILTY CLAY	5	3		.5	
23.250	76.28	17.55	*****		0	0			42.5

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

Hushmand Associates

Operator: Alameda NAS#2
Sounding: SDF137
Cone Used: 472/GO-VO/R#4

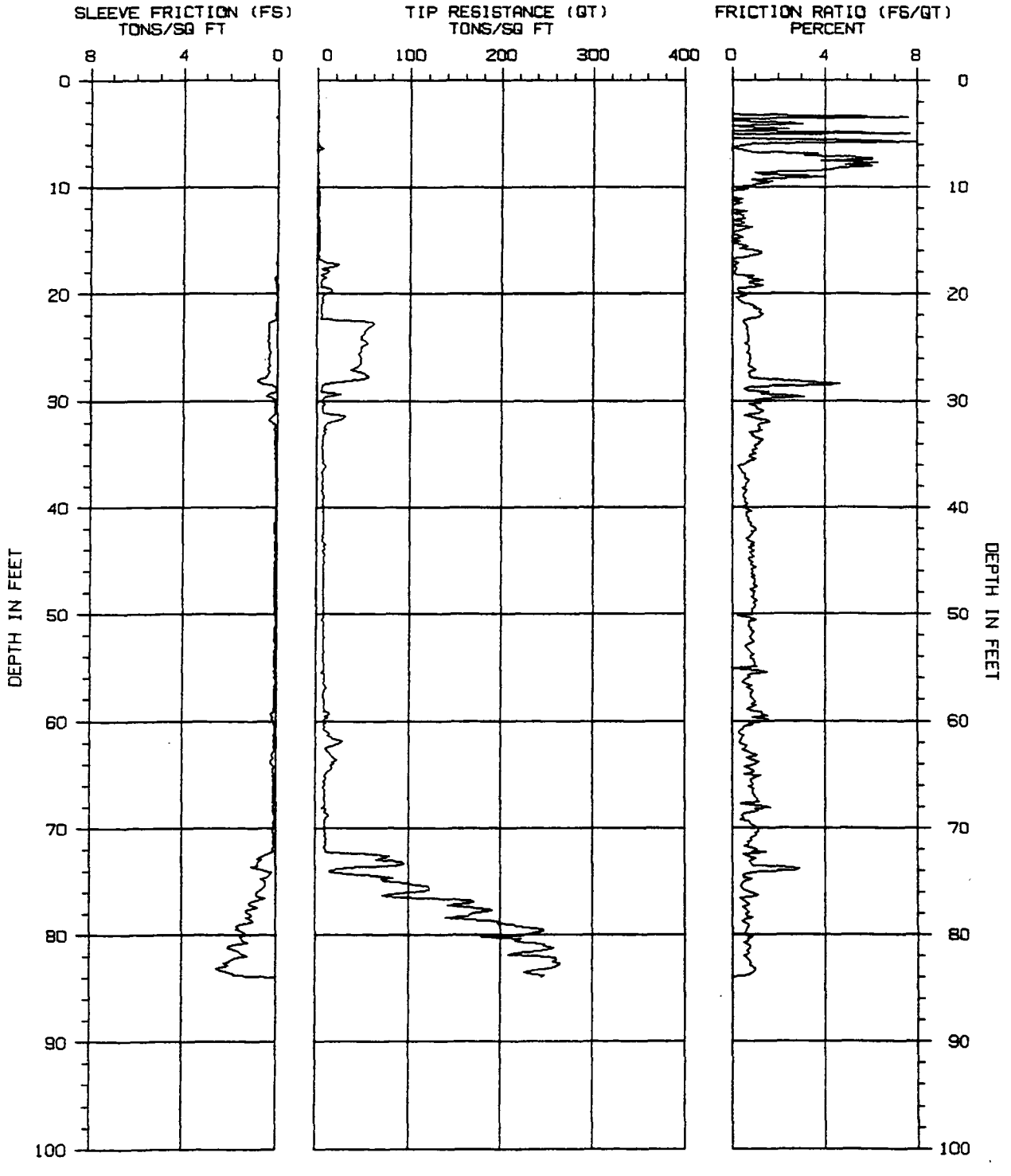
CPT Date/Time: 02-22-02 07:28
Location: CPT-13Seis
Job Number: 010810



Maximum Depth = 84.15 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-13SEIS

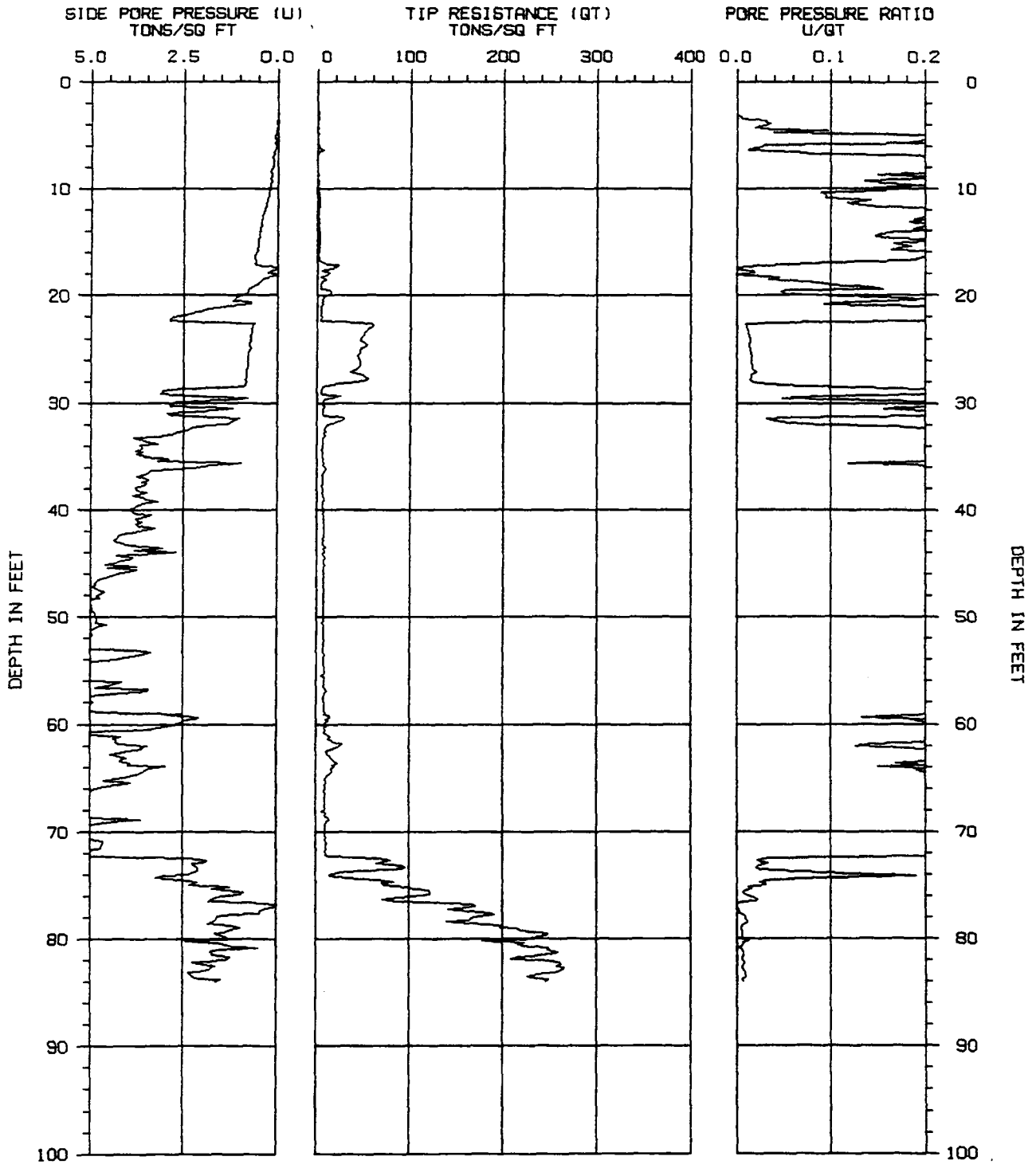
PROJECT NAME : ALAMEDA NAS#2

PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VO/R#4

DATE/TIME: 02-22-02 07:28

HFA



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-13SEIS

PROJECT NAME : ALAMEDA NAS#2

PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VO/R#4

DATE/TIME: 02-22-02 07:28

HFA

CPT INTERPRETATIONS

SOUNDING : CPT-13Seis
PROJECT : Alameda NAS#2
DATE/TIME: 02-22-02 07:28

PROJECT No.: 010810
CONE/RIG : 472/GO-VO/R#4

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	.10	.00		0	0			
.300	.98	.10	.00		0	0			
.450	1.48	.10	.00		0	0			
.600	1.97	.13	.00		0	0			
.750	2.46	.11	.00		0	0			
.900	2.95	1.74	.00		0	0			
1.050	3.44	1.32	7.58	ORGANIC MATERIAL	1	2		.1	
1.200	3.94	.65	1.54	ORGANIC MATERIAL	1	1		.0	
1.350	4.43	.84	1.19	ORGANIC MATERIAL	1	1		.1	
1.500	4.92	.13	7.69	ORGANIC MATERIAL	0	0		.0	
1.650	5.41	.14	.00		0	0			
1.800	5.91	2.04	.98	SENSITIVE FINE GRAINED	1	2		.2	
1.950	6.40	6.54	.15	SENSITIVE FINE GRAINED	3	5		.6	
2.100	6.89	.54	3.70	ORGANIC MATERIAL	1	1		.0	
2.250	7.38	.33	6.06	ORGANIC MATERIAL	0	1		.0	
2.400	7.87	.41	4.88	ORGANIC MATERIAL	0	1		.0	
2.550	8.37	.24	4.17	ORGANIC MATERIAL	0	0		.0	
2.700	8.86	.71	1.41	ORGANIC MATERIAL	1	1		.0	
2.850	9.35	1.14	.88	SENSITIVE FINE GRAINED	1	1		.1	
3.000	9.84	1.24	.81	SENSITIVE FINE GRAINED	1	1		.1	
3.150	10.33	2.41	.00		0	0			
3.300	10.83	2.71	.00		0	0			37.0
3.450	11.32	2.51	.00		0	0			38.5
3.600	11.81	1.71	.00		0	0			39.0
3.750	12.30	1.61	.62	SENSITIVE FINE GRAINED	1	1		.1	
3.900	12.80	2.11	.47	SENSITIVE FINE GRAINED	1	1		.1	
4.050	13.29	2.03	.49	SENSITIVE FINE GRAINED	1	1		.1	
4.200	13.78	2.31	.87	SENSITIVE FINE GRAINED	1	1		.2	
4.350	14.27	3.04	.00		0	0			39.0
4.500	14.76	2.21	.45	SENSITIVE FINE GRAINED	1	1		.1	
4.650	15.26	2.95	.00		0	0			38.0
4.800	15.75	3.02	.33	SENSITIVE FINE GRAINED	2	2		.2	
4.950	16.24	1.61	1.24	SENSITIVE FINE GRAINED	1	1		.1	
5.100	16.73	3.11	.00		0	0			38.0
5.250	17.22	23.74	.21	SILTY SAND to SANDY SILT	8	8	27		33.0
5.400	17.72	5.62	.18	SENSITIVE FINE GRAINED	3	3		.5	
5.550	18.21	5.21	.19	SENSITIVE FINE GRAINED	3	3		.4	
5.700	18.70	6.00	1.33	SENSITIVE FINE GRAINED	3	3		.5	
5.850	19.19	4.41	1.36	SENSITIVE FINE GRAINED	2	2		.3	
6.000	19.69	15.91	.25	SANDY SILT to CLAYEY SILT	6	6		1.5	
6.150	20.18	7.15	.56	SENSITIVE FINE GRAINED	4	4		.6	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-13Seis

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	5.64	.35	SENSITIVE FINE GRAINED	3	3		.4	
6.450	21.16	4.93	1.02	SENSITIVE FINE GRAINED	2	2		.4	
6.600	21.65	5.07	1.18	SENSITIVE FINE GRAINED	3	2		.4	
6.750	22.15	5.21	1.15	SENSITIVE FINE GRAINED	3	3		.4	
6.900	22.64	59.54	.52	SAND to SILTY SAND	15	14	51		38.0
7.050	23.13	55.64	.66	SAND to SILTY SAND	14	13	49		37.5
7.200	23.62	51.33	.66	SILTY SAND to SANDY SILT	17	16	47		37.0
7.350	24.11	47.74	.71	SILTY SAND to SANDY SILT	16	15	44		36.5
7.500	24.61	54.33	.61	SAND to SILTY SAND	14	13	48		37.0
7.650	25.10	47.52	.72	SILTY SAND to SANDY SILT	16	15	44		36.5
7.800	25.59	44.82	.74	SILTY SAND to SANDY SILT	15	14	42		36.5
7.950	26.08	47.34	.80	SILTY SAND to SANDY SILT	16	15	43		36.5
8.100	26.57	46.12	.74	SILTY SAND to SANDY SILT	15	14	43		36.5
8.250	27.07	37.33	1.02	SILTY SAND to SANDY SILT	12	11	36		35.0
8.400	27.56	52.94	.76	SILTY SAND to SANDY SILT	18	16	46		37.0
8.550	28.05	44.02	1.84	SANDY SILT to CLAYEY SILT	18	16		2.8	
8.700	28.54	6.84	4.09	CLAY	7	6		.3	
8.850	29.04	5.34	.75	SENSITIVE FINE GRAINED	3	2		.4	
9.000	29.53	16.14	2.73	CLAYEY SILT to SILTY CLAY	8	7		1.0	
9.150	30.02	6.71	.89	SENSITIVE FINE GRAINED	3	3		.5	
9.300	30.51	7.44	1.08	SENSITIVE FINE GRAINED	4	3		.6	
9.450	31.00	7.50	1.33	CLAYEY SILT to SILTY CLAY	4	3		.6	
9.600	31.50	30.54	.75	SILTY SAND to SANDY SILT	10	9	29		32.5
9.750	31.99	14.26	1.61	CLAYEY SILT to SILTY CLAY	7	6		1.0	
9.900	32.48	8.37	1.20	CLAYEY SILT to SILTY CLAY	4	4		.6	
10.050	32.97	9.30	.75	SENSITIVE FINE GRAINED	5	4		.7	
10.200	33.46	7.37	1.09	SENSITIVE FINE GRAINED	4	3		.5	
10.350	33.96	6.64	1.21	SENSITIVE FINE GRAINED	3	3		.5	
10.500	34.45	6.49	1.08	SENSITIVE FINE GRAINED	3	3		.5	
10.650	34.94	6.70	1.04	SENSITIVE FINE GRAINED	3	3		.5	
10.800	35.43	6.69	1.05	SENSITIVE FINE GRAINED	3	3		.5	
10.950	35.93	8.63	.58	SENSITIVE FINE GRAINED	4	4		.7	
11.100	36.42	7.69	.39	SENSITIVE FINE GRAINED	4	3		.6	
11.250	36.91	6.89	.58	SENSITIVE FINE GRAINED	3	3		.5	
11.400	37.40	6.86	.73	SENSITIVE FINE GRAINED	3	3		.5	
11.550	37.89	6.79	.59	SENSITIVE FINE GRAINED	3	3		.5	
11.700	38.39	6.46	.62	SENSITIVE FINE GRAINED	3	3		.4	
11.850	38.88	7.73	.52	SENSITIVE FINE GRAINED	4	3		.5	
12.000	39.37	7.35	.54	SENSITIVE FINE GRAINED	4	3		.5	
12.150	39.86	7.72	.52	SENSITIVE FINE GRAINED	4	3		.5	
12.300	40.35	7.10	.84	SENSITIVE FINE GRAINED	4	3		.5	
12.450	40.85	7.89	.63	SENSITIVE FINE GRAINED	4	3		.6	
12.600	41.34	8.25	.73	SENSITIVE FINE GRAINED	4	3		.6	
12.750	41.83	7.71	.91	SENSITIVE FINE GRAINED	4	3		.5	
12.900	42.32	8.10	.86	SENSITIVE FINE GRAINED	4	3		.6	
13.050	42.81	8.01	.75	SENSITIVE FINE GRAINED	4	3		.6	
13.200	43.31	8.57	.93	SENSITIVE FINE GRAINED	4	3		.6	
13.350	43.80	9.45	.74	SENSITIVE FINE GRAINED	5	4		.7	
13.500	44.29	7.99	.75	SENSITIVE FINE GRAINED	4	3		.5	
13.650	44.78	8.00	.75	SENSITIVE FINE GRAINED	4	3		.5	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-13Seis

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	8.63	.81	SENSITIVE FINE GRAINED	4	3		.6	
13.950	45.77	8.12	.86	SENSITIVE FINE GRAINED	4	3		.5	
14.100	46.26	8.08	.87	SENSITIVE FINE GRAINED	4	3		.5	
14.250	46.75	8.06	.99	SENSITIVE FINE GRAINED	4	3		.5	
14.400	47.24	8.45	.95	SENSITIVE FINE GRAINED	4	3		.6	
14.550	47.74	8.46	.83	SENSITIVE FINE GRAINED	4	3		.6	
14.700	48.23	8.45	.95	SENSITIVE FINE GRAINED	4	3		.6	
14.850	48.72	8.18	1.10	SENSITIVE FINE GRAINED	4	3		.5	
15.000	49.21	8.26	.97	SENSITIVE FINE GRAINED	4	3		.5	
15.150	49.70	8.19	.85	SENSITIVE FINE GRAINED	4	3		.5	
15.300	50.20	7.86	.25	SENSITIVE FINE GRAINED	4	3		.5	
15.450	50.69	8.11	.74	SENSITIVE FINE GRAINED	4	3		.5	
15.600	51.18	8.32	.72	SENSITIVE FINE GRAINED	4	3		.5	
15.750	51.67	8.34	.96	SENSITIVE FINE GRAINED	4	3		.5	
15.900	52.17	8.89	.79	SENSITIVE FINE GRAINED	4	3		.6	
16.050	52.66	8.58	.93	SENSITIVE FINE GRAINED	4	3		.6	
16.200	53.15	8.60	.58	SENSITIVE FINE GRAINED	4	3		.6	
16.350	53.64	8.35	.84	SENSITIVE FINE GRAINED	4	3		.5	
16.500	54.13	8.54	.82	SENSITIVE FINE GRAINED	4	3		.5	
16.650	54.63	8.91	1.01	CLAYEY SILT to SILTY CLAY	4	3		.6	
16.800	55.12	9.37	.11	SENSITIVE FINE GRAINED	5	3		.6	
16.950	55.61	9.02	.89	SENSITIVE FINE GRAINED	5	3		.6	
17.100	56.10	9.66	.62	SENSITIVE FINE GRAINED	5	3		.6	
17.250	56.59	9.04	.66	SENSITIVE FINE GRAINED	5	3		.6	
17.400	57.09	9.34	.86	CLAYEY SILT to SILTY CLAY	5	3		.6	
17.550	57.58	8.39	.83	SENSITIVE FINE GRAINED	4	3		.5	
17.700	58.07	9.49	.95	CLAYEY SILT to SILTY CLAY	5	3		.6	
17.850	58.56	9.65	1.04	CLAYEY SILT to SILTY CLAY	5	3		.6	
18.000	59.06	9.47	1.06	CLAYEY SILT to SILTY CLAY	5	3		.6	
18.150	59.55	10.89	1.56	CLAYEY SILT to SILTY CLAY	5	4		.6	
18.300	60.04	8.57	1.40	CLAYEY SILT to SILTY CLAY	4	3		.4	
18.450	60.53	10.84	.55	SANDY SILT to CLAYEY SILT	4	3		.7	
18.600	61.02	12.96	.31	SANDY SILT to CLAYEY SILT	5	4		.9	
18.750	61.52	16.72	.48	SANDY SILT to CLAYEY SILT	7	5		1.3	
18.900	62.01	27.20	.33	SILTY SAND to SANDY SILT	9	6	19		29.5
19.050	62.50	12.03	.58	SANDY SILT to CLAYEY SILT	5	3		.8	
19.200	62.99	15.98	.75	SANDY SILT to CLAYEY SILT	6	4		1.2	
19.350	63.48	20.66	.63	SILTY SAND to SANDY SILT	7	5	11		29.0
19.500	63.98	19.97	1.05	SANDY SILT to CLAYEY SILT	8	5		1.3	
19.650	64.47	17.10	.82	SANDY SILT to CLAYEY SILT	7	5		1.3	
19.800	64.96	11.03	.54	SANDY SILT to CLAYEY SILT	4	3		.7	
19.950	65.45	11.30	.80	SANDY SILT to CLAYEY SILT	5	3		.8	
20.100	65.94	10.04	.90	CLAYEY SILT to SILTY CLAY	5	3		.6	
20.250	66.44	9.91	.91	CLAYEY SILT to SILTY CLAY	5	3		.6	
20.400	66.93	10.41	.96	CLAYEY SILT to SILTY CLAY	5	3		.7	
20.550	67.42	10.36	1.06	CLAYEY SILT to SILTY CLAY	5	3		.6	
20.700	67.91	10.45	1.15	CLAYEY SILT to SILTY CLAY	5	3		.7	
20.850	68.41	10.77	1.11	CLAYEY SILT to SILTY CLAY	5	4		.7	
21.000	68.90	14.60	.41	SANDY SILT to CLAYEY SILT	6	4		1.1	
21.150	69.39	9.94	.70	CLAYEY SILT to SILTY CLAY	5	3		.6	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-13Seis

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
21.300	69.88	10.08	1.09	CLAYEY SILT to SILTY CLAY	5	3		.6	
21.450	70.37	10.88	1.10	CLAYEY SILT to SILTY CLAY	5	4		.7	
21.600	70.87	11.93	.84	SANDY SILT to CLAYEY SILT	5	3		.8	
21.750	71.36	11.81	.68	SANDY SILT to CLAYEY SILT	5	3		.8	
21.900	71.85	10.88	.83	CLAYEY SILT to SILTY CLAY	5	4		.7	
22.050	72.34	15.04	1.46	SANDY SILT to CLAYEY SILT	6	4		.9	
22.200	72.83	71.21	1.05	SAND to SILTY SAND	18	12	45		34.5
22.350	73.33	96.19	.80	SAND to SILTY SAND	24	16	53		36.5
22.500	73.82	24.36	2.91	CLAYEY SILT to SILTY CLAY	12	8		1.3	
22.650	74.31	33.93	.59	SILTY SAND to SANDY SILT	11	7	23		30.0
22.800	74.80	71.39	.84	SAND to SILTY SAND	18	11	45		34.0
22.950	75.30	105.63	.43	SAND	21	14	56		36.5
23.100	75.79	121.92	.50	SAND	24	16	60		37.5
23.250	76.28	72.90	1.11	SILTY SAND to SANDY SILT	24	15	45		34.0
23.400	76.77	167.79	.47	SAND	34	21	69		38.5
23.550	77.26	142.83	.73	SAND	29	18	64		38.0
23.700	77.76	190.90	.64	SAND	38	24	72		38.5
23.850	78.25	164.01	.63	SAND	33	21	68		38.0
24.000	78.74	199.33	.46	SAND	40	25	73		39.0
24.150	79.23	220.43	.73	SAND	44	28	76		39.0
24.300	79.72	246.47	.58	SAND	49	31	79		39.5
24.450	80.22	179.34	.84	SAND	36	22	70		38.5
24.600	80.71	229.13	.50	SAND	46	28	77		39.5
24.750	81.20	258.67	.77	SAND	52	32	80		40.0
24.900	81.69	217.70	.70	SAND	44	27	75		39.0
25.050	82.19	261.09	.64	SAND	52	32	81		40.0
25.200	82.68	264.99	.82	SAND	53	33	81		40.0
25.350	83.17	254.35	.97	SAND	51	31	80		39.5
25.500	83.66	235.25	.73	SAND	47	29	77		39.5

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

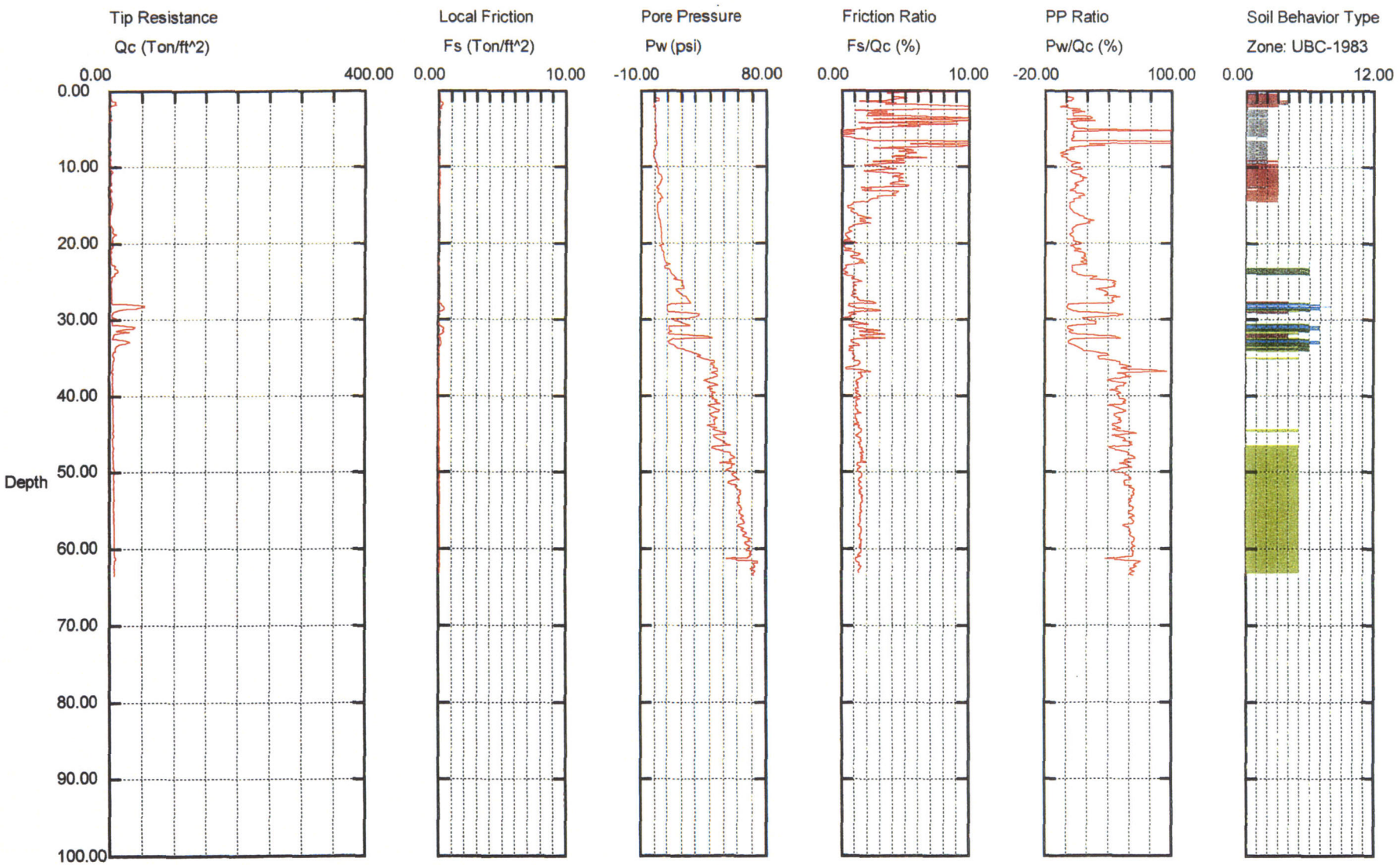
HOLGUIN, FAHAN & ASSOCIATES, INC.

Interpretations based on: Robertson and Campanella, 1989.

Hushman Associates

Operator: ALAMEDA NAS #2
Sounding: SDF139
Cone Used: 472/GO-VO/R#4

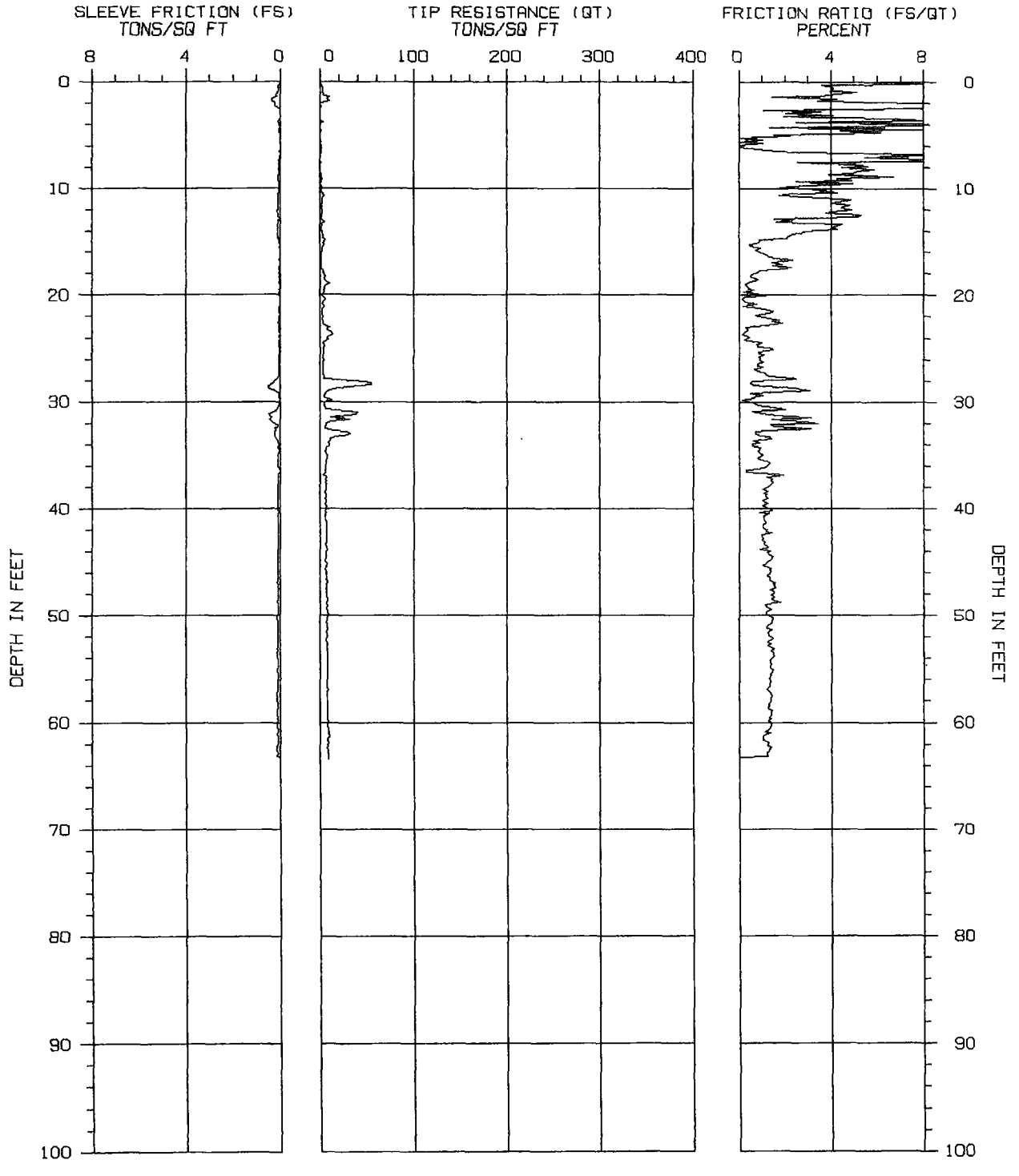
CPT Date/Time: 02-22-02 12:25
Location: CPT-14
Job Number: 010810



Maximum Depth = 63.48 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-14

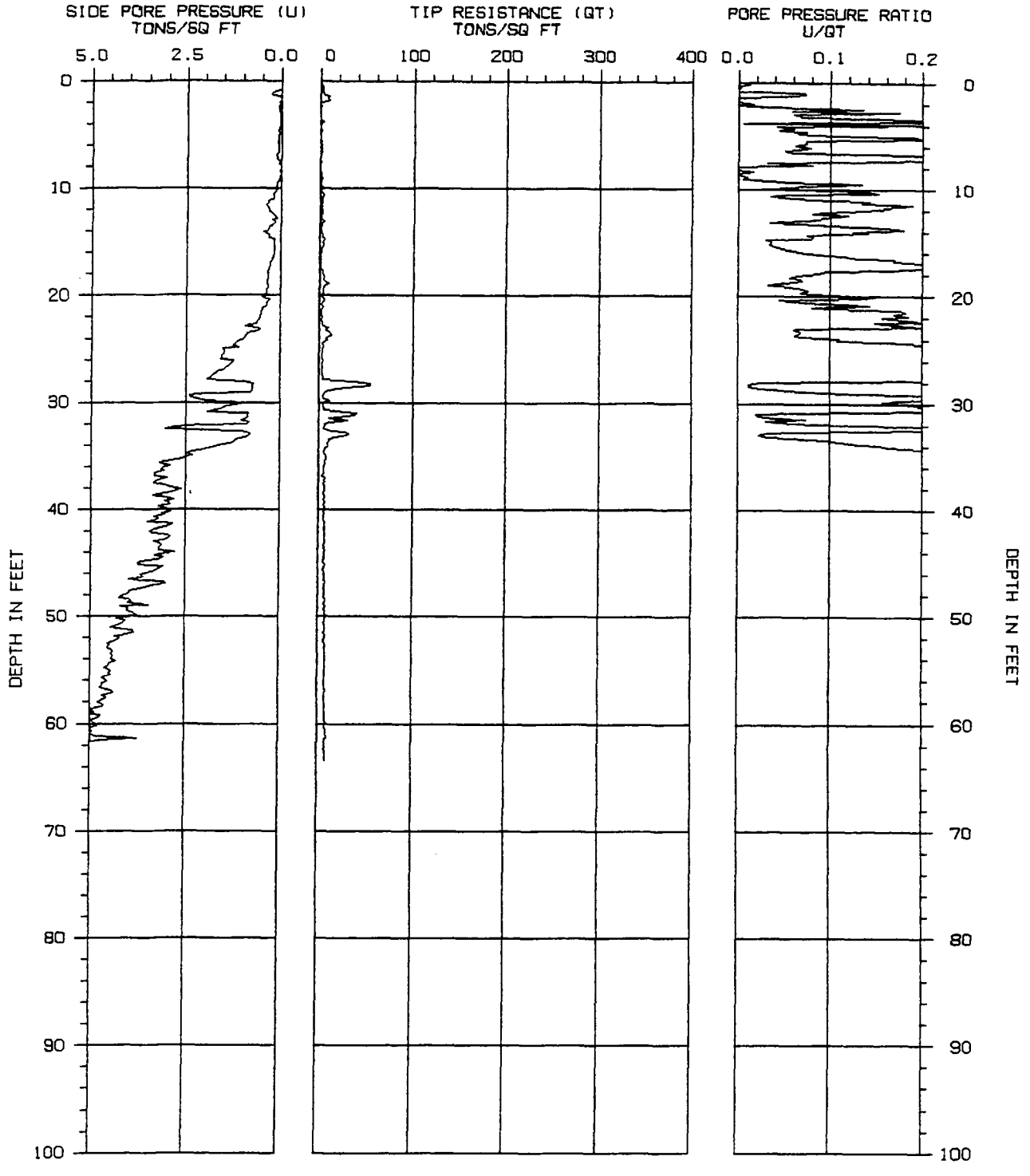
PROJECT NAME : ALAMEDA NAS #2

PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VO/R#4

DATE/TIME: 02-22-02 12:25

HFA



TIP RESISTANCE CORRECTED FOR END AREA EFFECT

CONE PENETRATION TEST

SOUNDING NUMBER: CPT-14

PROJECT NAME : ALAMEDA NAS #2

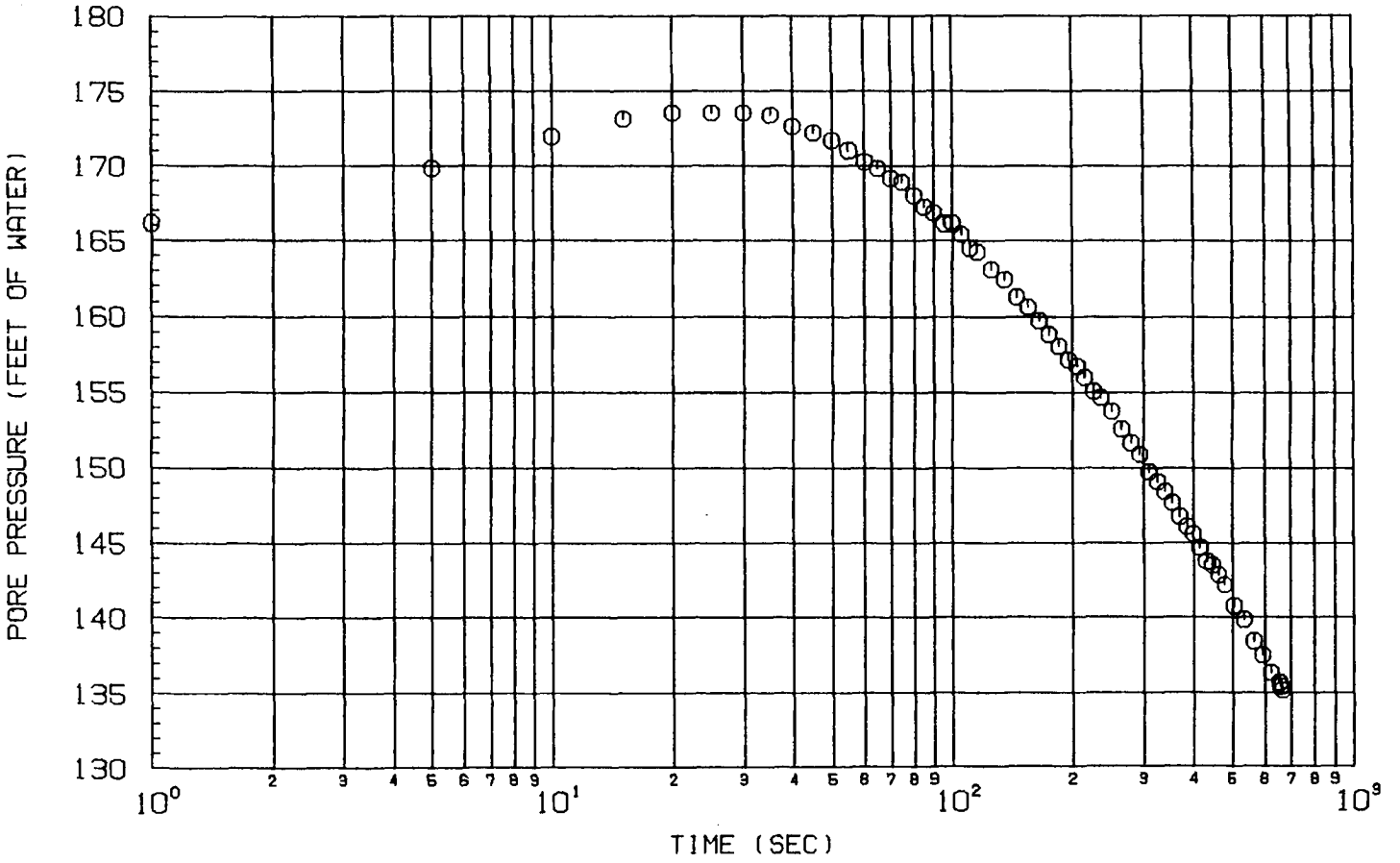
PROJECT NUMBER : 010810

CONE/RIG : 472/GO-VO/R#4

DATE/TIME: 02-22-02 12:25

HFA

PORE PRESSURE DISSIPATION CURVES



DEPTH: ⊙ 63.6 FT

SIDE-SENSING PIEZOMETRIC CPT

SOUNDING NUMBER: CPT-14

PROJECT NAME : ALAMEDA NAS #2

CONE/RIG : 472/GO-VO/R#4

PROJECT NUMBER : 010810

DATE/TIME: 02-22-02 12:25

CPT INTERPRETATIONS

SOUNDING : CPT-14 PROJECT No.: 010810
PROJECT : ALAMEDA NAS #2 CONE/RIG : 472/GO-VO/R#4
DATE/TIME: 02-22-02 12:25

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	2.72	4.04	CLAY	3	4		.2	
.300	.98	2.15	5.12	CLAY	2	3		.1	
.450	1.48	10.52	1.43	CLAYEY SILT to SILTY CLAY	5	8		.8	
.600	1.97	2.59	8.49	ORGANIC MATERIAL	3	4		.2	
.750	2.46	.38	10.53	ORGANIC MATERIAL	0	1		.0	
.900	2.95	.49	2.04	ORGANIC MATERIAL	0	1		.0	
1.050	3.44	.15	6.67	ORGANIC MATERIAL	0	0		.0	
1.200	3.94	.13	23.08	ORGANIC MATERIAL	0	0		.0	
1.350	4.43	.66	9.09	ORGANIC MATERIAL	1	1		.0	
1.500	4.92	.66	1.52	ORGANIC MATERIAL	1	1		.0	
1.650	5.41	.98	1.02	ORGANIC MATERIAL	1	2		.1	
1.800	5.91	1.13	.00		0	0			
1.950	6.40	1.74	1.15	SENSITIVE FINE GRAINED	1	1		.1	
2.100	6.89	.04	50.00	ORGANIC MATERIAL	0	0		.0	
2.250	7.38	.42	9.52	ORGANIC MATERIAL	0	1		.0	
2.400	7.87	.89	5.62	ORGANIC MATERIAL	1	1		.0	
2.550	8.37	.98	5.10	ORGANIC MATERIAL	1	1		.0	
2.700	8.86	1.64	6.71	ORGANIC MATERIAL	2	2		.1	
2.850	9.35	1.21	2.48	ORGANIC MATERIAL	1	2		.1	
3.000	9.84	2.78	1.80	SENSITIVE FINE GRAINED	1	2		.2	
3.150	10.33	1.17	4.27	ORGANIC MATERIAL	1	2		.1	
3.300	10.83	3.02	3.64	CLAY	3	4		.2	
3.450	11.32	2.51	3.98	CLAY	3	3		.1	
3.600	11.81	2.02	4.46	CLAY	2	2		.1	
3.750	12.30	3.17	3.79	CLAY	3	4		.2	
3.900	12.80	1.30	1.54	SENSITIVE FINE GRAINED	1	1		.1	
4.050	13.29	2.02	4.46	CLAY	2	2		.1	
4.200	13.78	1.87	4.28	CLAY	2	2		.1	
4.350	14.27	3.91	2.30	CLAY	4	4		.2	
4.500	14.76	5.61	.89	SENSITIVE FINE GRAINED	3	3		.5	
4.650	15.26	4.38	.46	SENSITIVE FINE GRAINED	2	2		.4	
4.800	15.75	2.78	.72	SENSITIVE FINE GRAINED	1	1		.2	
4.950	16.24	1.64	1.22	SENSITIVE FINE GRAINED	1	1		.1	
5.100	16.73	1.30	2.31	SENSITIVE FINE GRAINED	1	1		.0	
5.250	17.22	1.36	1.47	SENSITIVE FINE GRAINED	1	1		.0	
5.400	17.72	3.34	.90	SENSITIVE FINE GRAINED	2	2		.2	
5.550	18.21	5.97	.50	SENSITIVE FINE GRAINED	3	3		.5	
5.700	18.70	6.86	.44	SENSITIVE FINE GRAINED	3	4		.6	
5.850	19.19	5.14	.39	SENSITIVE FINE GRAINED	3	3		.4	
6.000	19.69	5.23	.19	SENSITIVE FINE GRAINED	3	3		.4	
6.150	20.18	3.48	.29	SENSITIVE FINE GRAINED	2	2		.2	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-14

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	3.85	.26	SENSITIVE FINE GRAINED	2	2		.3	
6.450	21.16	3.57	.84	SENSITIVE FINE GRAINED	2	2		.2	
6.600	21.65	3.04	1.32	SENSITIVE FINE GRAINED	2	1		.2	
6.750	22.15	3.06	1.31	SENSITIVE FINE GRAINED	2	1		.2	
6.900	22.64	3.76	1.86	SENSITIVE FINE GRAINED	2	2		.2	
7.050	23.13	8.56	.35	SENSITIVE FINE GRAINED	4	4		.7	
7.200	23.62	14.06	.14	SANDY SILT to CLAYEY SILT	6	5		1.3	
7.350	24.11	9.11	.22	SENSITIVE FINE GRAINED	5	4		.8	
7.500	24.61	5.19	.77	SENSITIVE FINE GRAINED	3	2		.4	
7.650	25.10	3.37	1.48	SENSITIVE FINE GRAINED	2	2		.2	
7.800	25.59	3.66	1.09	SENSITIVE FINE GRAINED	2	2		.2	
7.950	26.08	4.40	.91	SENSITIVE FINE GRAINED	2	2		.3	
8.100	26.57	3.67	.82	SENSITIVE FINE GRAINED	2	2		.2	
8.250	27.07	3.58	.84	SENSITIVE FINE GRAINED	2	2		.2	
8.400	27.56	4.52	1.33	SENSITIVE FINE GRAINED	2	2		.3	
8.550	28.05	36.50	.60	SILTY SAND to SANDY SILT	12	11	35		34.5
8.700	28.54	42.36	1.13	SILTY SAND to SANDY SILT	14	13	40		36.0
8.850	29.04	6.69	1.49	CLAY to SILTY CLAY	4	4		.4	
9.000	29.53	5.21	.58	SENSITIVE FINE GRAINED	3	2		.4	
9.150	30.02	5.37	.56	SENSITIVE FINE GRAINED	3	2		.4	
9.300	30.51	5.48	1.46	SENSITIVE FINE GRAINED	3	2		.4	
9.450	31.00	40.56	.71	SILTY SAND to SANDY SILT	14	12	38		35.0
9.600	31.50	11.62	3.10	CLAY to SILTY CLAY	8	7		.7	
9.750	31.99	7.56	3.44	CLAY	8	7		.4	
9.900	32.48	6.45	3.10	CLAY	6	6		.3	
10.050	32.97	32.44	.74	SILTY SAND to SANDY SILT	11	9	31		32.5
10.200	33.46	12.04	1.41	CLAYEY SILT to SILTY CLAY	6	5		.8	
10.350	33.96	9.95	.60	SENSITIVE FINE GRAINED	5	4		.8	
10.500	34.45	6.75	.89	SENSITIVE FINE GRAINED	3	3		.5	
10.650	34.94	7.87	1.02	SENSITIVE FINE GRAINED	4	3		.6	
10.800	35.43	7.21	.97	SENSITIVE FINE GRAINED	4	3		.5	
10.950	35.93	6.29	1.27	SENSITIVE FINE GRAINED	3	3		.4	
11.100	36.42	6.50	.31	SENSITIVE FINE GRAINED	3	3		.4	
11.250	36.91	4.14	1.93	SENSITIVE FINE GRAINED	2	2		.2	
11.400	37.40	6.54	1.38	SENSITIVE FINE GRAINED	3	3		.4	
11.550	37.89	7.00	1.29	SENSITIVE FINE GRAINED	3	3		.5	
11.700	38.39	5.62	1.25	SENSITIVE FINE GRAINED	3	2		.3	
11.850	38.88	6.79	1.18	SENSITIVE FINE GRAINED	3	3		.5	
12.000	39.37	7.54	1.06	SENSITIVE FINE GRAINED	4	3		.5	
12.150	39.86	6.78	1.18	SENSITIVE FINE GRAINED	3	3		.4	
12.300	40.35	6.70	.89	SENSITIVE FINE GRAINED	3	3		.4	
12.450	40.85	6.50	1.08	SENSITIVE FINE GRAINED	3	3		.4	
12.600	41.34	7.59	1.19	SENSITIVE FINE GRAINED	4	3		.5	
12.750	41.83	6.65	1.05	SENSITIVE FINE GRAINED	3	3		.4	
12.900	42.32	6.97	1.44	CLAYEY SILT to SILTY CLAY	3	3		.4	
13.050	42.81	6.83	1.02	SENSITIVE FINE GRAINED	3	3		.4	
13.200	43.31	6.51	1.08	SENSITIVE FINE GRAINED	3	3		.4	
13.350	43.80	7.84	.89	SENSITIVE FINE GRAINED	4	3		.5	
13.500	44.29	7.01	1.28	SENSITIVE FINE GRAINED	4	3		.4	
13.650	44.78	6.44	1.40	SENSITIVE FINE GRAINED	3	3		.4	

TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-14

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	7.57	1.06	SENSITIVE FINE GRAINED	4	3		.5	
13.950	45.77	6.67	1.35	SENSITIVE FINE GRAINED	3	3		.4	
14.100	46.26	6.71	1.19	SENSITIVE FINE GRAINED	3	3		.4	
14.250	46.75	8.06	1.37	CLAYEY SILT to SILTY CLAY	4	3		.4	
14.400	47.24	7.22	1.52	CLAYEY SILT to SILTY CLAY	4	3		.4	
14.550	47.74	7.46	1.47	CLAYEY SILT to SILTY CLAY	4	3		.4	
14.700	48.23	7.19	1.53	CLAYEY SILT to SILTY CLAY	4	3		.4	
14.850	48.72	7.26	1.79	CLAY to SILTY CLAY	5	4		.4	
15.000	49.21	7.58	1.19	SENSITIVE FINE GRAINED	4	3		.5	
15.150	49.70	8.43	1.19	CLAYEY SILT to SILTY CLAY	4	3		.6	
15.300	50.20	8.35	1.44	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.450	50.69	7.74	1.42	CLAYEY SILT to SILTY CLAY	4	3		.4	
15.600	51.18	8.17	1.22	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.750	51.67	8.00	1.25	CLAYEY SILT to SILTY CLAY	4	3		.5	
15.900	52.17	7.50	1.47	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.050	52.66	7.90	1.39	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.200	53.15	7.98	1.50	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.350	53.64	8.23	1.46	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.500	54.13	8.08	1.36	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.650	54.63	7.95	1.38	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.800	55.12	8.18	1.47	CLAYEY SILT to SILTY CLAY	4	3		.4	
16.950	55.61	8.01	1.37	CLAYEY SILT to SILTY CLAY	4	3		.4	
17.100	56.10	8.14	1.35	CLAYEY SILT to SILTY CLAY	4	3		.4	
17.250	56.59	8.25	1.33	CLAYEY SILT to SILTY CLAY	4	3		.4	
17.400	57.09	8.56	1.29	CLAYEY SILT to SILTY CLAY	4	3		.5	
17.550	57.58	8.37	1.43	CLAYEY SILT to SILTY CLAY	4	3		.4	
17.700	58.07	8.76	1.37	CLAYEY SILT to SILTY CLAY	4	3		.4	
17.850	58.56	8.41	1.31	CLAYEY SILT to SILTY CLAY	4	3		.4	
18.000	59.06	8.74	1.37	CLAYEY SILT to SILTY CLAY	4	3		.4	
18.150	59.55	8.55	1.29	CLAYEY SILT to SILTY CLAY	4	3		.5	
18.300	60.04	8.57	1.40	CLAYEY SILT to SILTY CLAY	4	3		.4	
18.450	60.53	8.82	1.36	CLAYEY SILT to SILTY CLAY	4	3		.4	
18.600	61.02	8.83	1.36	CLAYEY SILT to SILTY CLAY	4	3		.4	
18.750	61.52	8.62	1.04	CLAYEY SILT to SILTY CLAY	4	3		.5	
18.900	62.01	8.75	1.26	CLAYEY SILT to SILTY CLAY	4	3		.5	
19.050	62.50	9.07	1.32	CLAYEY SILT to SILTY CLAY	5	3		.4	
19.200	62.99	9.07	1.21	CLAYEY SILT to SILTY CLAY	5	3		.5	

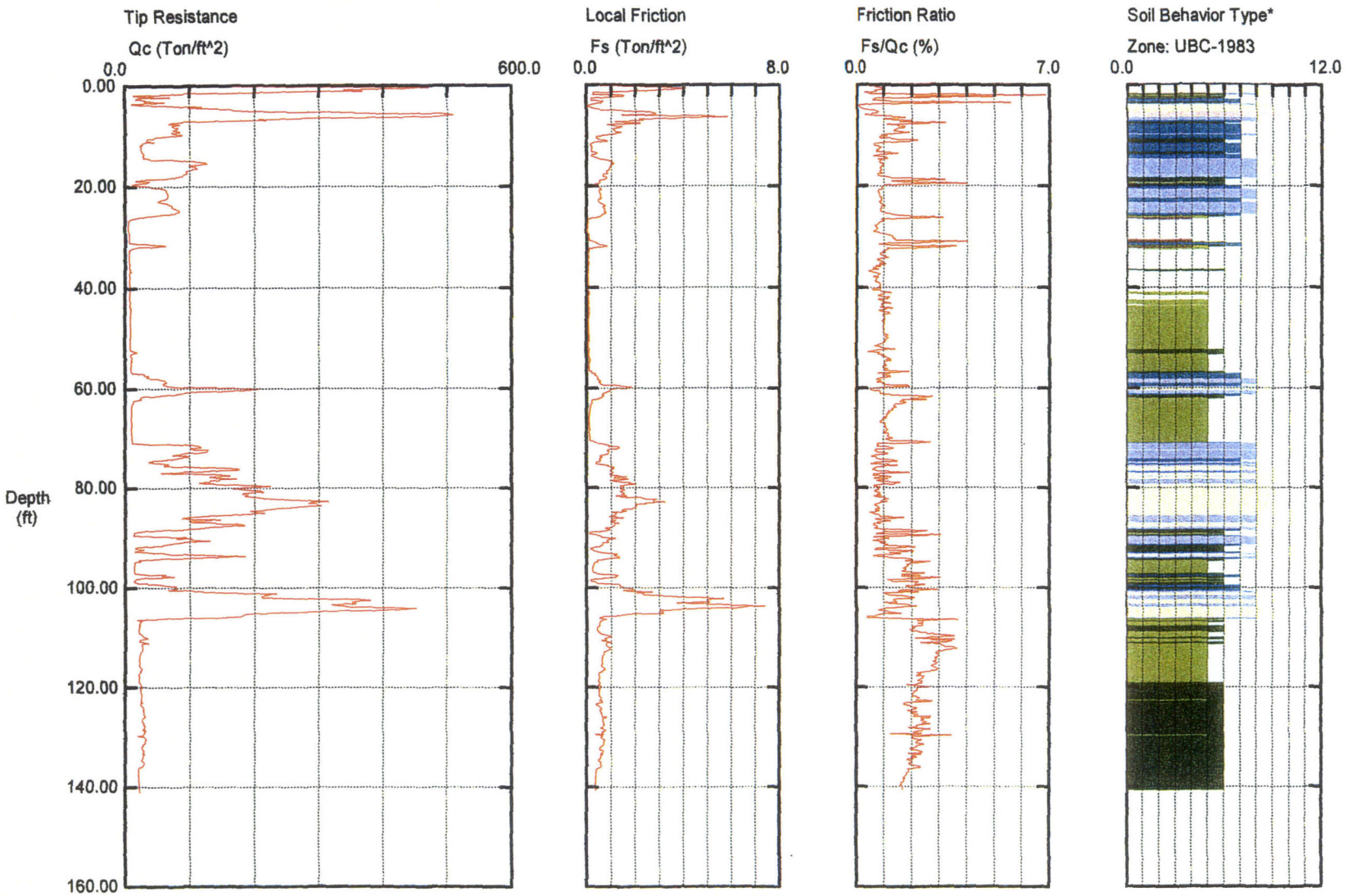
TIP RESISTANCE CORRECTED FOR END AREA EFFECT
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 115 pcf
ASSUMED DEPTH OF WATER TABLE = 15.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

oil behavior type and SPT based on data from UBC-1983

HUSHMAND ASSOC.

Operator: 705/BH-VO/R#3
Sounding: SDF126
Cone Used: ALAMEDA

CPT Date/Time: 03-12-02 10:17
Location: CPT-15A
Job Number: 010810



Maximum Depth = 141.08 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
clay

4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt

7 silty sand to sandy silt
8 sand to silty sand
9 sand

10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

CPT INTERPRETATIONS

SOUNDING : CPT-15A
PROJECT : 705/BH-VO/R#3
DATE/TIME: 03-12-02 10:17

PROJECT No.: 010810
CONE/RIG : ALAMEDA

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
.150	.49	470.32	.66	GRAVELLY SAND to SAND	78	100	100		
.300	.98	337.96	.95	SAND	68	100	100		
.450	1.48	175.50	.57	SAND	35	56	92		
.600	1.97	14.02	1.80	CLAYEY SILT to SILTY CLAY	7	11		1.1	
.750	2.46	22.92	4.99	CLAY	23	37		1.3	
.900	2.95	32.42	.64	SILTY SAND to SANDY SILT	11	17	44		45.0
1.050	3.44	49.95	1.24	SILTY SAND to SANDY SILT	17	27	56		46.0
1.200	3.94	44.13	.53	SILTY SAND to SANDY SILT	15	24	53		45.0
1.350	4.43	97.64	.12	SAND	20	31	76		48.0
1.500	4.92	167.81	.33	SAND	34	54	91		49.5
1.650	5.41	332.52	.78	SAND	67	100	100		
1.800	5.91	508.64	.51	GRAVELLY SAND to SAND	85	100	100		
1.950	6.40	374.08	1.55	SAND to SILTY SAND	94	100	100		
2.100	6.89	218.40	.99	SAND	44	70	99		
2.250	7.38	74.89	1.54	SILTY SAND to SANDY SILT	25	40	68		46.0
2.400	7.87	75.08	1.11	SAND to SILTY SAND	19	30	68		46.0
2.550	8.37	82.58	1.75	SILTY SAND to SANDY SILT	28	44	71		46.0
2.700	8.86	73.93	1.42	SILTY SAND to SANDY SILT	25	39	68		45.5
2.850	9.35	71.76	1.66	SILTY SAND to SANDY SILT	24	38	67		45.5
3.000	9.84	87.19	1.24	SAND to SILTY SAND	22	35	72		46.0
3.150	10.33	46.10	.82	SILTY SAND to SANDY SILT	15	25	54		43.5
3.300	10.83	33.23	1.44	SANDY SILT to CLAYEY SILT	13	21		2.6	
3.450	11.32	31.38	1.94	SANDY SILT to CLAYEY SILT	13	20		2.5	
3.600	11.81	23.69	.63	SILTY SAND to SANDY SILT	8	13	35		39.5
3.750	12.30	24.79	.82	SILTY SAND to SANDY SILT	8	13	36		39.5
3.900	12.80	25.39	.78	SILTY SAND to SANDY SILT	8	14	37		39.5
4.050	13.29	26.85	.72	SILTY SAND to SANDY SILT	9	14	39		40.0
4.200	13.78	28.81	1.11	SILTY SAND to SANDY SILT	10	15	41		40.0
4.350	14.27	28.49	1.04	SILTY SAND to SANDY SILT	9	15	40		40.0
4.500	14.76	82.15	.77	SAND to SILTY SAND	21	33	71		45.0
4.650	15.26	124.37	.81	SAND to SILTY SAND	31	50	83		46.5
4.800	15.75	108.24	.97	SAND to SILTY SAND	27	43	79		46.0
4.950	16.24	108.75	.90	SAND to SILTY SAND	27	43	79		46.0
5.100	16.73	102.17	.90	SAND to SILTY SAND	26	41	77		46.0
5.250	17.22	96.00	.83	SAND to SILTY SAND	24	38	75		45.5
5.400	17.72	89.61	.78	SAND to SILTY SAND	22	36	73		45.0
5.550	18.21	76.40	1.05	SAND to SILTY SAND	19	31	69		44.5
5.700	18.70	23.71	2.96	CLAYEY SILT to SILTY CLAY	12	19		1.5	
5.850	19.19	33.33	1.64	SANDY SILT to CLAYEY SILT	13	21		2.6	
6.000	19.69	16.34	1.94	CLAYEY SILT to SILTY CLAY	8	13		1.2	
6.150	20.18	46.67	.93	SILTY SAND to SANDY SILT	16	25	54		42.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 80 pcf
ASSUMED DEPTH OF WATER TABLE = 5.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-15A

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
6.300	20.67	64.12	.92	SAND to SILTY SAND	16	26	64		43.5
6.450	21.16	64.01	.77	SAND to SILTY SAND	16	26	64		43.5
6.600	21.65	66.28	.85	SAND to SILTY SAND	17	27	65		43.5
6.750	22.15	65.86	.85	SAND to SILTY SAND	16	26	64		43.5
6.900	22.64	56.94	.88	SILTY SAND to SANDY SILT	19	30	60		42.5
7.050	23.13	58.13	.81	SAND to SILTY SAND	15	23	61		42.5
7.200	23.62	69.58	.95	SAND to SILTY SAND	17	28	66		43.5
7.350	24.11	72.64	.91	SAND to SILTY SAND	18	29	67		43.5
7.500	24.61	83.88	.89	SAND to SILTY SAND	21	34	71		44.0
7.650	25.10	78.37	.92	SAND to SILTY SAND	20	31	69		44.0
7.800	25.59	54.81	1.26	SILTY SAND to SANDY SILT	18	29	59		42.0
7.950	26.08	20.74	2.52	CLAYEY SILT to SILTY CLAY	10	17		1.3	
8.100	26.57	6.82	.91	SENSITIVE FINE GRAINED	3	5		.6	
8.250	27.07	5.93	.86	SENSITIVE FINE GRAINED	3	5		.5	
8.400	27.56	5.65	.76	SENSITIVE FINE GRAINED	3	4		.5	
8.550	28.05	5.76	.69	SENSITIVE FINE GRAINED	3	5		.5	
8.700	28.54	5.69	.74	SENSITIVE FINE GRAINED	3	4		.5	
8.850	29.04	6.84	.64	SENSITIVE FINE GRAINED	3	5		.6	
9.000	29.53	6.33	1.07	SENSITIVE FINE GRAINED	3	5		.5	
9.150	30.02	6.39	1.30	SENSITIVE FINE GRAINED	3	5		.5	
9.300	30.51	6.63	1.34	SENSITIVE FINE GRAINED	3	5		.5	
9.450	31.00	6.44	4.01	CLAY	6	10		.3	
9.600	31.50	58.00	.80	SAND to SILTY SAND	14	22	61		42.0
9.750	31.99	18.86	3.57	CLAY to SILTY CLAY	13	19		1.2	
9.900	32.48	6.54	1.15	SENSITIVE FINE GRAINED	3	5		.5	
10.050	32.97	7.71	.92	SENSITIVE FINE GRAINED	4	6		.6	
10.200	33.46	6.80	.88	SENSITIVE FINE GRAINED	3	5		.5	
10.350	33.96	6.76	1.01	SENSITIVE FINE GRAINED	3	5		.5	
10.500	34.45	6.46	.74	SENSITIVE FINE GRAINED	3	5		.5	
10.650	34.94	6.76	.96	SENSITIVE FINE GRAINED	3	5		.5	
10.800	35.43	7.14	1.05	SENSITIVE FINE GRAINED	4	5		.6	
10.950	35.93	6.25	.86	SENSITIVE FINE GRAINED	3	5		.5	
11.100	36.42	7.71	.79	SENSITIVE FINE GRAINED	4	6		.6	
11.250	36.91	6.99	.49	SENSITIVE FINE GRAINED	3	5		.6	
11.400	37.40	7.69	.85	SENSITIVE FINE GRAINED	4	6		.6	
11.550	37.89	7.92	.61	SENSITIVE FINE GRAINED	4	6		.6	
11.700	38.39	6.63	.74	SENSITIVE FINE GRAINED	3	5		.5	
11.850	38.88	7.46	.67	SENSITIVE FINE GRAINED	4	5		.6	
12.000	39.37	7.10	.87	SENSITIVE FINE GRAINED	4	5		.6	
12.150	39.86	7.27	.85	SENSITIVE FINE GRAINED	4	5		.6	
12.300	40.35	7.20	.57	SENSITIVE FINE GRAINED	4	5		.6	
12.450	40.85	7.99	.89	SENSITIVE FINE GRAINED	4	6		.6	
12.600	41.34	7.80	.96	SENSITIVE FINE GRAINED	4	5		.6	
12.750	41.83	7.54	.86	SENSITIVE FINE GRAINED	4	5		.6	
12.900	42.32	7.10	1.16	SENSITIVE FINE GRAINED	4	5		.5	
13.050	42.81	8.58	.96	SENSITIVE FINE GRAINED	4	6		.7	
13.200	43.31	8.37	.96	SENSITIVE FINE GRAINED	4	6		.7	
13.350	43.80	8.56	.99	SENSITIVE FINE GRAINED	4	6		.7	
13.500	44.29	9.56	.99	CLAYEY SILT to SILTY CLAY	5	6		.8	
13.650	44.78	9.20	.86	SENSITIVE FINE GRAINED	5	6		.7	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 80 pcf
ASSUMED DEPTH OF WATER TABLE = 5.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-15A

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
13.800	45.28	8.58	1.21	CLAYEY SILT to SILTY CLAY	4	6		.7	
13.950	45.77	8.31	1.02	SENSITIVE FINE GRAINED	4	6		.6	
14.100	46.26	8.67	1.04	CLAYEY SILT to SILTY CLAY	4	6		.7	
14.250	46.75	8.69	.92	SENSITIVE FINE GRAINED	4	6		.7	
14.400	47.24	8.86	.99	CLAYEY SILT to SILTY CLAY	4	6		.7	
14.550	47.74	8.63	1.00	SENSITIVE FINE GRAINED	4	6		.7	
14.700	48.23	8.60	1.02	CLAYEY SILT to SILTY CLAY	4	6		.7	
14.850	48.72	8.84	1.00	CLAYEY SILT to SILTY CLAY	4	6		.7	
15.000	49.21	8.77	1.00	CLAYEY SILT to SILTY CLAY	4	6		.7	
15.150	49.70	8.75	1.10	CLAYEY SILT to SILTY CLAY	4	6		.7	
15.300	50.20	8.94	1.11	CLAYEY SILT to SILTY CLAY	4	6		.7	
15.450	50.69	8.97	1.05	CLAYEY SILT to SILTY CLAY	4	6		.7	
15.600	51.18	9.14	.94	CLAYEY SILT to SILTY CLAY	5	6		.7	
15.750	51.67	8.41	.67	SENSITIVE FINE GRAINED	4	5		.6	
15.900	52.17	9.26	1.07	CLAYEY SILT to SILTY CLAY	5	6		.7	
16.050	52.66	18.61	.53	SANDY SILT to CLAYEY SILT	7	9		1.7	
16.200	53.15	10.18	.78	CLAYEY SILT to SILTY CLAY	5	6		.8	
16.350	53.64	9.39	.92	CLAYEY SILT to SILTY CLAY	5	6		.7	
16.500	54.13	9.60	1.18	CLAYEY SILT to SILTY CLAY	5	6		.7	
16.650	54.63	9.48	1.23	CLAYEY SILT to SILTY CLAY	5	6		.6	
16.800	55.12	9.39	1.02	CLAYEY SILT to SILTY CLAY	5	6		.7	
16.950	55.61	9.22	1.10	CLAYEY SILT to SILTY CLAY	5	6		.7	
17.100	56.10	9.16	.98	CLAYEY SILT to SILTY CLAY	5	6		.7	
17.250	56.59	9.41	1.02	CLAYEY SILT to SILTY CLAY	5	6		.7	
17.400	57.09	27.34	.78	SILTY SAND to SANDY SILT	9	11	36		36.5
17.550	57.58	36.50	.94	SILTY SAND to SANDY SILT	12	15	44		38.0
17.700	58.07	50.29	.94	SILTY SAND to SANDY SILT	17	21	53		38.5
17.850	58.56	62.08	.89	SAND to SILTY SAND	16	19	59		39.5
18.000	59.06	59.21	.94	SILTY SAND to SANDY SILT	20	24	58		39.5
18.150	59.55	65.82	1.81	SILTY SAND to SANDY SILT	22	27	61		39.5
18.300	60.04	196.54	.84	SAND	39	48	92		45.0
18.450	60.53	149.78	.63	SAND	30	36	84		44.0
18.600	61.02	85.32	.88	SAND to SILTY SAND	21	26	68		41.5
18.750	61.52	46.46	1.51	SILTY SAND to SANDY SILT	15	19	50		38.5
18.900	62.01	23.54	2.22	SANDY SILT to CLAYEY SILT	9	11		1.4	
19.050	62.50	12.85	1.63	CLAYEY SILT to SILTY CLAY	6	8		.8	
19.200	62.99	11.32	1.78	CLAYEY SILT to SILTY CLAY	6	7		.7	
19.350	63.48	10.94	1.33	CLAYEY SILT to SILTY CLAY	5	6		.7	
19.500	63.98	10.45	1.33	CLAYEY SILT to SILTY CLAY	5	6		.6	
19.650	64.47	10.47	1.31	CLAYEY SILT to SILTY CLAY	5	6		.6	
19.800	64.96	10.71	1.21	CLAYEY SILT to SILTY CLAY	5	6		.6	
19.950	65.45	10.86	1.07	CLAYEY SILT to SILTY CLAY	5	6		.8	
20.100	65.94	9.67	.98	CLAYEY SILT to SILTY CLAY	5	6		.7	
20.250	66.44	9.75	.91	CLAYEY SILT to SILTY CLAY	5	6		.7	
20.400	66.93	10.41	.90	CLAYEY SILT to SILTY CLAY	5	6		.8	
20.550	67.42	10.26	1.03	CLAYEY SILT to SILTY CLAY	5	6		.8	
20.700	67.91	10.49	1.06	CLAYEY SILT to SILTY CLAY	5	6		.8	
20.850	68.41	10.75	1.13	CLAYEY SILT to SILTY CLAY	5	6		.8	
21.000	68.90	10.79	.95	CLAYEY SILT to SILTY CLAY	5	6		.8	
21.150	69.39	10.81	1.17	CLAYEY SILT to SILTY CLAY	5	6		.6	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 80 pcf
ASSUMED DEPTH OF WATER TABLE = 5.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-15A

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
21.300	69.88	10.98	1.23	CLAYEY SILT to SILTY CLAY	5	6		.7	
21.450	70.37	11.09	1.08	CLAYEY SILT to SILTY CLAY	6	6		.8	
21.600	70.87	11.66	2.67	CLAY to SILTY CLAY	8	9		.6	
21.750	71.36	106.67	.77	SAND to SILTY SAND	27	30	72		42.0
21.900	71.85	117.33	1.09	SAND to SILTY SAND	29	33	75		42.5
22.050	72.34	128.57	.69	SAND	26	29	77		42.5
22.200	72.83	115.57	.76	SAND to SILTY SAND	29	32	74		42.5
22.350	73.33	73.66	1.07	SAND to SILTY SAND	18	21	61		39.5
22.500	73.82	87.32	.74	SAND to SILTY SAND	22	24	66		40.5
22.650	74.31	58.04	.89	SILTY SAND to SANDY SILT	19	21	54		38.5
22.800	74.80	44.78	.97	SILTY SAND to SANDY SILT	15	17	47		38.0
22.950	75.30	62.67	.90	SAND to SILTY SAND	16	17	56		39.0
23.100	75.79	115.23	.90	SAND to SILTY SAND	29	32	74		42.0
23.250	76.28	173.23	.58	SAND	35	38	85		44.0
23.400	76.77	84.64	1.18	SAND to SILTY SAND	21	23	65		40.0
23.550	77.26	150.12	.62	SAND	30	33	81		43.0
23.700	77.76	131.14	1.25	SAND to SILTY SAND	33	36	77		42.5
23.850	78.25	147.59	1.15	SAND to SILTY SAND	37	40	81		43.0
24.000	78.74	131.12	.88	SAND to SILTY SAND	33	36	77		42.5
24.150	79.23	150.46	1.34	SAND to SILTY SAND	38	41	81		43.0
24.300	79.72	211.26	.64	SAND	42	46	91		44.5
24.450	80.22	180.09	.78	SAND	36	39	86		44.0
24.600	80.71	213.17	.63	SAND	43	46	91		44.5
24.750	81.20	180.56	.85	SAND	36	39	86		44.0
24.900	81.69	189.80	.61	SAND	38	41	87		44.0
25.050	82.19	232.57	1.04	SAND	47	50	93		45.0
25.200	82.68	314.08	.88	SAND	63	67	100		46.0
25.350	83.17	295.22	.83	SAND	59	63	100		46.0
25.500	83.66	277.20	.73	SAND	55	59	98		45.5
25.650	84.15	225.02	.84	SAND	45	48	92		44.5
25.800	84.65	193.31	.83	SAND	39	41	87		44.0
25.950	85.14	194.33	.62	SAND	39	41	87		44.0
26.100	85.63	117.14	.87	SAND to SILTY SAND	29	31	73		42.0
26.250	86.12	95.41	1.10	SAND to SILTY SAND	24	25	67		40.0
26.400	86.61	98.60	1.21	SAND to SILTY SAND	25	26	68		40.5
26.550	87.11	148.63	.88	SAND	30	31	79		42.5
26.700	87.60	164.65	.70	SAND	33	34	82		43.0
26.850	88.09	114.79	.65	SAND to SILTY SAND	29	30	72		41.5
27.000	88.58	31.27	2.54	SANDY SILT to CLAYEY SILT	13	13		1.8	
27.150	89.07	13.19	.81	SANDY SILT to CLAYEY SILT	5	5		1.0	
27.300	89.57	20.12	2.58	CLAYEY SILT to SILTY CLAY	10	10		1.1	
27.450	90.06	78.58	1.17	SAND to SILTY SAND	20	20	61		39.0
27.600	90.55	130.87	.60	SAND	26	27	75		42.0
27.750	91.04	76.01	.84	SAND to SILTY SAND	19	19	60		39.0
27.900	91.54	57.91	1.00	SILTY SAND to SANDY SILT	19	20	52		38.0
28.050	92.03	15.66	1.48	SANDY SILT to CLAYEY SILT	6	6		1.0	
28.200	92.52	22.01	1.15	SANDY SILT to CLAYEY SILT	9	9		1.5	
28.350	93.01	59.06	1.18	SILTY SAND to SANDY SILT	20	20	52		38.0
28.500	93.50	150.73	.73	SAND	30	30	79		42.5
28.650	94.00	99.66	1.35	SAND to SILTY SAND	25	25	67		40.0

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 80 pcf
ASSUMED DEPTH OF WATER TABLE = 5.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-15A

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
28.800	94.49	20.44	2.04	CLAYEY SILT to SILTY CLAY	10	10		1.3	
28.950	94.98	14.72	2.23	CLAYEY SILT to SILTY CLAY	7	7		.9	
29.100	95.47	15.21	1.79	CLAYEY SILT to SILTY CLAY	8	8		.9	
29.250	95.96	14.38	1.75	CLAYEY SILT to SILTY CLAY	7	7		.8	
29.400	96.46	14.49	1.79	CLAYEY SILT to SILTY CLAY	7	7		.9	
29.550	96.95	14.38	1.97	CLAYEY SILT to SILTY CLAY	7	7		.8	
29.700	97.44	62.46	1.63	SILTY SAND to SANDY SILT	21	21	53		38.0
29.850	97.93	57.79	2.04	SILTY SAND to SANDY SILT	19	19	51		38.0
30.000	98.43	14.94	1.13	SANDY SILT to CLAYEY SILT	6	6		.9	
30.150	98.92	15.55	2.23	CLAYEY SILT to SILTY CLAY	8	8		.9	
30.300	99.41	55.64	2.45	SANDY SILT to CLAYEY SILT	22	22		3.4	
30.450	99.90	79.94	1.88	SILTY SAND to SANDY SILT	27	26	60		39.0
30.600	100.39	67.01	2.91	SANDY SILT to CLAYEY SILT	27	26		4.2	
30.750	100.89	121.80	2.24	SILTY SAND to SANDY SILT	41	40	72		41.0
30.900	101.38	215.98	1.09	SAND	43	42	88		44.0
31.050	101.87	211.41	1.86	SAND to SILTY SAND	53	52	88		44.0
31.200	102.36	364.31	1.41	SAND	73	71	100		46.0
31.350	102.85	351.09	1.45	SAND	70	68	100		46.0
31.500	103.35	319.35	1.76	SAND to SILTY SAND	80	77	99		45.5
31.650	103.84	341.83	1.94	SAND to SILTY SAND	85	83	100		45.5
31.800	104.33	425.34	.93	SAND	85	82	100		46.5
31.950	104.82	277.22	1.14	SAND	55	53	95		44.5
32.100	105.31	184.66	1.00	SAND	37	35	83		43.0
32.250	105.81	171.32	.39	SAND	34	33	81		42.5
32.400	106.30	32.72	2.40	SANDY SILT to CLAYEY SILT	13	13		1.9	
32.550	106.79	23.35	2.39	CLAYEY SILT to SILTY CLAY	12	11		1.3	
32.700	107.28	21.50	2.36	CLAYEY SILT to SILTY CLAY	11	10		1.1	
32.850	107.78	22.33	1.98	SANDY SILT to CLAYEY SILT	9	8		1.4	
33.000	108.27	21.14	2.02	SANDY SILT to CLAYEY SILT	8	8		1.3	
33.150	108.76	21.27	2.22	CLAYEY SILT to SILTY CLAY	11	10		1.4	
33.300	109.25	24.62	2.53	CLAYEY SILT to SILTY CLAY	12	12		1.4	
33.450	109.74	28.26	3.54	CLAYEY SILT to SILTY CLAY	14	13		1.6	
33.600	110.24	30.85	2.43	SANDY SILT to CLAYEY SILT	12	12		1.8	
33.750	110.73	21.65	3.46	CLAYEY SILT to SILTY CLAY	11	10		1.1	
33.900	111.22	27.30	2.84	CLAYEY SILT to SILTY CLAY	14	13		1.5	
34.050	111.71	26.02	3.14	CLAYEY SILT to SILTY CLAY	13	12		1.4	
34.200	112.20	26.47	3.63	CLAYEY SILT to SILTY CLAY	13	12		1.5	
34.350	112.70	25.51	3.09	CLAYEY SILT to SILTY CLAY	13	12		1.4	
34.500	113.19	24.69	2.85	CLAYEY SILT to SILTY CLAY	12	11		1.3	
34.650	113.68	22.77	2.94	CLAYEY SILT to SILTY CLAY	11	11		1.2	
34.800	114.17	22.82	2.84	CLAYEY SILT to SILTY CLAY	11	11		1.2	
34.950	114.67	21.99	2.88	CLAYEY SILT to SILTY CLAY	11	10		1.2	
35.100	115.16	22.50	2.92	CLAYEY SILT to SILTY CLAY	11	10		1.2	
35.250	115.65	21.61	2.74	CLAYEY SILT to SILTY CLAY	11	10		1.1	
35.400	116.14	25.24	2.89	CLAYEY SILT to SILTY CLAY	13	12		1.4	
35.550	116.63	23.20	2.81	CLAYEY SILT to SILTY CLAY	12	11		1.2	
35.700	117.13	22.26	2.17	CLAYEY SILT to SILTY CLAY	11	10		1.4	
35.850	117.62	22.43	2.16	CLAYEY SILT to SILTY CLAY	11	10		1.4	
36.000	118.11	22.29	2.41	CLAYEY SILT to SILTY CLAY	11	10		1.2	
36.150	118.60	21.95	2.21	CLAYEY SILT to SILTY CLAY	11	10		1.4	

*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 80 pcf
ASSUMED DEPTH OF WATER TABLE = 5.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

SOUNDING : CPT-15A

DEPTH (m)	DEPTH (ft)	TIP RESISTANCE (tsf)	FRICTION RATIO (%)	SOIL BEHAVIOR TYPE	N(60)	N1(60)	Dr (%)	Su (tsf)	PHI (Degrees)
36.300	119.09	23.11	2.37	CLAYEY SILT to SILTY CLAY	12	11		1.2	
36.450	119.59	24.67	1.82	SANDY SILT to CLAYEY SILT	10	9		1.6	
36.600	120.08	25.62	2.20	SANDY SILT to CLAYEY SILT	10	9		1.4	
36.750	120.57	23.41	2.20	SANDY SILT to CLAYEY SILT	9	8		1.2	
36.900	121.06	24.58	2.09	SANDY SILT to CLAYEY SILT	10	9		1.6	
37.050	121.56	25.90	2.02	SANDY SILT to CLAYEY SILT	10	9		1.7	
37.200	122.05	25.77	2.22	SANDY SILT to CLAYEY SILT	10	9		1.4	
37.350	122.54	25.37	2.13	SANDY SILT to CLAYEY SILT	10	9		1.4	
37.500	123.03	28.02	2.05	SANDY SILT to CLAYEY SILT	11	10		1.8	
37.650	123.52	24.20	1.72	SANDY SILT to CLAYEY SILT	10	9		1.5	
37.800	124.02	28.45	2.09	SANDY SILT to CLAYEY SILT	11	10		1.6	
37.950	124.51	28.49	1.98	SANDY SILT to CLAYEY SILT	11	10		1.9	
38.100	125.00	28.91	2.19	SANDY SILT to CLAYEY SILT	12	10		1.6	
38.250	125.49	29.19	2.23	SANDY SILT to CLAYEY SILT	12	10		1.6	
38.400	125.98	30.42	2.68	CLAYEY SILT to SILTY CLAY	15	14		1.7	
38.550	126.48	27.34	2.44	CLAYEY SILT to SILTY CLAY	14	12		1.5	
38.700	126.97	28.00	2.52	CLAYEY SILT to SILTY CLAY	14	12		1.5	
38.850	127.46	28.62	2.66	CLAYEY SILT to SILTY CLAY	14	13		1.6	
39.000	127.95	30.06	2.21	SANDY SILT to CLAYEY SILT	12	11		1.7	
39.150	128.44	26.94	2.69	CLAYEY SILT to SILTY CLAY	13	12		1.5	
39.300	128.94	28.74	2.22	SANDY SILT to CLAYEY SILT	11	10		1.6	
39.450	129.43	28.13	1.20	SANDY SILT to CLAYEY SILT	11	10		1.8	
39.600	129.92	28.47	1.99	SANDY SILT to CLAYEY SILT	11	10		1.9	
39.750	130.41	32.63	2.17	SANDY SILT to CLAYEY SILT	13	11		1.8	
39.900	130.91	31.36	2.17	SANDY SILT to CLAYEY SILT	13	11		1.7	
40.050	131.40	28.64	2.38	SANDY SILT to CLAYEY SILT	11	10		1.6	
40.200	131.89	26.41	2.17	SANDY SILT to CLAYEY SILT	11	9		1.4	
40.350	132.38	26.60	1.92	SANDY SILT to CLAYEY SILT	11	9		1.7	
40.500	132.87	29.34	2.32	SANDY SILT to CLAYEY SILT	12	10		1.6	
40.650	133.37	30.00	1.87	SANDY SILT to CLAYEY SILT	12	10		2.0	
40.800	133.86	27.56	2.10	SANDY SILT to CLAYEY SILT	11	10		1.5	
40.950	134.35	25.92	2.05	SANDY SILT to CLAYEY SILT	10	9		1.6	
41.100	134.84	26.58	1.96	SANDY SILT to CLAYEY SILT	11	9		1.7	
41.250	135.33	29.04	1.92	SANDY SILT to CLAYEY SILT	12	10		1.9	
41.400	135.83	27.19	2.19	SANDY SILT to CLAYEY SILT	11	9		1.5	
41.550	136.32	21.50	2.03	SANDY SILT to CLAYEY SILT	9	7		1.3	
41.700	136.81	20.76	1.90	SANDY SILT to CLAYEY SILT	8	7		1.2	
41.850	137.30	20.76	1.82	SANDY SILT to CLAYEY SILT	8	7		1.2	
42.000	137.80	20.91	1.77	SANDY SILT to CLAYEY SILT	8	7		1.2	
42.150	138.29	21.37	1.69	SANDY SILT to CLAYEY SILT	9	7		1.3	
42.300	138.78	21.08	1.71	SANDY SILT to CLAYEY SILT	8	7		1.2	
42.450	139.27	21.37	1.60	SANDY SILT to CLAYEY SILT	9	7		1.3	
42.600	139.76	21.73	1.55	SANDY SILT to CLAYEY SILT	9	7		1.3	
42.750	140.26	22.22	1.65	SANDY SILT to CLAYEY SILT	9	8		1.3	
42.900	140.75	22.43	1.64	SANDY SILT to CLAYEY SILT	9	8		1.3	

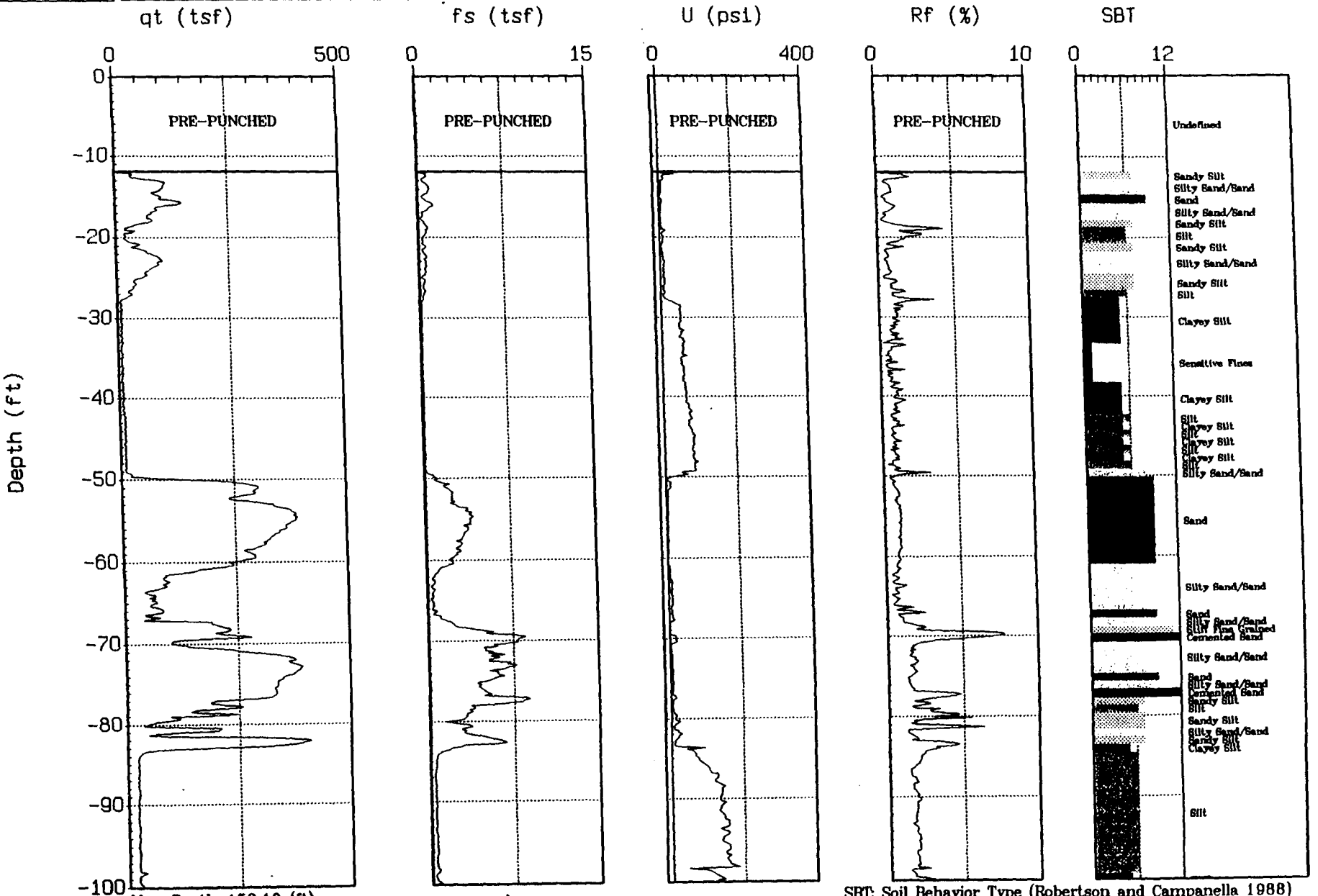
*INDICATES OVERCONSOLIDATED OR CEMENTED MATERIAL
ASSUMED TOTAL UNIT WT = 80 pcf
ASSUMED DEPTH OF WATER TABLE = 5.0 ft
N(60) = EQUIVALENT SPT VALUE (60% Energy)
N1(60) = OVERBURDEN NORMALIZED EQUIVALENT SPT VALUE (60% Energy)
Dr = OVERBURDEN NORMALIZED EQUIVALENT RELATIVE DENSITY
Su = OVERBURDEN NORMALIZED UNDRAINED SHEAR STRENGTH
PHI = OVERBURDEN NORMALIZED EQUIVALENT FRICTION ANGLE

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-750

Engineer : P. MOORE
Date : 06:20:02 08:43



Max. Depth: 150.10 (ft)

Depth Inc.: 0.164 (ft)

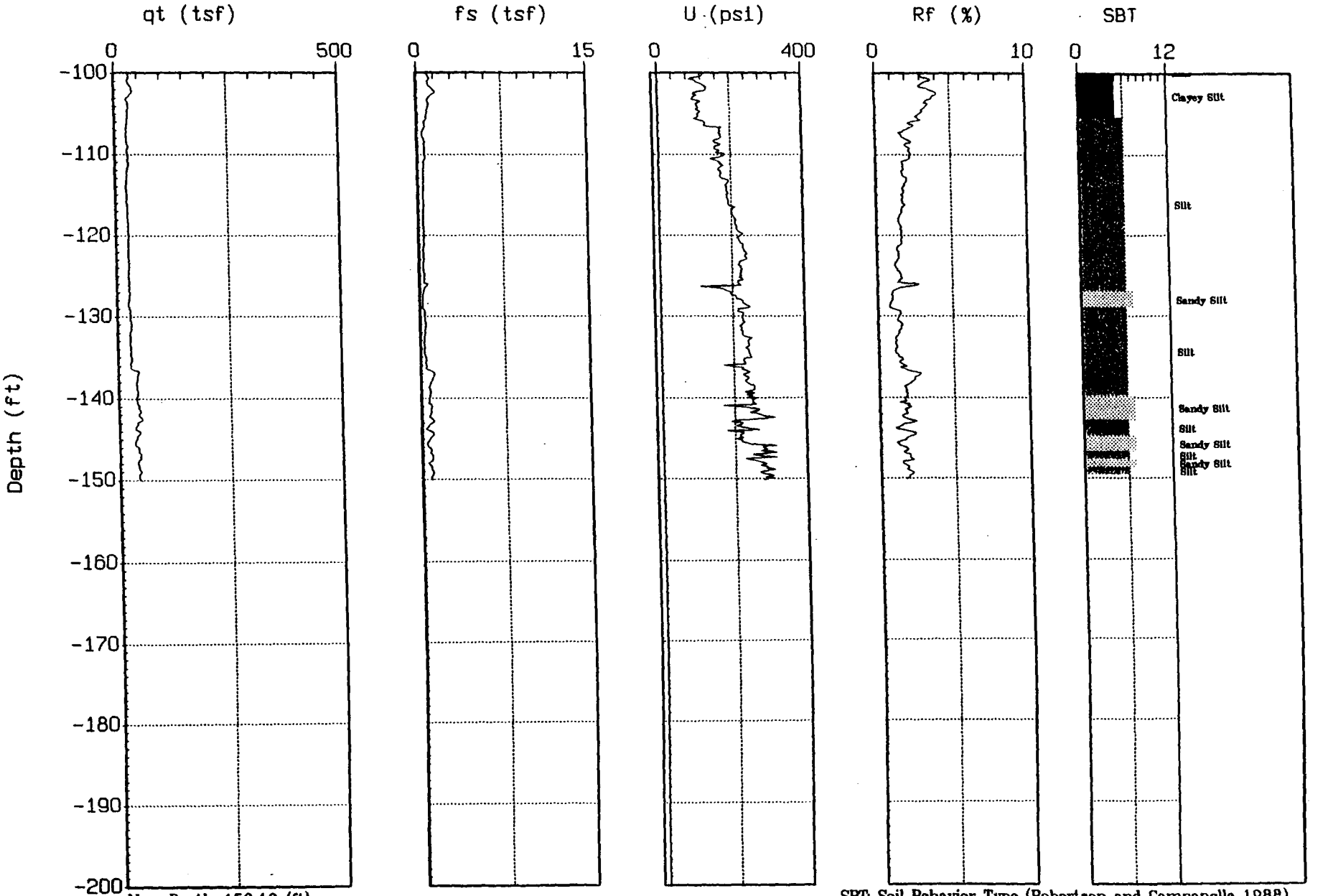
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-750

Engineer : P. MOORE
Date : 06:20:02 08:43



Max. Depth: 150.10 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0627-1626-5023
[illegible] No: 97-100
[illegible]rient: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-750
Engineer: P. MOORE
CPT Date: 02/20/06
CPT Time: 08:43
CPT File: 073C750.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 1.22 (ft): 4.0
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	0.0	0.00	0.00	0.0	UnDef	124.1	0.03	0.03	0.00	2.00	UnDef	UnDef	UnDef	0.00
1.48	0.0	0.00	0.00	0.0	UnDef	124.1	0.09	0.09	0.00	2.00	UnDef	UnDef	UnDef	0.00
2.46	0.0	0.00	0.00	0.0	UnDef	124.1	0.15	0.15	0.00	2.00	UnDef	UnDef	UnDef	0.00
3.44	0.0	0.00	0.00	0.0	UnDef	124.1	0.21	0.21	0.00	2.00	UnDef	UnDef	UnDef	0.00
[illegible].43	0.0	0.00	0.00	0.0	UnDef	124.1	0.27	0.26	0.01	1.96	UnDef	UnDef	UnDef	0.00
[illegible]1	0.0	0.00	0.00	0.0	UnDef	124.1	0.34	0.29	0.04	1.85	UnDef	UnDef	UnDef	0.00
6.40	0.0	0.00	0.00	0.0	UnDef	124.1	0.40	0.32	0.07	1.76	UnDef	UnDef	UnDef	0.00
7.30	0.0	0.00	0.00	0.0	UnDef	124.1	0.45	0.35	0.10	1.69	UnDef	UnDef	UnDef	0.00
8.20	0.0	0.00	0.00	0.0	UnDef	124.1	0.51	0.38	0.13	1.63	UnDef	UnDef	UnDef	0.00
9.19	0.0	0.00	0.00	0.0	UnDef	124.1	0.57	0.41	0.16	1.57	UnDef	UnDef	UnDef	0.00
10.17	0.0	0.00	0.00	0.0	UnDef	124.1	0.63	0.44	0.19	1.51	UnDef	UnDef	UnDef	0.00
11.15	0.0	0.00	0.00	0.0	UnDef	124.1	0.69	0.47	0.22	1.46	UnDef	UnDef	UnDef	0.00
12.14	24.3	0.43	1.79	30.8	6	114.6	0.75	0.50	0.25	1.42	9.3	13.2	1.88	0.11
13.21	99.8	0.66	0.66	15.5	8	120.9	0.81	0.53	0.29	1.38	23.9	32.9	UnDef	0.31
14.27	93.3	0.77	0.82	11.4	8	120.9	0.88	0.56	0.32	1.34	22.3	29.9	UnDef	0.26
15.26	121.1	0.65	0.54	12.2	9	124.1	0.94	0.59	0.35	1.31	23.2	30.3	UnDef	0.42
16.24	99.7	1.00	1.00	11.8	8	120.9	1.00	0.62	0.38	1.27	23.9	30.4	UnDef	0.30
17.22	74.8	0.30	0.40	6.0	8	120.9	1.06	0.65	0.41	1.24	17.9	22.3	UnDef	0.15
18.21	54.9	0.55	1.00	8.7	7	117.8	1.12	0.67	0.44	1.22	17.5	21.4	UnDef	0.13
19.19	25.4	0.62	2.43	21.3	6	114.6	1.17	0.70	0.47	1.20	9.7	11.6	1.94	0.19
20.18	24.3	0.33	1.37	21.2	6	114.6	1.23	0.73	0.51	1.17	9.3	10.9	1.85	0.11
21.16	50.5	0.41	0.81	9.2	7	117.8	1.29	0.75	0.54	1.15	16.1	18.6	UnDef	0.12
22.15	85.1	0.50	0.58	18.6	8	120.9	1.35	0.78	0.57	1.13	20.4	23.1	UnDef	0.17
23.13	92.1	0.54	0.59	25.8	8	120.9	1.41	0.81	0.60	1.11	22.0	24.5	UnDef	0.19
24.11	69.3	0.50	0.72	20.9	8	120.9	1.47	0.84	0.63	1.09	16.6	18.1	UnDef	0.14
25.10	47.1	0.32	0.67	22.7	7	117.8	1.52	0.87	0.66	1.07	15.0	16.2	UnDef	0.11
26.08	35.6	0.33	0.93	19.9	7	117.8	1.58	0.89	0.69	1.06	11.4	12.0	UnDef	0.10
27.07	24.4	0.28	1.16	22.4	6	114.6	1.64	0.92	0.72	1.04	9.3	9.7	1.82	0.11
28.05	6.6	0.12	1.76	83.9	5	114.6	1.70	0.95	0.75	1.03	3.1	3.2	0.39	0.08
29.04	7.8	0.09	1.18	120.2	5	114.6	1.75	0.97	0.78	1.02	3.7	3.8	0.48	0.09
30.02	6.7	0.08	1.12	119.8	5	114.6	1.81	1.00	0.81	1.00	3.2	3.2	0.39	0.08
31.00	7.2	0.07	0.95	114.7	5	114.6	1.87	1.02	0.84	0.99	3.5	3.4	0.43	0.08
31.99	7.6	0.06	0.84	123.3	5	114.6	1.92	1.05	0.87	0.98	3.6	3.5	0.45	0.08
32.97	7.6	0.06	0.81	134.7	5	114.6	1.98	1.07	0.90	0.97	3.7	3.5	0.45	0.08
[illegible]96	6.2	0.05	0.81	130.1	1	79.6	2.03	1.09	0.94	0.96	3.0	2.8	0.33	0.00
[illegible]94	6.9	0.04	0.53	129.5	1	79.6	2.06	1.10	0.97	0.95	3.3	3.2	0.39	0.08
[illegible].92	7.0	0.04	0.53	124.7	1	79.6	2.10	1.11	1.00	0.95	3.3	3.2	0.39	0.08
36.91	7.4	0.05	0.64	135.1	1	79.6	2.14	1.12	1.03	0.95	3.5	3.3	0.42	0.08
37.89	6.6	0.05	0.70	131.1	1	79.6	2.18	1.12	1.06	0.94	3.2	3.0	0.36	0.08
38.88	7.7	0.07	0.89	140.4	5	114.6	2.23	1.14	1.09	0.94	3.7	3.4	0.43	0.08
39.86	7.9	0.08	0.99	145.9	5	114.6	2.29	1.17	1.12	0.93	3.8	3.5	0.45	0.08

40.85	7.2	0.08	1.06	153.1	5	114.6	2.34	1.19	1.15	0.92	3.5	3.2	0.39	0.08

Gregg In Situ, Inc.
Run No: 02-0627-1626-5023
CPT File: 073C7S0.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	8.9	0.08	0.85	167.5	5	114.6	2.40	1.22	1.18	0.91	4.3	3.9	0.52	0.09
42.81	10.1	0.08	0.83	165.2	6	114.6	2.46	1.24	1.21	0.90	3.9	3.5	0.61	0.09
43.80	8.9	0.08	0.84	168.0	5	114.6	2.51	1.27	1.24	0.89	4.3	3.8	0.51	0.09
44.78	10.1	0.07	0.69	185.5	6	114.6	2.57	1.30	1.27	0.88	3.9	3.4	0.61	0.09
45.77	8.4	0.07	0.86	184.8	5	114.6	2.62	1.32	1.30	0.87	4.0	3.5	0.46	0.08
46.75	9.9	0.07	0.73	178.3	6	114.6	2.68	1.35	1.33	0.86	3.8	3.3	0.57	0.09
47.74	9.2	0.08	0.84	190.6	5	114.6	2.74	1.37	1.37	0.85	4.4	3.8	0.52	0.09
48.72	10.9	0.08	0.69	189.0	6	114.6	2.79	1.40	1.40	0.85	4.2	3.5	0.65	0.09
49.70	94.8	0.72	0.76	83.0	8	120.9	2.85	1.42	1.43	0.84	22.7	19.0	UnDef	0.17
50.69	289.8	1.67	0.58	22.5	9	124.1	2.91	1.45	1.46	0.83	55.5	46.0	UnDef	0.00
51.67	277.8	2.30	0.83	15.7	9	124.1	2.97	1.48	1.49	0.82	53.2	43.7	UnDef	0.00
52.66	295.5	2.40	0.81	9.7	9	124.1	3.03	1.52	1.52	0.81	56.6	46.0	UnDef	0.00
53.64	373.3	3.46	0.93	8.4	9	124.1	3.10	1.55	1.55	0.80	71.5	57.5	UnDef	0.00
54.63	384.8	3.97	1.03	7.9	9	124.1	3.16	1.58	1.58	0.80	73.7	58.7	UnDef	0.00
55.61	364.2	3.73	1.03	6.8	9	124.1	3.22	1.61	1.61	0.79	69.8	55.0	UnDef	0.00
56.59	338.8	3.42	1.01	6.7	9	124.1	3.28	1.64	1.64	0.78	64.9	50.7	UnDef	0.00
57.58	316.1	3.01	0.95	6.7	9	124.1	3.34	1.67	1.67	0.77	60.5	46.9	UnDef	0.00
58.56	283.6	2.80	0.99	4.1	9	124.1	3.40	1.70	1.70	0.77	54.3	41.7	UnDef	0.00
59.55	274.2	2.32	0.85	2.2	9	124.1	3.46	1.73	1.73	0.76	52.5	40.0	UnDef	0.00
60.53	208.2	1.79	0.86	1.9	9	124.1	3.52	1.76	1.77	0.75	39.9	30.1	UnDef	0.00
61.52	102.5	0.78	0.76	10.4	8	120.9	3.58	1.79	1.80	0.75	24.5	18.3	UnDef	0.17
62.42	93.9	0.54	0.58	12.4	8	120.9	3.64	1.81	1.82	0.74	22.5	16.7	UnDef	0.15
63.32	63.7	0.43	0.68	19.6	8	120.9	3.69	1.84	1.85	0.74	15.3	11.2	UnDef	0.12
64.30	63.8	0.38	0.60	19.9	8	120.9	3.75	1.87	1.88	0.73	15.3	11.2	UnDef	0.12
65.29	66.6	0.42	0.63	23.1	8	120.9	3.81	1.90	1.91	0.73	16.0	11.6	UnDef	0.12
66.27	67.9	0.52	0.77	17.1	8	120.9	3.87	1.93	1.94	0.72	16.2	11.7	UnDef	0.13
[illegible]6	139.8	1.39	1.00	23.8	9	124.1	3.93	1.96	1.98	0.72	26.8	19.1	UnDef	0.28
68.24	221.6	3.12	1.41	6.3	8	120.9	3.99	1.99	2.01	0.71	53.1	37.7	UnDef	0.00
69.22	200.3	7.07	3.53	6.9	12	120.9	4.05	2.01	2.04	0.70	95.9	67.6	UnDef	0.00
70.21	148.2	7.04	4.75	35.8	11	130.5	4.11	2.05	2.07	0.70	141.9	99.2	UnDef	0.00
71.19	310.0	5.40	1.74	7.0	8	120.9	4.17	2.08	2.10	0.69	74.2	51.5	UnDef	0.00
72.18	374.8	5.86	1.56	11.8	8	120.9	4.23	2.11	2.13	0.69	89.7	61.8	UnDef	0.00
73.16	385.5	6.81	1.77	11.6	8	120.9	4.29	2.13	2.16	0.68	92.3	63.2	UnDef	0.00
74.15	351.3	6.07	1.73	13.1	8	120.9	4.35	2.16	2.19	0.68	84.1	57.2	UnDef	0.00
75.13	335.7	4.61	1.37	13.5	9	124.1	4.41	2.19	2.22	0.68	64.3	43.4	UnDef	0.00
76.11	331.4	4.87	1.47	11.7	8	120.9	4.47	2.22	2.25	0.67	79.3	53.2	UnDef	0.00
77.10	220.8	7.63	3.45	20.3	12	120.9	4.53	2.25	2.28	0.67	105.7	70.5	UnDef	0.00
78.08	198.6	4.55	2.29	11.2	7	117.8	4.59	2.28	2.31	0.66	63.4	42.0	UnDef	0.00
79.07	145.4	3.33	2.29	18.3	7	117.8	4.65	2.31	2.34	0.66	46.4	30.6	UnDef	0.00
80.05	88.1	2.47	2.80	34.8	6	114.6	4.71	2.33	2.37	0.65	33.7	22.1	6.67	0.00
81.04	124.3	3.08	2.48	24.5	7	117.8	4.76	2.36	2.41	0.65	39.7	25.8	UnDef	0.00
82.02	373.2	5.21	1.40	50.1	9	124.1	4.82	2.39	2.44	0.65	71.5	46.3	UnDef	0.00
83.00	171.2	3.65	2.13	23.3	7	117.8	4.88	2.42	2.47	0.64	54.7	35.2	UnDef	0.00
83.99	25.2	0.79	3.14	148.0	5	114.6	4.94	2.44	2.50	0.64	12.0	7.7	1.62	0.00
84.97	23.0	0.49	2.15	172.6	6	114.6	5.00	2.47	2.53	0.64	8.8	5.6	1.44	0.11
85.96	23.8	0.43	1.80	226.8	6	114.6	5.05	2.49	2.56	0.63	9.1	5.8	1.50	0.12
86.94	22.4	0.31	1.39	276.3	6	114.6	5.11	2.52	2.59	0.63	8.6	5.4	1.38	0.11
87.93	22.9	0.39	1.73	296.3	6	114.6	5.17	2.55	2.62	0.63	8.8	5.5	1.41	0.11
88.91	22.9	0.37	1.60	317.0	6	114.6	5.22	2.57	2.65	0.62	8.8	5.5	1.42	0.11
89.89	21.9	0.42	1.92	311.5	6	114.6	5.28	2.60	2.68	0.62	8.4	5.2	1.33	0.11
90.88	21.3	0.38	1.80	309.3	6	114.6	5.34	2.62	2.71	0.62	8.2	5.0	1.28	0.10
91.86	20.9	0.36	1.72	324.1	6	114.6	5.39	2.65	2.74	0.61	8.0	4.9	1.24	0.10
92.85	23.1	0.38	1.66	353.7	6	114.6	5.45	2.67	2.77	0.61	8.9	5.4	1.41	0.11
93.83	22.2	0.39	1.77	337.0	6	114.6	5.50	2.70	2.80	0.61	8.5	5.2	1.34	0.11
94.82	20.8	0.40	1.94	321.3	6	114.6	5.56	2.73	2.84	0.61	8.0	4.8	1.22	0.10
[illegible]80	22.6	0.44	1.94	356.0	6	114.6	5.62	2.75	2.87	0.60	8.6	5.2	1.36	0.11
[illegible]78	21.9	0.39	1.78	350.5	6	114.6	5.67	2.78	2.90	0.60	8.4	5.0	1.30	0.10
[illegible].77	25.1	0.46	1.83	376.7	6	114.6	5.73	2.80	2.93	0.60	9.6	5.7	1.55	0.12
98.75	23.0	0.39	1.71	225.4	6	114.6	5.79	2.83	2.96	0.59	8.8	5.2	1.37	0.11
99.74	26.8	0.65	2.44	300.4	6	114.6	5.84	2.85	2.99	0.59	10.3	6.1	1.67	0.00
100.72	31.3	1.07	3.42	247.0	5	114.6	5.90	2.88	3.02	0.59	15.0	8.8	2.03	0.00
101.70	37.3	1.31	3.51	300.1	5	114.6	5.96	2.91	3.05	0.59	17.8	10.5	2.50	0.00

102.69	31.9	1.24	3.90	232.4	5	114.6	6.01	2.93	3.08	0.58	15.3	8.9	2.07	0.00
103.67	29.7	1.00	3.38	259.1	5	114.6	6.07	2.96	3.11	0.58	14.2	8.3	1.89	0.00

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
104.66	28.7	0.85	2.96	256.1	5	114.6	6.13	2.98	3.14	0.58	13.8	8.0	1.81	0.00
105.64	26.8	0.70	2.62	270.8	5	114.6	6.18	3.01	3.17	0.58	12.8	7.4	1.65	0.00
106.63	25.5	0.56	2.20	364.5	6	114.6	6.24	3.03	3.20	0.57	9.8	5.6	1.54	0.11
107.61	24.9	0.45	1.79	391.8	6	114.6	6.29	3.06	3.24	0.57	9.5	5.4	1.49	0.11
108.59	27.0	0.58	2.14	368.0	6	114.6	6.35	3.08	3.27	0.57	10.3	5.9	1.65	0.12
109.58	25.9	0.58	2.22	386.0	6	114.6	6.41	3.11	3.30	0.57	9.9	5.6	1.56	0.11
110.56	27.6	0.56	2.04	373.7	6	114.6	6.46	3.14	3.33	0.56	10.6	6.0	1.69	0.12
111.55	27.4	0.49	1.79	393.8	6	114.6	6.52	3.16	3.36	0.56	10.5	5.9	1.67	0.12
112.53	24.7	0.46	1.84	396.2	6	114.6	6.58	3.19	3.39	0.56	9.5	5.3	1.45	0.11
113.52	23.4	0.45	1.91	434.3	6	114.6	6.63	3.21	3.42	0.56	9.0	5.0	1.34	0.10
114.50	23.0	0.41	1.77	431.9	6	114.6	6.69	3.24	3.45	0.56	8.8	4.9	1.30	0.10
115.48	23.5	0.41	1.73	434.8	6	114.6	6.75	3.26	3.48	0.55	9.0	5.0	1.34	0.10
116.47	24.7	0.43	1.73	460.0	6	114.6	6.80	3.29	3.51	0.55	9.4	5.2	1.43	0.11
117.45	24.9	0.38	1.53	470.1	6	114.6	6.86	3.32	3.54	0.55	9.5	5.2	1.44	0.11
118.44	25.2	0.38	1.50	485.6	6	114.6	6.91	3.34	3.57	0.55	9.6	5.3	1.46	0.11
119.42	26.0	0.42	1.61	508.0	6	114.6	6.97	3.37	3.60	0.55	10.0	5.4	1.52	0.11
120.41	26.4	0.43	1.62	505.3	6	114.6	7.03	3.39	3.63	0.54	10.1	5.5	1.55	0.11
121.39	25.9	0.37	1.41	532.9	6	114.6	7.08	3.42	3.67	0.54	9.9	5.4	1.51	0.11
122.37	25.6	0.36	1.40	548.6	6	114.6	7.14	3.44	3.70	0.54	9.8	5.3	1.48	0.11
123.36	26.2	0.32	1.22	513.1	6	114.6	7.20	3.47	3.73	0.54	10.0	5.4	1.52	0.11
124.34	26.4	0.36	1.38	514.6	6	114.6	7.25	3.50	3.76	0.53	10.1	5.4	1.53	0.11
125.33	25.7	0.38	1.49	510.3	6	114.6	7.31	3.52	3.79	0.53	9.9	5.3	1.47	0.11
126.31	26.2	0.48	1.83	409.2	6	114.6	7.37	3.55	3.82	0.53	10.0	5.3	1.51	0.11
127.30	26.5	0.26	0.96	465.5	7	117.8	7.42	3.57	3.85	0.53	8.5	4.5	UnDef	0.11
128.28	24.8	0.21	0.84	537.4	7	117.8	7.48	3.60	3.88	0.53	7.9	4.2	UnDef	0.10
[illegible].26	27.0	0.33	1.24	514.5	6	114.6	7.54	3.63	3.91	0.53	10.3	5.4	1.55	0.11
[illegible]5	28.1	0.38	1.36	523.7	6	114.6	7.59	3.65	3.94	0.52	10.8	5.6	1.64	0.11
31.23	29.4	0.45	1.52	512.0	6	114.6	7.65	3.68	3.97	0.52	11.3	5.9	1.74	0.12
132.22	26.8	0.34	1.28	533.5	6	114.6	7.71	3.70	4.00	0.52	10.3	5.3	1.53	0.11
133.20	27.3	0.31	1.14	556.2	6	114.6	7.76	3.73	4.03	0.52	10.5	5.4	1.56	0.11
134.18	27.6	0.31	1.13	554.6	6	114.6	7.82	3.76	4.06	0.52	10.6	5.5	1.59	0.11
135.17	28.8	0.41	1.41	541.5	6	114.6	7.88	3.78	4.10	0.51	11.0	5.7	1.68	0.12
136.15	31.1	0.52	1.68	491.5	6	114.6	7.93	3.81	4.13	0.51	11.9	6.1	1.85	0.12
137.14	42.8	1.08	2.53	539.8	6	114.6	7.99	3.83	4.16	0.51	16.4	8.4	2.78	0.19
138.12	39.7	0.80	2.01	555.7	6	114.6	8.05	3.86	4.19	0.51	15.2	7.7	2.53	0.17
139.11	41.1	0.73	1.78	568.0	7	117.8	8.10	3.88	4.22	0.51	13.1	6.7	UnDef	0.18
140.09	39.2	0.65	1.66	574.3	7	117.8	8.16	3.91	4.25	0.51	12.5	6.3	UnDef	0.16
141.07	44.3	0.82	1.86	547.6	7	117.8	8.22	3.94	4.28	0.50	14.2	7.1	UnDef	0.20
142.06	46.2	0.76	1.64	630.6	7	117.8	8.28	3.97	4.31	0.50	14.7	7.4	UnDef	0.22
143.04	39.8	0.75	1.88	481.2	6	114.6	8.33	3.99	4.34	0.50	15.2	7.6	2.52	0.17
144.03	41.3	0.75	1.81	514.2	7	117.8	8.39	4.02	4.37	0.50	13.2	6.6	UnDef	0.18
145.01	35.4	0.57	1.60	501.7	6	114.6	8.45	4.05	4.40	0.50	13.6	6.8	2.16	0.14
146.00	39.9	0.60	1.49	641.0	7	117.8	8.50	4.07	4.43	0.50	12.7	6.4	UnDef	0.16
146.98	44.6	0.81	1.81	634.8	7	117.8	8.56	4.10	4.46	0.50	14.2	7.1	UnDef	0.20
147.96	39.8	0.67	1.69	622.1	7	117.8	8.62	4.13	4.49	0.50	12.7	6.4	UnDef	0.16
148.95	43.3	0.84	1.94	658.0	6	114.6	8.68	4.15	4.53	0.50	16.6	8.3	2.77	0.18

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
[illegible] No: 02-0627-1626-5023
[illegible] No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-750
Engineer: P. MOORE
CPT Date: 02/20/06
CPT Time: 08:43
CPT File: 073C750.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 1.22 (ft): 4.0
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)60c
0.49	1.0E-15	0.00	2.4	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
1.48	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
2.46	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
3.44	1.0E-15	0.00	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
[illegible]43	1.0E-15	-1.28	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]e
[illegible]1	1.0E-15	-4.23	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]e
6.40	1.0E-15	-7.17	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]e
7.30	1.0E-15	-9.87	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
8.20	1.0E-15	-12.56	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
9.19	1.0E-15	-15.51	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
10.17	1.0E-15	-18.45	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
11.15	1.0E-15	-21.39	0.0	0.10	1	0.1	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
12.14	5.0E-05	0.03	47.4	1.85	7	33.7	33.5	67.2	23.7	38	36.1	6.0	-0.17	6.0	19.
13.21	5.0E-03	0.00	187.9	0.66	9	134.5	0.0	134.5	4.1	44	75.8	1.0	-0.21	0.0	32.
14.27	5.0E-03	0.00	165.7	0.83	9	122.2	3.2	125.5	6.0	44	73.0	1.0	-0.22	0.5	30.
15.26	5.0E-02	0.00	204.6	0.54	9	154.7	0.0	154.7	2.8	46	79.8	1.0	-0.20	0.0	30.
16.24	5.0E-03	0.00	160.0	1.01	9	124.2	8.2	132.4	7.3	44	73.5	1.0	-0.23	1.2	31.
17.22	5.0E-03	0.00	114.2	0.40	9	91.1	0.0	91.1	4.9	42	64.6	1.0	-0.12	0.0	22.
18.21	5.0E-04	0.00	79.9	1.02	9	65.5	17.0	82.5	12.7	42	55.1	1.0	-0.17	3.2	24.
19.19	5.0E-05	0.01	34.6	2.55	6	29.7	74.8	104.4	31.8	38	32.4	6.0	-0.18	9.4	21.
20.18	5.0E-05	0.01	31.8	1.45	7	27.9	37.8	65.8	26.5	36	30.7	6.0	-0.11	6.1	17.
21.16	5.0E-04	-0.01	65.5	0.83	9	57.0	15.9	73.0	13.2	40	51.2	1.0	-0.13	2.9	21.
22.15	5.0E-03	0.00	107.4	0.59	9	94.3	5.5	99.8	7.1	42	65.6	1.0	-0.15	0.8	23.
23.13	5.0E-03	0.00	112.1	0.60	9	100.2	5.1	105.3	6.8	42	67.3	1.0	-0.15	0.8	25.
24.11	5.0E-03	0.00	81.0	0.73	9	74.1	12.6	86.7	10.4	42	58.7	1.0	-0.14	1.8	19.
25.10	5.0E-04	0.00	52.7	0.70	9	49.6	16.2	65.8	14.2	40	47.2	1.0	-0.10	2.9	19.
26.08	5.0E-04	0.00	38.1	0.97	7	36.8	25.8	62.6	20.4	38	38.7	1.0	-0.09	4.2	16.
27.07	5.0E-05	0.00	24.7	1.24	7	24.9	43.4	68.3	28.8	34	30.0	6.0	-0.07	6.4	16.
28.05	5.0E-06	0.38	5.2	2.37	4	6.6	26.4	33.1	71.9	UnDef	UnDef	1.5	UnDef	3.2	6.
29.04	5.0E-06	0.49	6.2	1.53	4	7.7	30.8	38.5	60.1	UnDef	UnDef	1.5	UnDef	3.8	7.
30.02	5.0E-06	0.60	4.9	1.54	4	6.6	26.3	32.9	66.5	UnDef	UnDef	1.5	UnDef	3.2	6.
31.00	5.0E-06	0.51	5.3	1.27	4	7.0	28.0	35.1	62.0	UnDef	UnDef	1.5	UnDef	3.4	6.
31.99	5.0E-06	0.53	5.4	1.13	4	7.2	28.9	36.2	59.8	UnDef	UnDef	1.5	UnDef	3.5	7.
32.97	5.0E-06	0.58	5.3	1.09	4	7.2	28.8	36.0	60.1	UnDef	UnDef	1.5	UnDef	3.5	7.
[illegible]96	1.0E-07	0.75	3.8	1.21	4	5.8	23.2	28.9	70.6	UnDef	UnDef	1.5	UnDef	2.8	
[illegible]94	1.0E-07	0.64	4.4	0.76	4	6.5	25.8	32.3	60.7	UnDef	UnDef	1.5	UnDef	3.2	
35.92	1.0E-07	0.59	4.4	0.75	4	6.5	26.0	32.5	60.6	UnDef	UnDef	1.5	UnDef	3.2	6.
36.91	1.0E-07	0.61	4.7	0.90	4	6.8	27.2	34.1	61.0	UnDef	UnDef	1.5	UnDef	3.3	6.
37.89	1.0E-07	0.68	4.0	1.05	4	6.1	24.5	30.6	67.6	UnDef	UnDef	1.5	UnDef	3.0	6.
38.88	5.0E-06	0.61	4.8	1.26	4	7.0	28.1	35.1	64.7	UnDef	UnDef	1.5	UnDef	3.4	6.
39.86	5.0E-06	0.61	4.8	1.40	4	7.2	28.6	35.8	65.8	UnDef	UnDef	1.5	UnDef	3.5	7.

40.85	5.0E-06	0.74	4.1	1.58	4	6.5	25.9	32.4	72.2	UnDef	UnDef	1.5	UnDef	3.2	6.

Gregg In Situ, Inc.

Run No: 02-0627-1626-5023

File: 073C750.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	Jc
41.83	5.0E-06	0.62	5.3	1.16	4	7.9	31.5	39.4	60.5	UnDef	UnDef	1.5	UnDef	3.9	7.
42.81	5.0E-05	0.52	6.1	1.09	6	8.9	35.4	44.3	56.0	30	30.0	1.5	0.14	3.5	6.
43.80	5.0E-06	0.62	5.1	1.17	4	7.8	31.1	38.8	62.0	UnDef	UnDef	1.5	UnDef	3.8	7.
44.78	5.0E-05	0.60	5.8	0.93	6	8.7	34.8	43.6	55.4	30	30.0	1.5	0.17	3.4	6.
45.77	5.0E-06	0.77	4.4	1.25	4	7.1	28.6	35.7	67.0	UnDef	UnDef	1.5	UnDef	3.5	7.
46.75	5.0E-05	0.59	5.3	1.00	4	8.3	33.2	41.6	58.7	30	30.0	1.5	0.17	3.3	6.
47.74	5.0E-06	0.71	4.7	1.19	4	7.7	30.7	38.3	64.4	UnDef	UnDef	1.5	UnDef	3.8	7.
48.72	5.0E-05	0.55	5.8	0.92	6	9.0	36.2	45.2	55.4	30	30.0	1.5	0.16	3.5	7.
49.70	5.0E-03	0.01	64.5	0.78	9	77.7	20.8	98.5	12.9	40	60.0	1.0	-0.12	2.9	21.
50.69	5.0E-02	0.00	197.2	0.58	9	235.1	0.0	235.1	3.3	46	91.8	1.0	-0.20	0.0	46.
51.67	5.0E-02	0.00	185.1	0.84	9	223.1	2.3	225.4	5.4	44	90.3	1.0	-0.23	0.3	44.
52.66	5.0E-02	0.00	193.0	0.82	9	234.9	0.3	235.2	5.0	44	91.8	1.0	-0.23	0.0	46.
53.64	5.0E-02	0.00	239.5	0.93	9	293.9	0.0	293.9	4.6	46	95.0	1.0	-0.26	0.0	57.
54.63	5.0E-02	0.00	242.1	1.04	9	299.9	1.1	301.0	5.1	46	95.0	1.0	-0.28	0.1	58.
55.61	5.0E-02	0.00	224.7	1.03	9	281.2	3.7	284.9	5.5	46	95.0	1.0	-0.27	0.5	55.
56.59	5.0E-02	0.00	205.0	1.02	9	259.2	6.3	265.5	5.9	46	94.6	1.0	-0.26	0.8	51.
57.58	5.0E-02	0.00	187.6	0.96	9	239.6	6.9	246.5	6.1	44	92.3	1.0	-0.24	0.8	47.
58.56	5.0E-02	-0.01	165.1	1.00	9	213.1	12.3	225.4	7.0	44	89.0	1.0	-0.24	1.5	43.
59.55	5.0E-02	-0.01	156.7	0.86	9	204.2	8.4	212.6	6.5	44	87.7	1.0	-0.22	1.0	41.
60.53	5.0E-02	-0.01	116.4	0.88	9	153.6	16.4	170.1	8.6	42	79.6	1.0	-0.19	1.9	32.
61.52	5.0E-03	-0.01	55.3	0.79	9	75.0	25.6	100.6	14.5	40	59.0	1.0	-0.11	3.5	21.
62.42	5.0E-03	-0.02	49.8	0.60	9	68.3	21.3	89.5	13.9	38	56.3	1.0	-0.08	2.9	19.
63.32	5.0E-03	-0.02	32.6	0.72	7	46.0	31.3	77.3	20.2	36	45.0	1.0	-0.06	3.8	15.
64.30	5.0E-03	-0.02	32.1	0.64	7	45.6	28.8	74.4	19.5	36	44.8	1.0	-0.05	3.6	14.
65.29	5.0E-03	-0.02	33.1	0.67	7	47.3	29.8	77.1	19.5	36	45.8	1.0	-0.05	3.7	15.
[illegible]27	5.0E-03	-0.02	33.2	0.82	7	47.8	35.2	83.0	20.9	36	46.1	1.0	-0.07	4.2	.
[illegible]6	5.0E-02	-0.01	69.4	1.02	9	97.8	31.3	129.1	14.1	40	66.6	1.0	-0.16	3.4	.
68.24	5.0E-03	-0.01	109.6	1.43	9	153.9	38.8	192.8	12.5	42	79.6	1.0	-0.23	5.4	3.
69.22	1.0E-15	-0.01	97.4	3.60	7	138.1	128.0	266.1	23.0	42	76.5	1.0	-0.38	29.1	96.
70.21	1.0E-15	-0.01	70.4	4.89	6	101.4	227.8	329.2	30.9	40	67.7	1.0	-0.47	75.7	175.
71.19	5.0E-03	-0.01	147.2	1.76	9	210.5	47.7	258.2	11.9	44	88.6	1.0	-0.29	6.7	58.
72.18	5.0E-03	0.00	176.0	1.58	9	252.8	37.0	289.7	9.8	44	93.9	1.0	-0.29	5.4	67.
73.16	5.0E-03	0.00	178.6	1.79	9	258.2	45.9	304.1	10.7	44	94.5	1.0	-0.31	6.6	69.
74.15	5.0E-03	-0.01	160.4	1.75	9	233.7	46.6	280.3	11.2	44	91.6	1.0	-0.30	6.6	63.
75.13	5.0E-02	-0.01	151.1	1.39	9	221.8	33.1	254.9	9.9	44	90.1	1.0	-0.26	3.8	47.
76.11	5.0E-03	-0.01	147.1	1.49	9	217.5	38.0	255.5	10.6	44	89.6	1.0	-0.27	5.5	58.
77.10	1.0E-15	-0.01	96.1	3.53	7	144.0	131.8	275.8	22.9	42	77.7	1.0	-0.37	30.0	100.
78.08	5.0E-04	-0.01	85.1	2.35	7	128.7	80.9	209.6	19.5	42	74.5	1.0	-0.27	13.4	55.
79.07	5.0E-04	-0.01	61.0	2.37	7	93.7	89.0	182.7	23.2	40	65.4	1.0	-0.23	13.4	44.
80.05	5.0E-05	-0.02	35.7	2.96	6	56.4	173.9	230.4	33.3	38	50.9	6.0	-0.21	19.8	41.
81.04	5.0E-04	-0.01	50.7	2.58	7	79.2	107.4	186.6	26.6	38	60.6	1.0	-0.23	14.5	40.
82.02	5.0E-02	0.00	154.3	1.41	9	236.4	35.0	271.3	9.8	44	91.9	1.0	-0.27	4.1	50.
83.00	5.0E-04	-0.01	68.8	2.19	7	107.8	80.6	188.4	21.0	40	69.4	1.0	-0.24	12.8	48.
83.99	5.0E-06	0.11	8.3	3.91	1	15.8	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
84.97	5.0E-05	0.16	7.3	2.74	4	14.3	57.2	71.5	64.8	30	30.0	3.0	0.02	5.6	11.
85.96	5.0E-05	0.24	7.5	2.29	4	14.8	59.0	73.8	61.0	30	30.0	3.0	0.04	5.8	11.
86.94	5.0E-05	0.35	6.9	1.80	4	13.8	55.3	69.1	59.7	30	30.0	3.0	0.08	5.4	10.
87.93	5.0E-05	0.37	6.9	2.23	4	14.0	56.1	70.1	62.7	30	30.0	3.0	0.07	5.5	11.
88.91	5.0E-05	0.41	6.9	2.08	4	14.0	56.0	70.0	61.8	30	30.0	3.0	0.08	5.5	11.
89.89	5.0E-05	0.42	6.4	2.53	4	13.3	53.2	66.6	66.9	30	30.0	3.0	0.08	5.2	10.
90.88	5.0E-05	0.44	6.1	2.40	4	12.9	51.5	64.3	67.4	30	30.0	1.5	0.09	5.0	10.
91.86	5.0E-05	0.47	5.9	2.32	4	12.6	50.4	63.0	67.8	30	30.0	1.5	0.11	4.9	9.
92.85	5.0E-05	0.47	6.6	2.17	4	13.8	55.3	69.1	63.5	30	30.0	3.0	0.10	5.4	10.
93.83	5.0E-05	0.46	6.2	2.35	4	13.2	52.9	66.1	66.6	30	30.0	1.5	0.10	5.2	10.
94.82	5.0E-05	0.47	5.6	2.65	4	12.4	49.4	61.8	71.4	30	30.0	1.5	0.11	4.8	9.
[illegible]80	5.0E-05	0.49	6.2	2.58	4	13.3	53.2	66.5	68.3	30	30.0	1.5	0.10	5.2	
[illegible]78	5.0E-05	0.50	5.8	2.40	4	12.8	51.4	64.2	68.6	30	30.0	1.5	0.11	5.0	
97.77	5.0E-05	0.46	6.9	2.38	4	14.6	58.6	73.2	63.9	30	30.0	3.0	0.09	5.7	11.
98.75	5.0E-05	0.24	6.1	2.29	4	13.4	53.4	66.8	66.7	30	30.0	1.5	0.06	5.2	10.
99.74	5.0E-05	0.31	7.3	3.12	1	15.5	UnDef	UnDef	100.0	30	30.0	3.0	0.04	UnDef	UnDe
[illegible]0.72	5.0E-06	0.18	8.8	4.21	1	18.0	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
[illegible]1.70	5.0E-06	0.20	10.8	4.18	1	21.4	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe

102.69	5.0E-06	0.16	8.8	4.80	1	18.2	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
103.67	5.0E-06	0.21	8.0	4.25	1	16.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD

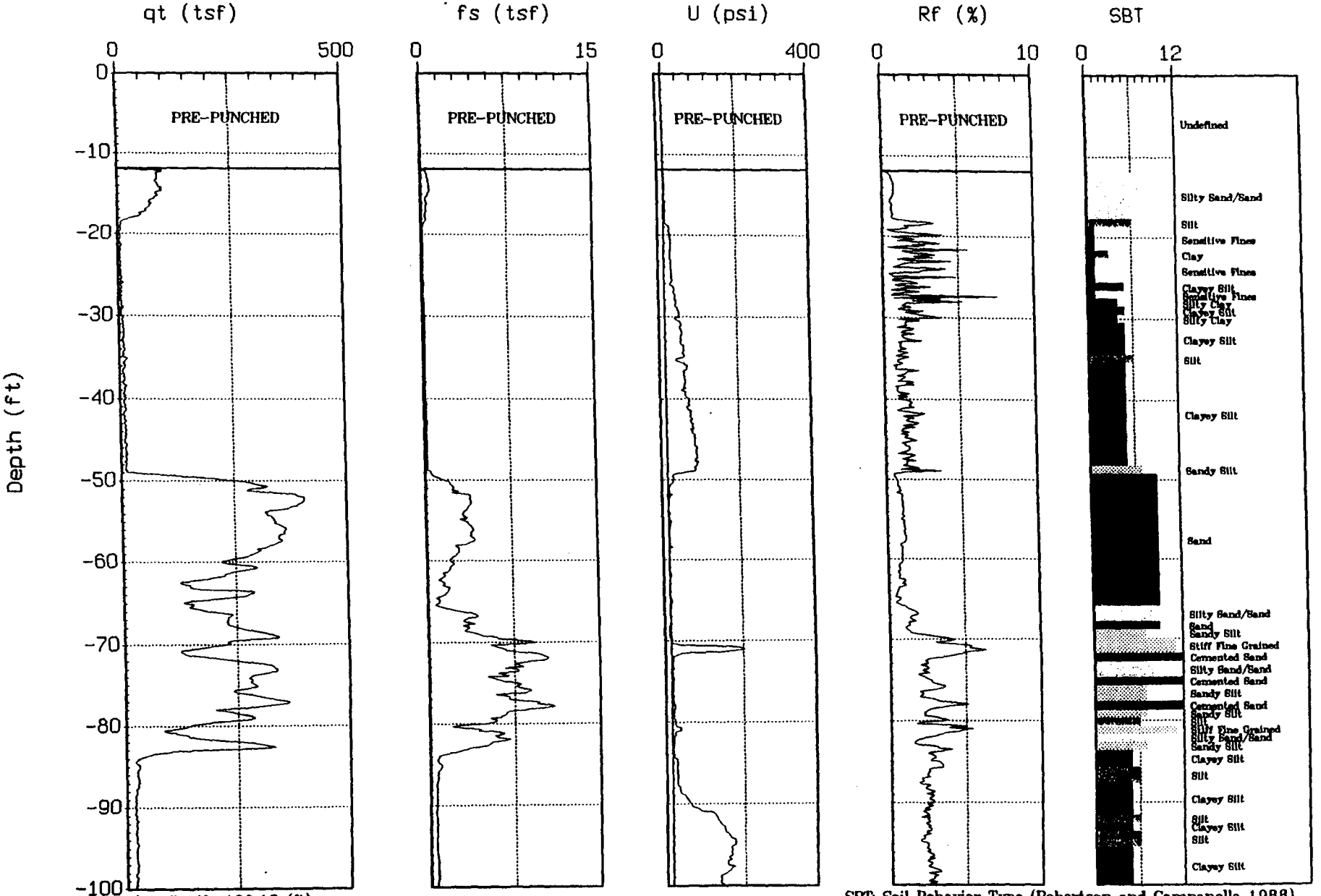
Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	
104.66	5.0E-06	0.21	7.6	3.76	1	16.3	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
105.64	5.0E-06	0.26	6.8	3.41	1	15.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
106.63	5.0E-05	0.42	6.4	2.92	4	14.4	57.4	71.8	69.5	30	30.0	3.0	0.08	5.6	11.
107.61	5.0E-05	0.48	6.1	2.40	4	13.9	55.7	69.6	67.5	30	30.0	1.5	0.11	5.4	10.
108.59	5.0E-05	0.40	6.7	2.80	4	15.0	60.1	75.1	67.4	30	30.0	3.0	0.07	5.9	11.
109.58	5.0E-05	0.45	6.3	2.95	4	14.4	57.6	71.9	70.1	30	30.0	3.0	0.09	5.6	11.
110.56	5.0E-05	0.40	6.7	2.67	4	15.2	60.9	76.1	66.4	30	30.0	3.0	0.07	6.0	11.
111.55	5.0E-05	0.43	6.6	2.35	4	15.1	60.4	75.5	64.8	30	30.0	3.0	0.08	5.9	11.
112.53	5.0E-05	0.49	5.7	2.51	4	13.6	54.2	67.8	70.0	30	30.0	1.5	0.11	5.3	10.
113.52	5.0E-05	0.61	5.2	2.67	4	12.8	51.0	63.8	73.6	30	30.0	1.5	0.15	5.0	10.
114.50	5.0E-05	0.62	5.0	2.50	4	12.5	49.9	62.4	73.5	30	30.0	1.5	0.16	4.9	9.
115.48	5.0E-05	0.60	5.1	2.43	4	12.7	50.9	63.6	72.5	30	30.0	1.5	0.15	5.0	10.
116.47	5.0E-05	0.61	5.4	2.39	4	13.3	53.2	66.5	70.6	30	30.0	1.5	0.15	5.2	10.
117.45	5.0E-05	0.62	5.4	2.11	4	13.4	53.5	66.9	68.4	30	30.0	1.5	0.15	5.2	10.
118.44	5.0E-05	0.63	5.5	2.07	4	13.5	53.9	67.4	68.0	30	30.0	1.5	0.16	5.3	10.
119.42	5.0E-05	0.64	5.7	2.20	4	13.9	55.5	69.3	68.1	30	30.0	1.5	0.16	5.4	10.
120.41	5.0E-05	0.63	5.7	2.21	4	14.0	56.0	70.0	67.9	30	30.0	1.5	0.15	5.5	11.
121.39	5.0E-05	0.69	5.5	1.94	4	13.7	54.9	68.6	66.8	30	30.0	1.5	0.18	5.4	10.
122.37	5.0E-05	0.73	5.4	1.94	4	13.5	54.1	67.6	67.5	30	30.0	1.5	0.19	5.3	10.
123.36	5.0E-05	0.65	5.5	1.69	4	13.8	55.1	68.9	64.8	30	30.0	1.5	0.17	5.4	10.
124.34	5.0E-05	0.64	5.5	1.90	4	13.8	55.3	69.1	66.6	30	30.0	1.5	0.16	5.4	10.
125.33	5.0E-05	0.66	5.2	2.09	4	13.4	53.7	67.1	69.4	30	30.0	1.5	0.17	5.3	10.
126.31	5.0E-05	0.48	5.3	2.54	4	13.6	54.5	68.1	72.2	30	30.0	1.5	0.12	5.3	10.
127.30	5.0E-04	0.56	5.3	1.34	4	13.7	54.9	68.7	62.2	30	30.0	1.0	0.15	4.5	9.
128.28	5.0E-04	0.75	4.8	1.21	4	12.8	51.1	63.9	63.9	30	30.0	1.0	0.22	4.2	8.
[illegible]26	5.0E-05	0.63	5.4	1.72	4	13.9	55.4	69.3	65.7	30	30.0	1.5	0.16	5.4	[illegible]
[illegible]25	5.0E-05	0.60	5.6	1.86	4	14.4	57.6	71.9	65.6	30	30.0	1.5	0.15	5.6	[illegible]
131.23	5.0E-05	0.55	5.9	2.05	4	15.0	60.1	75.1	65.6	30	30.0	1.5	0.13	5.9	[illegible]
132.22	5.0E-05	0.66	5.2	1.79	4	13.7	54.6	68.3	67.3	30	30.0	1.5	0.18	5.3	10.
133.20	5.0E-05	0.68	5.2	1.59	4	13.8	55.4	69.2	65.2	30	30.0	1.5	0.18	5.4	10.
134.18	5.0E-05	0.67	5.3	1.58	4	14.0	55.8	69.8	64.9	30	30.0	1.5	0.18	5.5	10.
135.17	5.0E-05	0.61	5.5	1.94	4	14.5	58.0	72.5	66.6	30	30.0	1.5	0.15	5.7	11.
136.15	5.0E-05	0.48	6.1	2.25	4	15.6	62.4	78.0	66.3	30	30.0	1.5	0.11	6.1	12.
137.14	5.0E-05	0.37	9.1	3.11	4	21.4	85.5	106.9	61.3	30	30.0	3.0	0.02	8.4	16.
138.12	5.0E-05	0.42	8.2	2.52	4	19.8	79.1	98.9	60.3	30	30.0	3.0	0.05	7.7	15.
139.11	5.0E-04	0.41	8.5	2.22	4	20.4	81.6	101.9	57.5	30	30.0	1.0	0.06	6.7	13.
140.09	5.0E-04	0.44	7.9	2.10	4	19.4	77.5	96.9	58.3	30	30.0	1.0	0.07	6.3	12.
141.07	5.0E-04	0.35	9.2	2.28	4	21.9	87.4	109.3	56.0	30	30.0	1.0	0.04	7.1	14.
142.06	5.0E-04	0.41	9.6	2.00	6	22.7	90.8	113.5	53.1	30	30.0	1.0	0.05	7.4	14.
143.04	5.0E-05	0.34	7.9	2.38	4	19.5	78.0	97.5	60.4	30	30.0	3.0	0.05	7.6	15.
144.03	5.0E-04	0.35	8.2	2.27	4	20.2	80.7	100.8	58.7	30	30.0	1.0	0.05	6.6	13.
145.01	5.0E-05	0.42	6.7	2.11	4	17.2	68.9	86.2	62.8	30	30.0	3.0	0.09	6.8	13.
146.00	5.0E-04	0.50	7.7	1.90	4	19.4	77.4	96.8	57.5	30	30.0	1.0	0.09	6.4	12.
146.98	5.0E-04	0.43	8.8	2.25	4	21.5	86.2	107.7	56.8	30	30.0	1.0	0.05	7.1	14.
147.96	5.0E-04	0.48	7.6	2.16	4	19.2	76.7	95.9	60.0	30	30.0	1.0	0.08	6.4	12.
148.95	5.0E-05	0.46	8.3	2.43	4	20.8	83.2	104.0	59.3	30	30.0	3.0	0.06	8.3	16.

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-751

Engineer : P. MOORE
Date : 06:21:02 08:01



Max. Depth: 190.12 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
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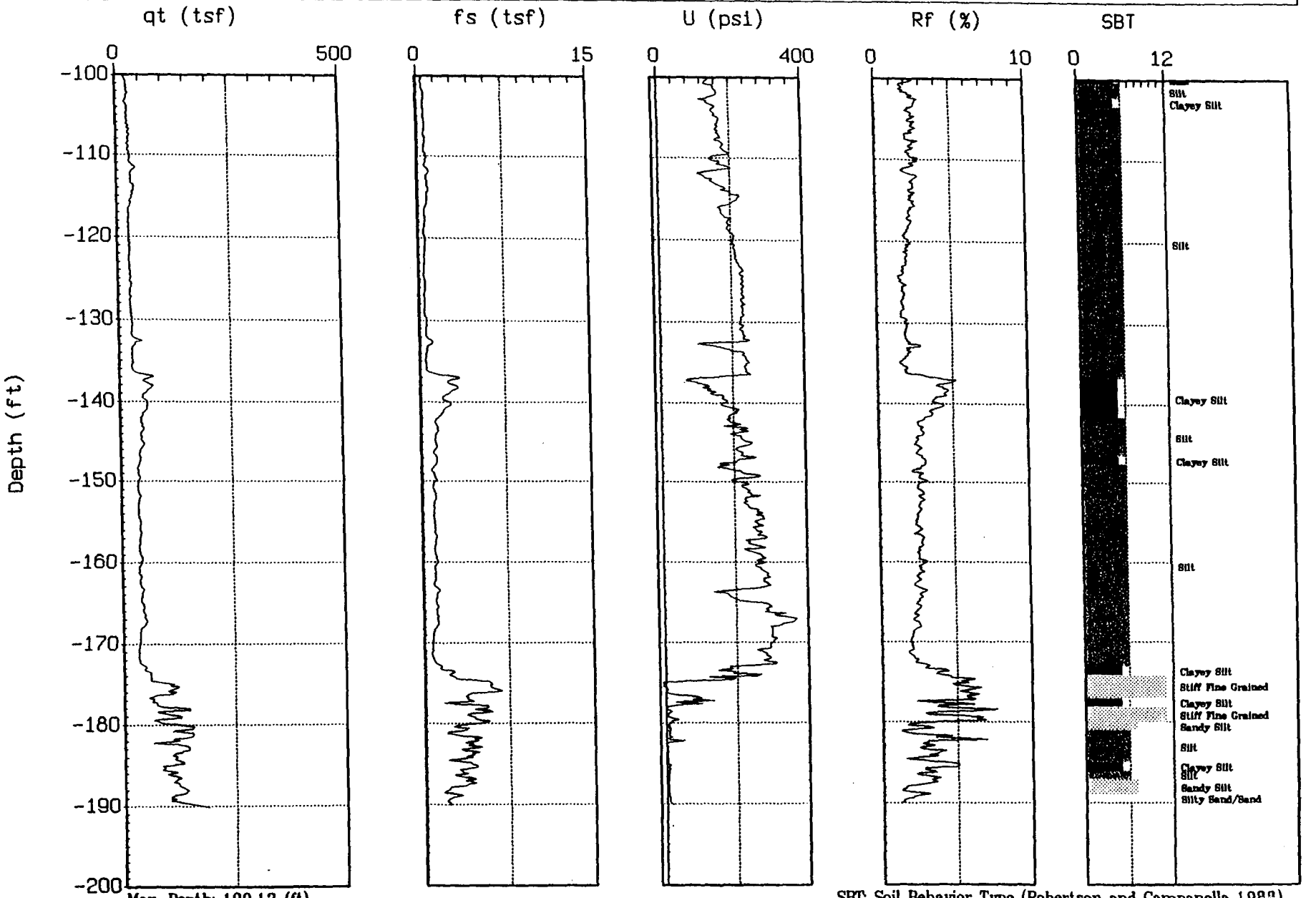


Max. Depth: 190.12 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
[illegible] No: 02-0627-1626-5067
[illegible] No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-751
Engineer: P. MOORE
CPT Date: 02/21/06
CPT Time: 08:01
CPT File: 073C751.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.91 (ft): 3.0
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	0.0	0.00	0.00	0.0	UnDef	124.1	0.03	0.03	0.00	2.00	UnDef	UnDef	UnDef	0.00
1.48	0.0	0.00	0.00	0.0	UnDef	124.1	0.09	0.09	0.00	2.00	UnDef	UnDef	UnDef	0.00
2.46	0.0	0.00	0.00	0.0	UnDef	124.1	0.15	0.15	0.00	2.00	UnDef	UnDef	UnDef	0.00
[illegible].44	0.0	0.00	0.00	0.0	UnDef	124.1	0.21	0.20	0.01	2.00	UnDef	UnDef	UnDef	0.00
[illegible]3	0.0	0.00	0.00	0.0	UnDef	124.1	0.27	0.23	0.04	2.00	UnDef	UnDef	UnDef	0.00
[illegible].41	0.0	0.00	0.00	0.0	UnDef	124.1	0.34	0.26	0.08	1.96	UnDef	UnDef	UnDef	0.00
6.40	0.0	0.00	0.00	0.0	UnDef	124.1	0.40	0.29	0.11	1.85	UnDef	UnDef	UnDef	0.00
7.30	0.0	0.00	0.00	0.0	UnDef	124.1	0.45	0.32	0.13	1.77	UnDef	UnDef	UnDef	0.00
8.20	0.0	0.00	0.00	0.0	UnDef	124.1	0.51	0.35	0.16	1.70	UnDef	UnDef	UnDef	0.00
9.19	0.0	0.00	0.00	0.0	UnDef	124.1	0.57	0.38	0.19	1.63	UnDef	UnDef	UnDef	0.00
10.17	0.0	0.00	0.00	0.0	UnDef	124.1	0.63	0.41	0.22	1.57	UnDef	UnDef	UnDef	0.00
11.15	0.0	0.00	0.00	0.0	UnDef	124.1	0.69	0.44	0.25	1.51	UnDef	UnDef	UnDef	0.00
12.14	61.5	0.29	0.48	3.1	8	120.9	0.75	0.47	0.29	1.46	14.7	21.5	UnDef	0.14
13.21	87.1	0.57	0.66	4.9	8	120.9	0.82	0.50	0.32	1.42	20.9	29.5	UnDef	0.24
14.27	93.4	0.67	0.72	5.9	8	120.9	0.88	0.53	0.35	1.37	22.4	30.7	UnDef	0.26
15.26	83.6	0.46	0.55	6.2	8	120.9	0.94	0.56	0.38	1.34	20.0	26.8	UnDef	0.20
16.24	71.6	0.40	0.56	10.1	8	120.9	1.00	0.59	0.41	1.31	17.1	22.4	UnDef	0.16
17.22	55.1	0.34	0.62	9.8	8	120.9	1.06	0.62	0.44	1.27	13.2	16.8	UnDef	0.12
18.21	16.2	0.28	1.72	9.7	6	114.6	1.12	0.64	0.47	1.25	6.2	7.7	1.21	0.14
19.19	4.8	0.06	1.32	36.5	1	79.6	1.17	0.66	0.51	1.23	2.3	2.8	0.29	0.00
20.18	3.5	0.05	1.51	41.2	1	79.6	1.21	0.67	0.54	1.22	1.7	2.1	0.19	0.00
21.16	3.9	0.07	1.70	43.2	1	79.6	1.24	0.68	0.57	1.22	1.9	2.3	0.21	0.00
22.15	3.6	0.08	2.17	40.9	3	111.4	1.29	0.69	0.60	1.20	3.5	4.2	0.19	0.00
23.13	4.0	0.06	1.53	42.6	1	79.6	1.34	0.71	0.63	1.19	1.9	2.3	0.22	0.00
24.11	3.5	0.06	1.59	45.6	1	79.6	1.38	0.72	0.66	1.18	1.7	2.0	0.17	0.00
25.10	5.0	0.05	1.00	50.1	1	79.6	1.42	0.73	0.69	1.17	2.4	2.8	0.29	0.00
26.08	7.1	0.09	1.25	49.0	5	114.6	1.46	0.74	0.72	1.16	3.4	3.9	0.45	0.09
27.07	4.5	0.06	1.33	63.8	1	79.6	1.51	0.76	0.75	1.15	2.2	2.5	0.24	0.00
28.05	4.9	0.09	1.85	69.0	4	114.6	1.56	0.78	0.78	1.13	3.1	3.5	0.27	0.00
29.04	5.8	0.08	1.45	82.6	5	114.6	1.62	0.80	0.81	1.12	2.8	3.1	0.33	0.08
30.02	6.2	0.14	2.17	83.8	4	114.6	1.67	0.83	0.84	1.10	4.0	4.4	0.37	0.00
31.00	8.4	0.12	1.43	100.0	5	114.6	1.73	0.85	0.87	1.08	4.0	4.3	0.53	0.09
31.99	9.7	0.13	1.30	105.6	5	114.6	1.79	0.88	0.91	1.07	4.6	4.9	0.63	0.09
[illegible]97	8.3	0.10	1.25	102.5	5	114.6	1.84	0.91	0.94	1.05	4.0	4.2	0.51	0.09
[illegible]96	9.0	0.10	1.14	116.1	5	114.6	1.90	0.93	0.97	1.04	4.3	4.5	0.57	0.09
.94	11.2	0.11	1.00	96.3	6	114.6	1.95	0.96	1.00	1.02	4.3	4.4	0.74	0.10
35.92	9.5	0.09	0.90	130.5	5	114.6	2.01	0.98	1.03	1.01	4.5	4.6	0.60	0.09
36.91	8.2	0.10	1.22	118.6	5	114.6	2.07	1.01	1.06	1.00	3.9	3.9	0.49	0.09
37.89	9.3	0.11	1.15	122.7	5	114.6	2.12	1.03	1.09	0.98	4.5	4.4	0.58	0.09
38.88	9.4	0.09	0.92	117.9	5	114.6	2.18	1.06	1.12	0.97	4.5	4.4	0.58	0.09

39.86	9.9	0.11	1.13	135.6	5	114.6	2.24	1.09	1.15	0.96	4.7	4.5	0.61	0.09
40.85	10.5	0.15	1.38	140.8	5	114.6	2.29	1.11	1.18	0.95	5.0	4.8	0.66	0.09

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	7.8	0.14	1.74	154.7	5	114.6	2.35	1.14	1.21	0.94	3.7	3.5	0.43	0.08
42.81	9.6	0.15	1.55	158.3	5	114.6	2.41	1.16	1.24	0.93	4.6	4.3	0.57	0.09
43.80	10.7	0.13	1.23	166.7	5	114.6	2.46	1.19	1.27	0.92	5.1	4.7	0.66	0.09
44.78	9.3	0.14	1.49	178.2	5	114.6	2.52	1.21	1.30	0.91	4.5	4.0	0.54	0.09
45.77	10.5	0.14	1.34	182.0	5	114.6	2.57	1.24	1.34	0.90	5.0	4.5	0.63	0.09
46.75	10.8	0.14	1.33	188.6	5	114.6	2.63	1.27	1.37	0.89	5.2	4.6	0.65	0.09
47.74	10.3	0.13	1.30	186.3	5	114.6	2.69	1.29	1.40	0.88	4.9	4.3	0.61	0.09
48.72	27.6	0.29	1.04	147.7	7	117.8	2.74	1.32	1.43	0.87	8.8	7.7	UnDef	0.15
49.70	213.9	1.28	0.60	35.4	9	124.1	2.80	1.35	1.46	0.86	41.0	35.3	UnDef	0.00
50.69	301.8	2.26	0.75	14.4	9	124.1	2.87	1.38	1.49	0.85	57.8	49.3	UnDef	0.00
51.67	377.9	3.36	0.89	13.4	9	124.1	2.93	1.41	1.52	0.84	72.4	61.0	UnDef	0.00
52.66	395.9	3.89	0.98	3.3	9	124.1	2.99	1.44	1.55	0.83	75.8	63.3	UnDef	0.00
53.64	336.1	3.40	1.01	2.9	9	124.1	3.05	1.47	1.58	0.83	64.4	53.1	UnDef	0.00
54.63	337.7	3.36	0.99	6.7	9	124.1	3.11	1.50	1.61	0.82	64.7	52.9	UnDef	0.00
55.61	357.9	3.89	1.09	8.6	9	124.1	3.17	1.53	1.64	0.81	68.5	55.5	UnDef	0.00
56.59	352.8	3.93	1.11	3.3	9	124.1	3.23	1.56	1.67	0.80	67.6	54.1	UnDef	0.00
57.58	342.5	3.68	1.08	3.0	9	124.1	3.29	1.59	1.70	0.79	65.6	52.1	UnDef	0.00
58.56	301.9	2.72	0.90	4.7	9	124.1	3.35	1.62	1.73	0.79	57.8	45.4	UnDef	0.00
59.55	248.6	2.19	0.88	-0.5	9	124.1	3.42	1.65	1.77	0.78	47.6	37.1	UnDef	0.00
60.53	273.7	2.11	0.77	-1.5	9	124.1	3.48	1.68	1.80	0.77	52.4	40.5	UnDef	0.00
61.52	221.9	1.54	0.69	4.7	9	124.1	3.54	1.71	1.83	0.76	42.5	32.5	UnDef	0.00
62.42	141.3	1.17	0.83	0.0	9	124.1	3.59	1.74	1.86	0.76	27.1	20.5	UnDef	0.27
63.32	217.1	1.69	0.78	0.4	9	124.1	3.65	1.77	1.88	0.75	41.6	31.3	UnDef	0.00
64.30	222.2	1.14	0.51	0.0	9	124.1	3.71	1.80	1.91	0.75	42.6	31.8	UnDef	0.00
65.29	149.8	0.93	0.62	8.3	9	124.1	3.77	1.83	1.94	0.74	28.7	21.2	UnDef	0.26
[illegible]27	222.2	3.32	1.49	2.2	8	120.9	3.83	1.86	1.98	0.73	53.2	39.1	UnDef	0.00
[illegible]26	230.5	3.50	1.52	-0.7	8	120.9	3.89	1.88	2.01	0.73	55.2	40.2	UnDef	0.00
68.24	284.5	3.33	1.17	-5.3	9	124.1	3.95	1.91	2.04	0.72	54.5	39.4	UnDef	0.00
69.22	297.9	5.50	1.85	-5.4	8	120.9	4.01	1.94	2.07	0.72	71.3	51.1	UnDef	0.00
70.21	184.9	7.24	3.91	78.7	12	120.9	4.07	1.97	2.10	0.71	88.6	63.1	UnDef	0.00
71.19	154.3	8.52	5.52	302.7	11	130.5	4.13	2.00	2.13	0.71	147.8	104.4	UnDef	0.00
72.18	285.9	9.26	3.24	11.9	12	120.9	4.20	2.04	2.16	0.70	136.9	96.0	UnDef	0.00
73.16	328.8	7.68	2.33	7.9	7	117.8	4.25	2.06	2.19	0.70	105.0	73.1	UnDef	0.00
74.15	280.5	6.09	2.17	7.8	8	120.9	4.31	2.09	2.22	0.69	67.2	46.4	UnDef	0.00
75.13	277.8	7.55	2.72	9.5	7	117.8	4.37	2.12	2.25	0.69	88.7	60.9	UnDef	0.00
76.11	277.9	7.86	2.83	7.7	7	117.8	4.43	2.15	2.28	0.68	88.7	60.6	UnDef	0.00
77.10	344.2	8.09	2.35	9.8	8	120.9	4.49	2.17	2.31	0.68	82.4	55.9	UnDef	0.00
78.08	238.4	9.28	3.89	17.3	12	120.9	4.55	2.20	2.34	0.67	114.2	76.9	UnDef	0.00
79.07	260.5	6.18	2.37	11.7	7	117.8	4.61	2.23	2.38	0.67	83.2	55.7	UnDef	0.00
80.05	131.1	3.95	3.01	22.2	6	114.6	4.66	2.26	2.41	0.67	50.2	33.4	10.11	0.00
81.04	123.8	5.52	4.46	40.4	11	130.5	4.72	2.29	2.44	0.66	118.6	78.4	UnDef	0.00
82.02	263.2	6.10	2.32	12.1	7	117.8	4.78	2.32	2.47	0.66	84.0	55.2	UnDef	0.00
83.00	173.5	3.54	2.04	8.2	7	117.8	4.84	2.34	2.50	0.65	55.4	36.2	UnDef	0.00
83.99	30.2	0.86	2.85	11.8	5	114.6	4.90	2.37	2.53	0.65	14.5	9.4	2.03	0.16
84.97	27.1	0.83	3.08	29.4	5	114.6	4.96	2.40	2.56	0.65	13.0	8.4	1.77	0.00
85.96	24.4	0.64	2.63	29.4	5	114.6	5.01	2.42	2.59	0.64	11.7	7.5	1.55	0.00
86.94	25.9	0.55	2.13	30.4	6	114.6	5.07	2.45	2.62	0.64	9.9	6.3	1.66	0.13
87.93	21.7	0.50	2.31	43.9	6	114.6	5.13	2.47	2.65	0.64	8.3	5.3	1:33	0.11
88.91	19.2	0.50	2.62	76.4	5	114.6	5.18	2.50	2.68	0.63	9.2	5.8	1.12	0.00
89.89	19.0	0.50	2.63	113.7	5	114.6	5.24	2.53	2.71	0.63	9.1	5.7	1.10	0.00
90.88	19.4	0.44	2.28	218.8	5	114.6	5.29	2.55	2.74	0.63	9.3	5.8	1.13	0.00
91.86	20.9	0.48	2.32	287.8	6	114.6	5.35	2.58	2.77	0.62	8.0	5.0	1.24	0.00
92.85	20.6	0.51	2.45	327.5	5	114.6	5.41	2.60	2.81	0.62	9.9	6.1	1.22	0.00
93.83	21.2	0.48	2.25	363.2	6	114.6	5.46	2.63	2.84	0.62	8.1	5.0	1.26	0.00
94.82	22.6	0.49	2.17	389.2	6	114.6	5.52	2.65	2.87	0.61	8.7	5.3	1.37	0.11
[illegible]80	21.2	0.52	2.44	375.2	5	114.6	5.58	2.68	2.90	0.61	10.1	6.2	1.25	0.00
[illegible]78	22.4	0.57	2.53	352.8	5	114.6	5.63	2.70	2.93	0.61	10.7	6.5	1.34	0.00
[illegible]7.77	21.8	0.58	2.67	366.3	5	114.6	5.69	2.73	2.96	0.61	10.4	6.3	1.29	0.00
98.75	21.3	0.59	2.78	310.4	5	114.6	5.75	2.76	2.99	0.60	10.2	6.2	1.25	0.00
99.74	19.8	0.51	2.56	312.6	5	114.6	5.80	2.78	3.02	0.60	9.5	5.7	1.12	0.00
100.72	23.4	0.42	1.80	335.4	6	114.6	5.86	2.81	3.05	0.60	9.0	5.4	1.40	0.11
101.70	24.4	0.54	2.21	378.8	6	114.6	5.91	2.83	3.08	0.59	9.3	5.5	1.48	0.11

102.69	23.2	0.63	2.71	314.4	5	114.6	5.97	2.86	3.11	0.59	11.1	6.6	1.38	0.00
103.67	23.5	0.54	2.32	358.2	6	114.6	6.03	2.88	3.14	0.59	9.0	5.3	1.40	0.00

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
104.66	24.4	0.58	2.40	376.0	6	114.6	6.08	2.91	3.17	0.59	9.3	5.5	1.46	0.00
105.64	23.9	0.61	2.57	383.4	5	114.6	6.14	2.94	3.20	0.58	11.4	6.7	1.42	0.00
106.63	26.0	0.57	2.21	380.3	6	114.6	6.20	2.96	3.24	0.58	9.9	5.8	1.58	0.12
107.61	26.7	0.63	2.35	391.2	6	114.6	6.25	2.99	3.27	0.58	10.2	5.9	1.63	0.00
108.59	25.5	0.58	2.27	413.7	6	114.6	6.31	3.01	3.30	0.58	9.8	5.6	1.53	0.00
109.58	26.4	0.65	2.47	398.7	6	114.6	6.37	3.04	3.33	0.57	10.1	5.8	1.60	0.00
110.56	29.0	0.69	2.39	395.7	6	114.6	6.42	3.06	3.36	0.57	11.1	6.4	1.81	0.13
111.55	36.5	0.82	2.24	339.5	6	114.6	6.48	3.09	3.39	0.57	14.0	8.0	2.40	0.18
112.53	30.7	0.77	2.49	331.3	6	114.6	6.54	3.12	3.42	0.57	11.8	6.7	1.93	0.00
113.52	34.0	0.83	2.44	414.8	6	114.6	6.59	3.14	3.45	0.56	13.0	7.4	2.19	0.16
114.50	34.7	0.82	2.36	497.3	6	114.6	6.65	3.17	3.48	0.56	13.3	7.5	2.25	0.16
115.48	30.1	0.74	2.46	437.3	6	114.6	6.70	3.19	3.51	0.56	11.5	6.5	1.87	0.00
116.47	24.7	0.55	2.21	402.9	6	114.6	6.76	3.22	3.54	0.56	9.5	5.3	1.44	0.00
117.45	24.9	0.56	2.25	443.1	6	114.6	6.82	3.24	3.57	0.56	9.6	5.3	1.45	0.00
118.44	23.7	0.50	2.10	445.7	6	114.6	6.87	3.27	3.60	0.55	9.1	5.0	1.35	0.00
119.42	24.9	0.49	1.97	475.8	6	114.6	6.93	3.29	3.64	0.55	9.5	5.2	1.44	0.11
120.41	25.9	0.54	2.11	474.5	6	114.6	6.99	3.32	3.67	0.55	9.9	5.4	1.51	0.11
121.39	26.1	0.52	1.99	486.8	6	114.6	7.04	3.35	3.70	0.55	10.0	5.5	1.52	0.11
122.37	25.0	0.49	1.97	494.2	6	114.6	7.10	3.37	3.73	0.54	9.6	5.2	1.43	0.11
123.36	25.3	0.44	1.76	524.2	6	114.6	7.16	3.40	3.76	0.54	9.7	5.2	1.45	0.11
124.34	27.1	0.41	1.52	524.9	6	114.6	7.21	3.42	3.79	0.54	10.4	5.6	1.59	0.11
125.33	26.9	0.48	1.79	529.8	6	114.6	7.27	3.45	3.82	0.54	10.3	5.5	1.57	0.11
126.31	26.0	0.47	1.79	530.5	6	114.6	7.32	3.47	3.85	0.54	10.0	5.3	1.50	0.11
127.30	26.2	0.44	1.68	529.4	6	114.6	7.38	3.50	3.88	0.53	10.0	5.4	1.51	0.11
128.28	25.7	0.44	1.70	528.7	6	114.6	7.44	3.53	3.91	0.53	9.8	5.2	1.46	0.11
[illegible]26	27.6	0.48	1.75	524.4	6	114.6	7.49	3.55	3.94	0.53	10.6	5.6	1.61	0.11
[illegible]5	29.4	0.58	1.96	517.9	6	114.6	7.55	3.58	3.97	0.53	11.3	6.0	1.75	0.12
31.23	28.3	0.53	1.86	527.9	6	114.6	7.61	3.60	4.00	0.53	10.8	5.7	1.65	0.12
132.22	37.1	0.81	2.17	452.5	6	114.6	7.66	3.63	4.03	0.53	14.2	7.5	2.36	0.16
133.20	30.9	0.68	2.21	422.4	6	114.6	7.72	3.65	4.07	0.52	11.8	6.2	1.86	0.13
134.18	27.9	0.52	1.85	538.5	6	114.6	7.78	3.68	4.10	0.52	10.7	5.6	1.61	0.11
135.17	28.3	0.49	1.73	550.8	6	114.6	7.83	3.71	4.13	0.52	10.9	5.6	1.64	0.11
136.15	33.6	0.82	2.44	532.1	6	114.6	7.89	3.73	4.16	0.52	12.9	6.7	2.06	0.00
137.14	62.7	2.86	4.56	230.0	5	114.6	7.94	3.76	4.19	0.52	30.0	15.5	4.38	0.00
138.12	68.3	3.01	4.41	304.2	5	114.6	8.00	3.78	4.22	0.51	32.7	16.8	4.82	0.00
139.11	53.5	2.21	4.13	370.6	5	114.6	8.06	3.81	4.25	0.51	25.6	13.1	3.63	0.00
140.09	59.6	2.43	4.08	411.5	5	114.6	8.11	3.83	4.28	0.51	28.5	14.6	4.12	0.00
141.07	54.9	1.94	3.53	470.1	5	114.6	8.17	3.86	4.31	0.51	26.3	13.4	3.74	0.00
142.06	46.3	1.34	2.89	438.9	6	114.6	8.23	3.88	4.34	0.51	17.7	9.0	3.05	0.00
143.04	49.6	1.40	2.82	497.2	6	114.6	8.28	3.91	4.37	0.51	19.0	9.6	3.31	0.25
144.03	46.4	1.29	2.77	486.7	6	114.6	8.34	3.94	4.40	0.50	17.8	9.0	3.05	0.00
145.01	49.0	1.24	2.53	547.8	6	114.6	8.40	3.96	4.43	0.50	18.8	9.4	3.25	0.24
146.00	44.0	1.16	2.64	492.0	6	114.6	8.45	3.99	4.46	0.50	16.9	8.4	2.84	0.00
146.98	42.3	1.26	2.98	520.3	6	114.6	8.51	4.01	4.50	0.50	16.2	8.1	2.71	0.00
147.96	38.1	1.06	2.79	401.6	6	114.6	8.57	4.04	4.53	0.50	14.6	7.3	2.37	0.00
148.95	38.6	1.00	2.58	554.7	6	114.6	8.62	4.06	4.56	0.50	14.8	7.4	2.40	0.00
149.93	37.8	1.07	2.84	492.8	6	114.6	8.68	4.09	4.59	0.50	14.5	7.2	2.33	0.00
150.92	36.5	1.00	2.74	543.1	6	114.6	8.73	4.12	4.62	0.50	14.0	7.0	2.22	0.00
151.90	40.4	1.13	2.80	555.7	6	114.6	8.79	4.14	4.65	0.50	15.5	7.7	2.53	0.00
152.89	37.1	1.00	2.69	552.5	6	114.6	8.85	4.17	4.68	0.50	14.2	7.1	2.26	0.00
153.87	37.7	0.96	2.56	620.7	6	114.6	8.90	4.19	4.71	0.50	14.4	7.2	2.30	0.00
154.85	40.6	0.99	2.45	619.1	6	114.6	8.96	4.22	4.74	0.50	15.6	7.8	2.53	0.00
155.84	41.2	1.06	2.58	600.5	6	114.6	9.02	4.24	4.77	0.50	15.8	7.9	2.57	0.00
156.82	40.0	1.13	2.82	607.6	6	114.6	9.07	4.27	4.80	0.50	15.3	7.7	2.47	0.00
157.81	38.4	1.04	2.71	581.8	6	114.6	9.13	4.30	4.83	0.50	14.7	7.4	2.34	0.00
[illegible]79	40.1	1.04	2.58	594.4	6	114.6	9.19	4.32	4.86	0.50	15.4	7.7	2.47	0.00
[illegible]77	42.5	1.20	2.83	627.5	6	114.6	9.24	4.35	4.89	0.50	16.3	8.1	2.66	0.00
.76	37.7	1.02	2.71	622.2	6	114.6	9.30	4.37	4.93	0.50	14.4	7.2	2.27	0.00
161.74	39.3	0.99	2.53	659.8	6	114.6	9.35	4.40	4.96	0.50	15.1	7.5	2.40	0.00
162.73	40.4	0.97	2.39	652.3	6	114.6	9.41	4.42	4.99	0.50	15.5	7.7	2.48	0.00
163.71	44.2	1.24	2.81	407.9	6	114.6	9.47	4.45	5.02	0.50	16.9	8.5	2.78	0.00
164.70	41.8	1.07	2.55	519.4	6	114.6	9.52	4.47	5.05	0.50	16.0	8.0	2.59	0.00

165.68	46.1	1.15	2.49	665.3	6	114.6	9.58	4.50	5.08	0.50	17.7	8.8	2.92	0.19
166.66	49.0	1.11	2.26	781.2	6	114.6	9.64	4.53	5.11	0.50	18.8	9.4	3.15	0.21

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
167.65	45.2	1.13	2.51	751.3	6	114.6	9.69	4.55	5.14	0.50	17.3	8.7	2.84	0.00
168.71	36.7	0.78	2.13	687.3	6	114.6	9.75	4.58	5.17	0.50	14.1	7.0	2.15	0.13
169.78	35.8	0.71	1.99	695.8	6	114.6	9.81	4.61	5.21	0.50	13.7	6.9	2.08	0.13
170.76	33.4	0.66	1.97	644.0	6	114.6	9.87	4.63	5.24	0.50	12.8	6.4	1.89	0.12
171.75	33.2	0.70	2.10	654.9	6	114.6	9.93	4.66	5.27	0.50	12.7	6.4	1.86	0.00
172.73	44.7	1.20	2.68	584.3	6	114.6	9.98	4.68	5.30	0.50	17.1	8.6	2.78	0.00
173.72	58.0	2.21	3.80	473.7	5	114.6	10.04	4.71	5.33	0.50	27.8	13.9	3.84	0.00
174.70	83.1	4.52	5.43	212.2	11	130.5	10.10	4.74	5.36	0.50	79.6	39.8	UnDef	0.00
175.68	111.4	6.11	5.49	-0.3	11	130.5	10.16	4.77	5.39	0.50	106.7	53.3	UnDef	0.00
176.67	65.5	3.80	5.80	126.6	11	130.5	10.23	4.81	5.42	0.50	62.8	31.4	UnDef	0.00
177.65	99.9	4.14	4.15	118.4	5	114.6	10.29	4.84	5.45	0.50	47.8	23.9	7.17	0.00
178.64	103.4	4.62	4.47	15.1	11	130.5	10.35	4.87	5.48	0.50	99.0	49.5	UnDef	0.00
179.62	95.8	4.68	4.88	36.9	11	130.5	10.41	4.90	5.51	0.50	91.8	45.9	UnDef	0.00
180.60	141.8	2.92	2.06	18.3	7	117.8	10.47	4.93	5.55	0.50	45.3	22.6	UnDef	0.00
181.59	124.9	3.63	2.90	20.4	6	114.6	10.53	4.96	5.58	0.50	47.8	23.9	9.15	0.00
182.57	124.6	4.14	3.32	25.2	6	114.6	10.59	4.98	5.61	0.50	47.7	23.9	9.12	0.00
183.56	117.2	3.83	3.27	6.9	6	114.6	10.64	5.01	5.64	0.50	44.9	22.4	8.52	0.00
184.54	115.4	3.41	2.96	8.9	6	114.6	10.70	5.03	5.67	0.50	44.2	22.1	8.38	0.00
185.53	96.2	3.75	3.90	18.1	5	114.6	10.76	5.06	5.70	0.50	46.1	23.0	6.84	0.00
186.51	113.5	3.46	3.05	14.2	6	114.6	10.81	5.08	5.73	0.50	43.5	21.7	8.21	0.00
187.49	127.4	3.28	2.58	10.4	7	117.8	10.87	5.11	5.76	0.50	40.7	20.3	UnDef	0.00
188.48	119.2	2.26	1.89	11.1	7	117.8	10.93	5.14	5.79	0.50	38.0	19.0	UnDef	0.00
189.46	134.2	2.03	1.51	21.6	8	120.9	10.99	5.17	5.82	0.50	32.1	16.1	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0627-1626-5067
[illegible] No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-751
Engineer: P. MOORE
CPT Date: 02/21/06
CPT Time: 08:01
CPT File: 073C751.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.91 (ft): 3.0
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)60c
0.49	1.0E-15	0.00	2.4	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
1.48	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
2.46	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
3.44	1.0E-15	-1.33	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
[illegible]43	1.0E-15	-4.27	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]e
[illegible]1	1.0E-15	-7.22	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]
6.40	1.0E-15	-10.16	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]e
7.30	1.0E-15	-12.86	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
8.20	1.0E-15	-15.55	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
9.19	1.0E-15	-18.50	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
10.17	1.0E-15	-21.44	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
11.15	1.0E-15	-24.38	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
12.14	5.0E-03	0.00	129.9	0.48	9	88.0	0.0	88.0	4.8	44	63.6	1.0	-0.15	0.0	21.
13.21	5.0E-03	0.00	173.1	0.66	9	120.8	0.0	120.8	4.6	44	72.7	1.0	-0.20	0.0	29.
14.27	5.0E-03	0.00	174.6	0.73	9	125.6	0.0	125.6	5.0	44	73.8	1.0	-0.21	0.0	30.
15.26	5.0E-03	0.00	147.9	0.56	9	109.4	0.0	109.4	4.7	44	69.9	1.0	-0.17	0.0	26.
16.24	5.0E-03	0.00	120.2	0.57	9	91.4	2.7	94.2	6.1	42	64.7	1.0	-0.15	0.4	22.
17.22	5.0E-03	0.00	87.7	0.64	9	68.7	8.1	76.8	9.0	42	56.5	1.0	-0.14	1.2	18.
18.21	5.0E-05	-0.01	23.4	1.85	6	19.8	68.5	88.3	34.1	34	30.0	6.0	-0.10	7.3	15.
19.19	1.0E-07	0.17	5.5	1.75	4	5.8	23.1	28.9	65.2	UnDef	UnDef	1.5	UnDef	2.8	5.
20.18	1.0E-07	0.32	3.5	2.30	4	4.2	16.9	21.1	83.4	UnDef	UnDef	1.5	UnDef	2.1	4.
21.16	1.0E-07	0.29	4.0	2.49	4	4.7	18.7	23.4	80.7	UnDef	UnDef	1.5	UnDef	2.3	4.
22.15	5.0E-08	0.29	3.4	3.37	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
23.13	1.0E-07	0.26	3.8	2.29	4	4.7	18.7	23.4	80.6	UnDef	UnDef	1.5	UnDef	2.3	4.
24.11	1.0E-07	0.36	2.9	2.63	1	4.0	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
25.10	1.0E-07	0.24	5.0	1.39	4	5.8	23.1	28.9	64.7	UnDef	UnDef	1.5	UnDef	2.8	5.
26.08	5.0E-06	0.14	7.6	1.57	6	8.0	32.2	40.2	55.4	UnDef	UnDef	3.0	UnDef	3.9	7.
27.07	1.0E-07	0.41	3.9	2.00	4	5.1	20.3	25.3	77.1	UnDef	UnDef	1.5	UnDef	2.5	5.
28.05	5.0E-07	0.41	4.3	2.72	1	5.4	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
29.04	5.0E-06	0.42	5.2	2.01	4	6.3	25.2	31.5	69.1	UnDef	UnDef	1.5	UnDef	3.1	6.
30.02	5.0E-07	0.39	5.5	2.96	1	6.7	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
31.00	5.0E-06	0.34	7.8	1.81	4	8.9	35.5	44.4	56.6	UnDef	UnDef	3.0	UnDef	4.3	8.
31.99	5.0E-06	0.30	8.9	1.59	6	10.1	40.3	50.3	51.5	UnDef	UnDef	3.0	UnDef	4.9	9.
32.97	5.0E-06	0.35	7.1	1.61	4	8.5	34.0	42.5	57.4	UnDef	UnDef	3.0	UnDef	4.2	8.
[illegible]96	5.0E-06	0.37	7.7	1.45	6	9.2	36.7	45.9	53.9	UnDef	UnDef	3.0	UnDef	4.5	
[illegible]94	5.0E-05	0.22	9.7	1.20	6	11.2	45.0	56.2	46.2	30	30.0	3.0	0.04	4.4	
35.92	5.0E-06	0.41	7.6	1.14	6	9.3	37.3	46.7	51.3	UnDef	UnDef	3.0	UnDef	4.6	9.
36.91	5.0E-06	0.43	6.1	1.64	4	8.0	31.9	39.9	61.6	UnDef	UnDef	1.5	UnDef	3.9	7.
37.89	5.0E-06	0.38	7.0	1.49	4	9.0	35.9	44.8	56.7	UnDef	UnDef	3.0	UnDef	4.4	8.
38.88	5.0E-06	0.35	6.8	1.20	6	8.9	35.8	44.7	54.5	UnDef	UnDef	3.0	UnDef	4.4	8.
39.86	5.0E-06	0.40	7.0	1.47	4	9.3	37.1	46.3	56.3	UnDef	UnDef	3.0	UnDef	4.5	9.

40.85	5.0E-06	0.39	7.4	1.77	4	9.8	39.1	48.8	57.5	UnDef	UnDef	3.0	UnDef	4.8	9.

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	[illegible]
41.83	5.0E-06	0.67	4.8	2.49	4	7.1	28.6	35.7	75.0	UnDef	UnDef	1.5	UnDef	3.5	7
42.81	5.0E-06	0.52	6.2	2.07	4	8.7	34.8	43.5	64.7	UnDef	UnDef	1.5	UnDef	4.3	8
43.80	5.0E-06	0.48	6.9	1.60	4	9.6	38.5	48.1	57.8	UnDef	UnDef	3.0	UnDef	4.7	9
44.78	5.0E-06	0.63	5.6	2.05	4	8.3	33.0	41.3	67.2	UnDef	UnDef	1.5	UnDef	4.0	8
45.77	5.0E-06	0.55	6.4	1.77	4	9.2	36.9	46.2	61.3	UnDef	UnDef	3.0	UnDef	4.5	9
46.75	5.0E-06	0.55	6.4	1.76	4	9.4	37.5	46.9	61.1	UnDef	UnDef	3.0	UnDef	4.6	9
47.74	5.0E-06	0.58	5.9	1.76	4	8.8	35.4	44.2	63.6	UnDef	UnDef	1.5	UnDef	4.3	8
48.72	5.0E-04	0.13	18.9	1.16	7	23.5	65.8	89.4	32.6	34	30.0	1.0	-0.03	6.6	14.
49.70	5.0E-02	0.00	156.8	0.61	9	180.4	0.0	180.4	4.7	44	84.2	1.0	-0.18	0.0	35.
50.69	5.0E-02	0.00	217.2	0.75	9	251.8	0.0	251.8	4.0	46	93.7	1.0	-0.23	0.0	49.
51.67	5.0E-02	0.00	266.6	0.90	9	311.8	0.0	311.8	3.9	46	95.0	1.0	-0.27	0.0	61.
52.66	5.0E-02	0.00	273.4	0.99	9	323.2	0.0	323.2	4.3	46	95.0	1.0	-0.28	0.0	63.
53.64	5.0E-02	0.00	227.0	1.02	9	271.5	2.7	274.2	5.4	46	95.0	1.0	-0.27	0.3	53.
54.63	5.0E-02	0.00	223.4	1.00	9	270.0	2.5	272.5	5.3	46	95.0	1.0	-0.26	0.3	53.
55.61	5.0E-02	0.00	232.1	1.10	9	283.3	5.1	288.4	5.7	46	95.0	1.0	-0.28	0.6	56.
56.59	5.0E-02	0.00	224.3	1.12	9	276.6	7.5	284.1	6.0	46	95.0	1.0	-0.28	0.9	55.
57.58	5.0E-02	0.00	213.5	1.09	9	265.9	7.7	273.6	6.1	46	95.0	1.0	-0.27	0.9	53.
58.56	5.0E-02	-0.01	184.4	0.91	9	232.2	5.5	237.6	5.9	44	91.4	1.0	-0.24	0.7	46.
59.55	5.0E-02	-0.01	148.7	0.89	9	189.5	11.0	200.5	7.1	44	85.6	1.0	-0.21	1.3	38.
60.53	5.0E-02	-0.01	160.9	0.78	9	206.7	4.5	211.2	5.8	44	88.1	1.0	-0.21	0.6	41.
61.52	5.0E-02	-0.01	127.7	0.71	9	166.0	8.1	174.1	6.7	44	81.8	1.0	-0.18	1.0	33.
62.42	5.0E-02	-0.01	79.2	0.85	9	104.9	22.3	127.1	11.6	42	68.6	1.0	-0.15	2.5	23.
63.32	5.0E-02	-0.01	120.9	0.79	9	159.9	12.6	172.5	7.7	42	80.7	1.0	-0.18	1.5	32.
64.30	5.0E-02	-0.01	121.7	0.52	9	162.3	2.6	164.9	5.6	42	81.2	1.0	-0.15	0.3	32.
65.29	5.0E-02	-0.01	80.0	0.64	9	108.5	15.7	124.2	9.7	42	69.6	1.0	-0.13	1.8	23.
[illegible].27	5.0E-03	-0.01	117.7	1.52	9	159.6	39.5	199.2	12.4	42	80.7	1.0	-0.25	5.5	.
[illegible].26	5.0E-03	-0.01	120.2	1.54	9	164.3	40.4	204.7	12.4	42	81.5	1.0	-0.25	5.7	.
68.24	5.0E-02	-0.01	146.5	1.19	9	201.2	23.7	224.9	8.9	44	87.3	1.0	-0.24	2.8	[illegible]
69.22	5.0E-03	-0.01	151.1	1.87	9	209.1	50.0	259.0	12.2	44	88.4	1.0	-0.30	7.0	58.
70.21	1.0E-15	0.00	91.7	4.00	11	128.8	UnDef	UnDef	0.0	42	74.5	1.0	-0.41	UnDef	UnDe
71.19	1.0E-15	0.05	75.0	5.67	11	106.7	UnDef	UnDef	0.0	40	69.1	1.0	-0.59	UnDef	UnDe
72.18	1.0E-15	-0.01	138.4	3.29	12	196.1	UnDef	UnDef	0.0	44	86.6	1.0	-0.40	UnDef	UnDe
73.16	5.0E-04	-0.01	157.3	2.37	7	224.0	71.5	295.5	14.1	44	90.4	1.0	-0.34	13.0	86.
74.15	5.0E-03	-0.01	132.1	2.21	7	189.8	67.0	256.9	14.8	44	85.6	1.0	-0.31	9.1	55.
75.13	5.0E-04	-0.01	129.0	2.76	7	186.8	90.7	277.5	17.2	44	85.2	1.0	-0.35	15.7	76.
76.11	5.0E-04	-0.01	127.4	2.88	7	185.6	96.3	281.9	17.8	44	85.0	1.0	-0.36	16.5	77.
77.10	5.0E-03	-0.01	156.2	2.38	7	228.4	74.1	302.5	14.2	44	91.0	1.0	-0.34	10.1	66.
78.08	1.0E-15	-0.01	106.2	3.97	12	157.2	UnDef	UnDef	0.0	42	80.2	1.0	-0.43	UnDef	UnDe
79.07	5.0E-04	-0.01	114.7	2.42	7	170.7	79.4	250.1	16.9	42	82.6	1.0	-0.31	13.8	69.
80.05	5.0E-05	-0.01	56.0	3.12	6	85.4	130.6	216.0	27.6	40	62.7	10.0	-0.27	20.3	53.
81.04	1.0E-15	-0.01	52.1	4.64	6	80.1	281.9	362.0	34.2	40	60.9	1.0	-0.38	74.5	152.
82.02	5.0E-04	-0.01	111.5	2.36	7	169.2	78.9	248.1	16.9	42	82.4	1.0	-0.30	13.7	68.
83.00	5.0E-04	-0.01	71.9	2.10	7	110.9	74.7	185.6	20.1	40	70.2	1.0	-0.24	12.2	48.
83.99	5.0E-06	-0.09	10.7	3.40	4	19.2	76.9	96.1	58.8	UnDef	UnDef	3.0	UnDef	9.4	18.
84.97	5.0E-06	-0.07	9.2	3.77	1	17.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
85.96	5.0E-06	-0.09	8.0	3.30	1	15.4	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
86.94	5.0E-05	-0.08	8.5	2.65	4	16.2	64.7	80.9	60.2	30	30.0	3.0	-0.02	6.3	12.
87.93	5.0E-05	-0.08	6.7	3.02	4	13.5	54.1	67.6	68.6	30	30.0	3.0	0.00	5.3	10.
88.91	5.0E-06	-0.02	5.6	3.58	1	11.9	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
89.89	5.0E-06	0.06	5.5	3.63	1	11.7	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
90.88	5.0E-06	0.29	5.5	3.13	1	11.9	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
91.86	5.0E-05	0.40	6.0	3.12	1	12.7	UnDef	UnDef	100.0	30	30.0	1.5	0.08	UnDef	UnDe
92.85	5.0E-06	0.49	5.8	3.33	1	12.5	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
93.83	5.0E-05	0.54	6.0	3.02	1	12.8	UnDef	UnDef	100.0	30	30.0	1.5	0.12	UnDef	UnDe
94.82	5.0E-05	0.54	6.4	2.87	4	13.6	54.3	67.9	68.9	30	30.0	3.0	0.11	5.3	10.
[illegible].80	5.0E-06	0.57	5.8	3.31	1	12.7	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	
[illegible].78	5.0E-06	0.48	6.2	3.38	1	13.3	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	
97.77	5.0E-06	0.53	5.9	3.62	1	12.9	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
98.75	5.0E-06	0.43	5.7	3.81	1	12.6	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
99.74	5.0E-06	0.48	5.0	3.62	1	11.6	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
100.72	5.0E-05	0.42	6.3	2.40	4	13.7	54.7	68.4	66.6	30	30.0	3.0	0.09	5.4	10.
101.70	5.0E-05	0.47	6.5	2.92	4	14.2	56.7	70.8	68.9	30	30.0	3.0	0.09	5.5	11.

102.69	5.0E-06	0.39	6.0	3.65	1	13.4	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
103.67	5.0E-05	0.46	6.1	3.12	1	13.5	UnDef	UnDef	100.0	30	30.0	1.5	0.10	UnDef	UnDe

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	[illegible]
104.66	5.0E-05	0.47	6.3	3.19	1	14.0	UnDef	UnDef	100.0	30	30.0	3.0	0.09	UnDef	UnD
105.64	5.0E-06	0.49	6.0	3.46	1	13.6	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnD
106.63	5.0E-05	0.44	6.7	2.90	4	14.8	59.1	73.8	68.0	30	30.0	3.0	0.08	5.8	11
107.61	5.0E-05	0.44	6.8	3.07	1	15.1	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnD
108.59	5.0E-05	0.50	6.4	3.02	1	14.4	UnDef	UnDef	100.0	30	30.0	3.0	0.10	UnDef	UnD
109.58	5.0E-05	0.45	6.6	3.26	1	14.8	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnD
110.56	5.0E-05	0.40	7.4	3.06	4	16.2	65.0	81.2	66.3	30	30.0	3.0	0.06	6.4	12.
111.55	5.0E-05	0.24	9.7	2.73	4	20.3	81.3	101.6	57.4	30	30.0	3.0	0.03	8.0	15.
112.53	5.0E-05	0.29	7.8	3.17	1	17.0	UnDef	UnDef	100.0	30	30.0	3.0	0.03	UnDef	UnDe
113.52	5.0E-05	0.35	8.7	3.03	4	18.8	75.1	93.9	61.8	30	30.0	3.0	0.03	7.4	14.
114.50	5.0E-05	0.43	8.9	2.92	4	19.1	76.4	95.5	60.7	30	30.0	3.0	0.04	7.5	15.
115.48	5.0E-05	0.43	7.3	3.16	1	16.5	UnDef	UnDef	100.0	30	30.0	3.0	0.06	UnDef	UnDe
116.47	5.0E-05	0.50	5.6	3.04	1	13.5	UnDef	UnDef	100.0	30	30.0	1.5	0.12	UnDef	UnDe
117.45	5.0E-05	0.57	5.6	3.10	1	13.6	UnDef	UnDef	100.0	30	30.0	1.5	0.13	UnDef	UnDe
118.44	5.0E-05	0.61	5.2	2.96	1	12.8	UnDef	UnDef	100.0	30	30.0	1.5	0.16	UnDef	UnDe
119.42	5.0E-05	0.63	5.4	2.73	4	13.4	53.6	67.0	72.7	30	30.0	1.5	0.15	5.2	10.
120.41	5.0E-05	0.59	5.7	2.88	4	13.9	55.6	69.5	72.4	30	30.0	1.5	0.14	5.4	10.
121.39	5.0E-05	0.60	5.7	2.73	4	13.9	55.8	69.7	71.5	30	30.0	1.5	0.14	5.5	10.
122.37	5.0E-05	0.65	5.3	2.75	4	13.3	53.3	66.6	73.6	30	30.0	1.5	0.17	5.2	10.
123.36	5.0E-05	0.70	5.3	2.46	4	13.4	53.6	67.0	71.5	30	30.0	1.5	0.18	5.2	10.
124.34	5.0E-05	0.63	5.8	2.07	4	14.3	57.2	71.5	66.4	30	30.0	1.5	0.15	5.6	11.
125.33	5.0E-05	0.65	5.7	2.46	4	14.1	56.6	70.7	69.7	30	30.0	1.5	0.16	5.5	11.
126.31	5.0E-05	0.68	5.4	2.49	4	13.7	54.7	68.3	71.5	30	30.0	1.5	0.17	5.3	10.
127.30	5.0E-05	0.67	5.4	2.34	4	13.7	54.8	68.6	70.5	30	30.0	1.5	0.17	5.4	10.
128.28	5.0E-05	0.69	5.2	2.39	4	13.4	53.6	67.0	71.9	30	30.0	1.5	0.18	5.2	10.
[illegible].26	5.0E-05	0.62	5.7	2.40	4	14.3	57.3	71.6	69.5	30	30.0	1.5	0.15	5.6	[illegible]
[illegible].25	5.0E-05	0.56	6.1	2.64	4	15.2	60.8	76.0	68.9	30	30.0	1.5	0.12	6.0	[illegible]
131.23	5.0E-05	0.60	5.7	2.55	4	14.6	58.3	72.9	70.1	30	30.0	1.5	0.14	5.7	[illegible]
132.22	5.0E-05	0.34	8.1	2.73	4	19.1	76.3	95.3	61.9	30	30.0	3.0	0.04	7.5	14.
133.20	5.0E-05	0.39	6.4	2.94	4	15.8	63.3	79.2	69.7	30	30.0	3.0	0.08	6.2	12.
134.18	5.0E-05	0.63	5.5	2.57	4	14.2	56.9	71.1	71.6	30	30.0	1.5	0.16	5.6	11.
135.17	5.0E-05	0.64	5.5	2.39	4	14.4	57.6	72.0	70.0	30	30.0	1.5	0.16	5.6	11.
136.15	5.0E-05	0.48	6.9	3.19	1	17.0	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnDe
137.14	5.0E-06	0.05	14.6	5.22	1	31.6	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
138.12	5.0E-06	0.09	15.9	4.99	1	34.4	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
139.11	5.0E-06	0.16	11.9	4.87	1	26.8	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
140.09	5.0E-06	0.17	13.4	4.72	1	29.8	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
141.07	5.0E-06	0.22	12.1	4.15	1	27.3	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
142.06	5.0E-05	0.25	9.8	3.51	1	23.0	UnDef	UnDef	100.0	30	30.0	3.0	-0.02	UnDef	UnDe
143.04	5.0E-05	0.27	10.6	3.39	4	24.6	98.3	122.8	59.0	30	30.0	3.0	-0.02	9.6	19.
144.03	5.0E-05	0.28	9.7	3.38	1	22.9	UnDef	UnDef	100.0	30	30.0	3.0	-0.01	UnDef	UnDe
145.01	5.0E-05	0.31	10.3	3.06	4	24.1	96.4	120.5	58.0	30	30.0	3.0	0.00	9.4	18.
146.00	5.0E-05	0.31	8.9	3.27	1	21.6	UnDef	UnDef	100.0	30	30.0	3.0	0.01	UnDef	UnDe
146.98	5.0E-05	0.35	8.4	3.73	1	20.7	UnDef	UnDef	100.0	30	30.0	3.0	0.02	UnDef	UnDe
147.96	5.0E-05	0.27	7.3	3.59	1	18.6	UnDef	UnDef	100.0	30	30.0	3.0	0.03	UnDef	UnDe
148.95	5.0E-05	0.43	7.4	3.33	1	18.7	UnDef	UnDef	100.0	30	30.0	3.0	0.06	UnDef	UnDe
149.93	5.0E-05	0.37	7.1	3.69	1	18.3	UnDef	UnDef	100.0	30	30.0	3.0	0.05	UnDef	UnDe
150.92	5.0E-05	0.44	6.7	3.60	1	17.6	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnDe
151.90	5.0E-05	0.40	7.6	3.58	1	19.4	UnDef	UnDef	100.0	30	30.0	3.0	0.05	UnDef	UnDe
152.89	5.0E-05	0.44	6.8	3.54	1	17.8	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnDe
153.87	5.0E-05	0.51	6.9	3.35	1	18.0	UnDef	UnDef	100.0	30	30.0	3.0	0.09	UnDef	UnDe
154.85	5.0E-05	0.46	7.5	3.14	1	19.3	UnDef	UnDef	100.0	30	30.0	3.0	0.07	UnDef	UnDe
155.84	5.0E-05	0.43	7.6	3.30	1	19.6	UnDef	UnDef	100.0	30	30.0	3.0	0.06	UnDef	UnDe
156.82	5.0E-05	0.46	7.2	3.65	1	18.9	UnDef	UnDef	100.0	30	30.0	3.0	0.07	UnDef	UnDe
157.81	5.0E-05	0.46	6.8	3.56	1	18.1	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnDe
[illegible].79	5.0E-05	0.44	7.2	3.35	1	18.9	UnDef	UnDef	100.0	30	30.0	3.0	0.07	UnDef	
[illegible].77	5.0E-05	0.44	7.6	3.62	1	19.9	UnDef	UnDef	100.0	30	30.0	3.0	0.06	UnDef	
160.76	5.0E-05	0.51	6.5	3.60	1	17.6	UnDef	UnDef	100.0	30	30.0	3.0	0.10	UnDef	[illegible]
161.74	5.0E-05	0.52	6.8	3.32	1	18.4	UnDef	UnDef	100.0	30	30.0	3.0	0.10	UnDef	UnDe
162.73	5.0E-05	0.50	7.0	3.12	1	18.8	UnDef	UnDef	100.0	30	30.0	3.0	0.09	UnDef	UnDe
163.71	5.0E-05	0.22	7.8	3.58	1	20.5	UnDef	UnDef	100.0	30	30.0	3.0	0.01	UnDef	UnDe
164.70	5.0E-05	0.35	7.2	3.30	1	19.4	UnDef	UnDef	100.0	30	30.0	3.0	0.05	UnDef	UnDe

165.68	5.0E-05	0.43	8.1	3.14	4	21.3	85.1	106.3	64.2	30	30.0	3.0	0.05	8.8	17.
166.66	5.0E-05	0.49	8.7	2.81	4	22.5	90.1	112.7	60.6	30	30.0	3.0	0.06	9.4	18.

Gregg In Situ, Inc.
Run No: 02-0627-1626-5067
CPT File: 073C751.COR

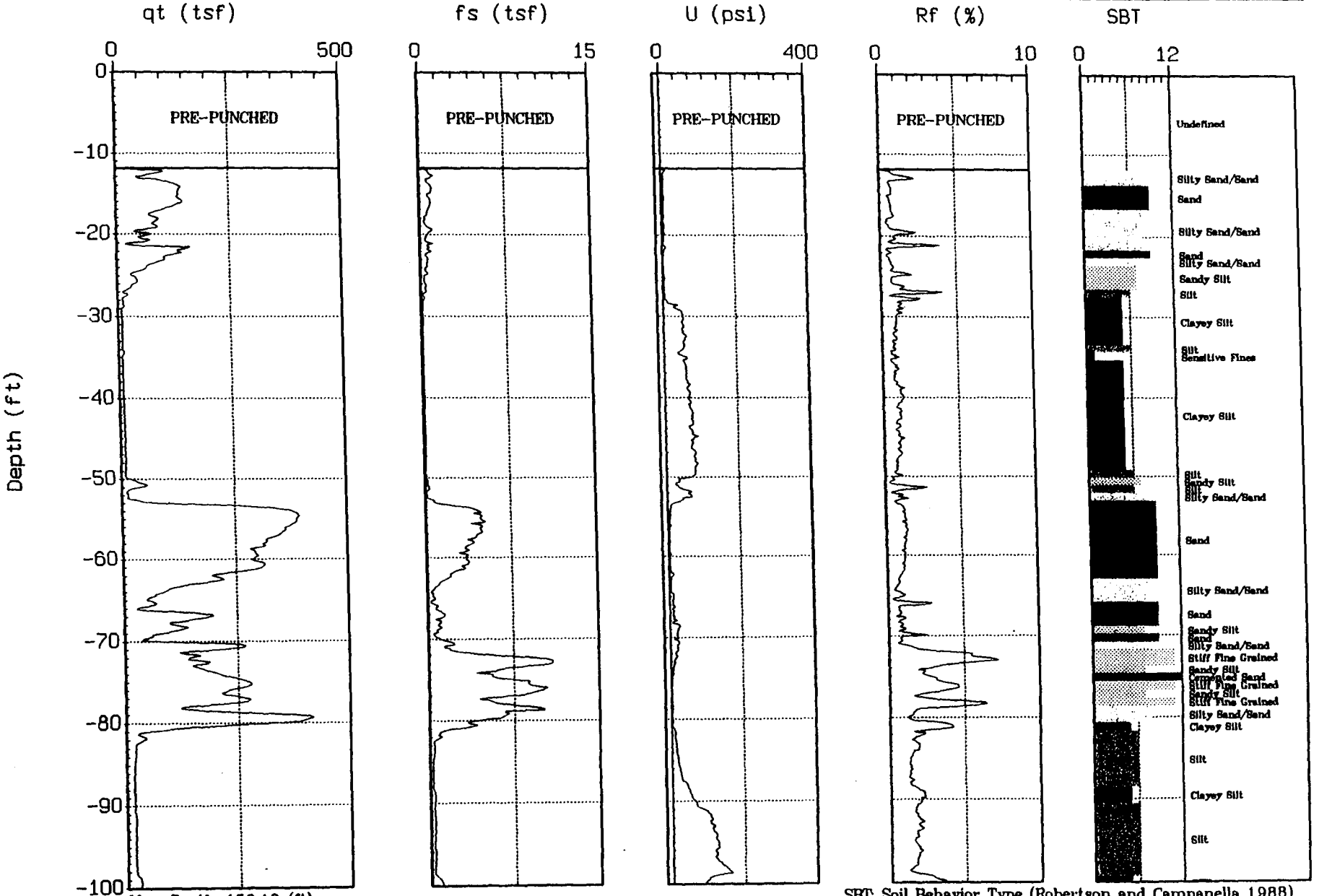
Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	c
167.65	5.0E-05	0.52	7.8	3.20	1	20.7	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnDe
168.71	5.0E-05	0.60	5.9	2.90	4	16.8	67.1	83.9	71.6	30	30.0	1.5	0.14	7.0	14.
169.78	5.0E-05	0.63	5.6	2.74	4	16.3	65.3	81.7	71.8	30	30.0	1.5	0.15	6.9	13.
170.76	5.0E-05	0.63	5.1	2.79	4	15.2	60.8	76.0	75.1	30	30.0	1.5	0.17	6.4	12.
171.75	5.0E-05	0.65	5.0	3.00	1	15.0	UnDef	UnDef	100.0	30	30.0	1.5	0.18	UnDef	UnDe
172.73	5.0E-05	0.37	7.4	3.45	1	20.2	UnDef	UnDef	100.0	30	30.0	3.0	0.05	UnDef	UnDe
173.72	5.0E-06	0.20	10.2	4.60	1	26.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
174.70	1.0E-15	0.02	15.4	6.19	1	37.4	UnDef	UnDef	100.0	32	39.1	1.0	-0.25	UnDef	UnDe
175.68	1.0E-15	-0.05	21.2	6.04	1	49.9	UnDef	UnDef	100.0	34	47.3	1.0	-0.37	UnDef	UnDe
176.67	1.0E-15	-0.03	11.5	6.88	1	29.2	UnDef	UnDef	100.0	30	32.0	1.0	-0.31	UnDef	UnDe
177.65	5.0E-06	-0.02	18.5	4.62	1	44.5	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
178.64	1.0E-15	-0.05	19.1	4.96	1	45.9	UnDef	UnDef	100.0	34	44.9	1.0	-0.24	UnDef	UnDe
179.62	1.0E-15	-0.05	17.4	5.48	1	42.4	UnDef	UnDef	100.0	32	42.7	1.0	-0.26	UnDef	UnDe
180.60	5.0E-04	-0.04	26.6	2.23	6	62.5	221.4	283.9	34.2	36	53.8	1.0	-0.14	21.6	44.
181.59	5.0E-05	-0.04	23.1	3.17	6	54.9	219.6	274.5	41.5	34	50.1	6.0	-0.16	23.9	47.
182.57	5.0E-05	-0.04	22.9	3.63	6	54.6	218.5	273.2	43.8	34	49.9	6.0	-0.19	23.9	47.
183.56	5.0E-05	-0.05	21.3	3.60	6	51.2	205.0	256.2	45.0	34	48.1	6.0	-0.18	22.4	44.
184.54	5.0E-05	-0.05	20.8	3.26	6	50.4	201.4	251.8	43.9	34	47.6	6.0	-0.16	22.1	44.
185.53	5.0E-06	-0.06	16.9	4.39	1	41.9	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
186.51	5.0E-05	-0.05	20.2	3.37	6	49.2	197.0	246.2	45.0	34	47.0	6.0	-0.16	21.7	43.
187.49	5.0E-04	-0.05	22.8	2.82	6	55.1	220.5	275.6	40.1	34	50.2	1.0	-0.15	20.3	40.
188.48	5.0E-04	-0.05	21.1	2.09	6	51.5	205.8	257.3	37.4	34	48.2	1.0	-0.10	19.0	38.
189.46	5.0E-03	-0.04	23.9	1.65	7	57.8	158.2	216.0	32.4	34	51.6	1.0	-0.10	13.6	29.

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-752

Engineer : P. MOORE
Date : 06:20:102 10:23



Max. Depth: 150.10 (ft)

Depth Inc.: 0.164 (ft)

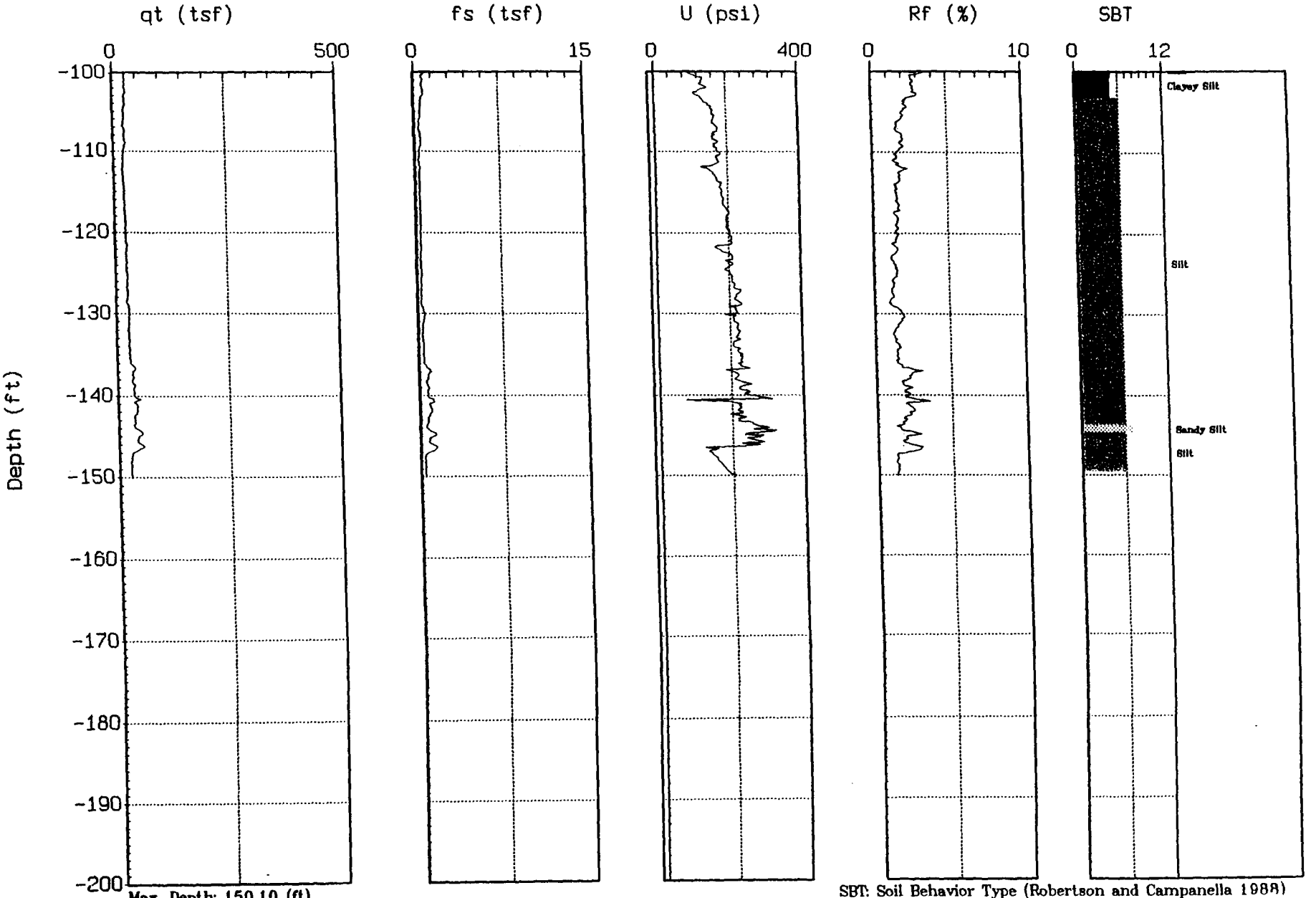
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-752

Engineer : P. MOORE
Date : 06:20:102 10:23



Max. Depth: 150.10 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
[illegible] No: 02-0627-1626-5105
Job No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-752
Engineer: P. MOORE
CPT Date: 10/20/06
CPT Time: 10:23
CPT File: 073C752.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 1.37 (ft): 4.5
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 (blows/ft)	Su (tsf)	CRR
0.49	0.0	0.00	0.00	0.0	UnDef	124.1	0.03	0.03	0.00	2.00	UnDef	UnDef	UnDef	0.00
1.48	0.0	0.00	0.00	0.0	UnDef	124.1	0.09	0.09	0.00	2.00	UnDef	UnDef	UnDef	0.00
2.46	0.0	0.00	0.00	0.0	UnDef	124.1	0.15	0.15	0.00	2.00	UnDef	UnDef	UnDef	0.00
[illegible]44	0.0	0.00	0.00	0.0	UnDef	124.1	0.21	0.21	0.00	2.00	UnDef	UnDef	UnDef	0.00
[illegible]3	0.0	0.00	0.00	0.0	UnDef	124.1	0.27	0.27	0.00	1.91	UnDef	UnDef	UnDef	0.00
5.41	0.0	0.00	0.00	0.0	UnDef	124.1	0.34	0.31	0.03	1.80	UnDef	UnDef	UnDef	0.00
6.40	0.0	0.00	0.00	0.0	UnDef	124.1	0.40	0.34	0.06	1.72	UnDef	UnDef	UnDef	0.00
7.30	0.0	0.00	0.00	0.0	UnDef	124.1	0.45	0.37	0.09	1.65	UnDef	UnDef	UnDef	0.00
8.20	0.0	0.00	0.00	0.0	UnDef	124.1	0.51	0.39	0.12	1.59	UnDef	UnDef	UnDef	0.00
9.19	0.0	0.00	0.00	0.0	UnDef	124.1	0.57	0.42	0.15	1.54	UnDef	UnDef	UnDef	0.00
10.17	0.0	0.00	0.00	0.0	UnDef	124.1	0.63	0.45	0.18	1.48	UnDef	UnDef	UnDef	0.00
11.15	0.0	0.00	0.00	0.0	UnDef	124.1	0.69	0.48	0.21	1.44	UnDef	UnDef	UnDef	0.00
12.14	63.5	0.55	0.86	15.1	8	120.9	0.75	0.51	0.24	1.39	15.2	21.2	UnDef	0.16
13.21	85.5	0.83	0.97	12.8	8	120.9	0.82	0.55	0.27	1.35	20.5	27.7	UnDef	0.24
14.27	139.3	1.02	0.73	11.2	9	124.1	0.88	0.58	0.31	1.32	26.7	35.1	UnDef	0.00
15.26	138.1	0.81	0.58	13.8	9	124.1	0.94	0.61	0.34	1.28	26.4	33.9	UnDef	0.00
16.24	132.8	0.91	0.69	12.3	9	124.1	1.00	0.64	0.37	1.25	25.4	31.8	UnDef	0.00
17.22	85.8	0.67	0.78	11.9	8	120.9	1.06	0.67	0.40	1.22	20.5	25.1	UnDef	0.20
18.21	86.7	0.39	0.45	11.1	8	120.9	1.12	0.70	0.43	1.20	20.8	24.9	UnDef	0.18
19.19	70.9	0.80	1.12	14.3	8	120.9	1.18	0.73	0.46	1.17	17.0	19.9	UnDef	0.17
20.18	63.9	0.51	0.80	12.2	8	120.9	1.24	0.75	0.49	1.15	15.3	17.6	UnDef	0.14
21.16	76.7	0.71	0.92	14.6	8	120.9	1.30	0.78	0.52	1.13	18.4	20.8	UnDef	0.17
22.15	126.6	0.65	0.51	9.7	9	124.1	1.36	0.81	0.55	1.11	24.3	26.9	UnDef	0.32
23.13	91.1	0.58	0.64	4.6	8	120.9	1.42	0.84	0.58	1.09	21.8	23.8	UnDef	0.19
24.11	54.0	0.47	0.88	6.5	7	117.8	1.48	0.87	0.61	1.07	17.2	18.5	UnDef	0.12
25.10	37.8	0.35	0.92	10.1	7	117.8	1.54	0.90	0.64	1.06	12.1	12.7	UnDef	0.10
26.08	34.0	0.38	1.11	7.9	7	117.8	1.60	0.92	0.67	1.04	10.8	11.3	UnDef	0.11
27.07	16.6	0.29	1.76	8.1	6	114.6	1.66	0.95	0.70	1.03	6.3	6.5	1.19	0.13
28.05	9.4	0.15	1.63	33.0	5	114.6	1.71	0.98	0.74	1.01	4.5	4.6	0.62	0.09
29.04	8.6	0.10	1.16	92.6	5	114.6	1.77	1.00	0.77	1.00	4.1	4.1	0.55	0.09
30.02	7.7	0.07	0.94	120.5	5	114.6	1.82	1.03	0.80	0.99	3.7	3.6	0.47	0.08
31.00	7.7	0.07	0.87	121.4	5	114.6	1.88	1.05	0.83	0.97	3.7	3.6	0.46	0.08
31.99	8.0	0.07	0.81	128.2	5	114.6	1.94	1.08	0.86	0.96	3.8	3.7	0.49	0.08
[illegible]97	7.2	0.06	0.81	129.1	5	114.6	1.99	1.10	0.89	0.95	3.5	3.3	0.42	0.08
[illegible]96	8.7	0.06	0.67	115.5	6	114.6	2.05	1.13	0.92	0.94	3.3	3.1	0.53	0.09
.94	7.3	0.05	0.69	123.2	1	79.6	2.10	1.15	0.95	0.93	3.5	3.3	0.42	0.08
35.92	7.2	0.06	0.79	132.5	5	114.6	2.15	1.16	0.98	0.93	3.5	3.2	0.41	0.08
36.91	7.2	0.06	0.79	138.0	5	114.6	2.20	1.19	1.01	0.92	3.5	3.2	0.40	0.08
37.89	7.1	0.06	0.80	145.4	5	114.6	2.26	1.22	1.04	0.91	3.4	3.1	0.39	0.08
38.88	7.4	0.08	1.13	149.3	5	114.6	2.31	1.24	1.07	0.90	3.5	3.2	0.41	0.08

39.86	7.8	0.10	1.24	152.9	5	114.6	2.37	1.27	1.10	0.89	3.7	3.3	0.44	0.08
40.85	7.8	0.08	0.98	158.6	5	114.6	2.43	1.29	1.13	0.88	3.7	3.3	0.43	0.08

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	8.2	0.09	1.10	170.8	5	114.6	2.48	1.32	1.17	0.87	3.9	3.4	0.46	0.08
42.81	8.4	0.08	0.98	171.6	5	114.6	2.54	1.34	1.20	0.86	4.0	3.5	0.47	0.08
43.80	8.7	0.08	0.94	160.3	5	114.6	2.60	1.37	1.23	0.85	4.2	3.5	0.49	0.08
44.78	8.7	0.09	1.02	179.9	5	114.6	2.65	1.40	1.26	0.85	4.2	3.5	0.48	0.08
45.77	8.3	0.09	1.03	167.7	5	114.6	2.71	1.42	1.29	0.84	4.0	3.3	0.45	0.08
46.75	8.8	0.09	1.01	178.9	5	114.6	2.77	1.45	1.32	0.83	4.2	3.5	0.48	0.08
47.74	9.0	0.08	0.85	187.3	5	114.6	2.82	1.47	1.35	0.82	4.3	3.6	0.50	0.08
48.72	8.9	0.07	0.80	188.2	5	114.6	2.88	1.50	1.38	0.82	4.3	3.5	0.48	0.08
49.70	14.2	0.09	0.61	156.1	6	114.6	2.93	1.52	1.41	0.81	5.5	4.4	0.90	0.10
50.69	42.0	0.23	0.54	69.8	7	117.8	2.99	1.55	1.44	0.80	13.4	10.8	UnDef	0.10
51.67	12.6	0.17	1.36	125.5	6	114.6	3.05	1.58	1.47	0.80	4.8	3.9	0.77	0.09
52.66	62.0	0.50	0.81	109.8	8	120.9	3.11	1.60	1.50	0.79	14.8	11.7	UnDef	0.13
53.64	332.3	3.36	1.01	25.0	9	124.1	3.17	1.63	1.53	0.78	63.6	49.8	UnDef	0.00
54.63	391.7	4.72	1.21	15.0	9	124.1	3.23	1.66	1.57	0.78	75.0	58.2	UnDef	0.00
55.61	378.6	4.84	1.28	11.7	9	124.1	3.29	1.69	1.60	0.77	72.5	55.7	UnDef	0.00
56.59	355.6	4.77	1.34	9.1	9	124.1	3.35	1.72	1.63	0.76	68.1	51.9	UnDef	0.00
57.58	321.4	4.13	1.28	7.6	9	124.1	3.41	1.75	1.66	0.75	61.6	46.5	UnDef	0.00
58.56	299.8	3.64	1.22	7.2	9	124.1	3.47	1.79	1.69	0.75	57.4	43.0	UnDef	0.00
59.55	294.3	3.34	1.13	8.6	9	124.1	3.53	1.82	1.72	0.74	56.4	41.8	UnDef	0.00
60.53	309.1	3.50	1.13	7.6	9	124.1	3.60	1.85	1.75	0.74	59.2	43.6	UnDef	0.00
61.52	245.0	2.72	1.11	11.3	9	124.1	3.66	1.88	1.78	0.73	46.9	34.3	UnDef	0.00
62.42	209.3	1.80	0.86	22.3	9	124.1	3.71	1.90	1.81	0.72	40.1	29.1	UnDef	0.00
63.32	121.1	0.87	0.72	10.1	9	124.1	3.77	1.93	1.84	0.72	23.2	16.7	UnDef	0.20
64.30	69.1	0.41	0.59	13.8	8	120.9	3.83	1.96	1.87	0.71	16.6	11.8	UnDef	0.12
65.29	60.0	0.43	0.71	23.1	8	120.9	3.89	1.99	1.90	0.71	14.4	10.2	UnDef	0.12
[illegible]27	101.3	0.90	0.89	25.1	8	120.9	3.95	2.02	1.93	0.70	24.2	17.1	UnDef	0.18
[illegible]26	150.1	1.17	0.78	23.3	9	124.1	4.01	2.05	1.96	0.70	28.7	20.1	UnDef	0.27
68.24	122.5	1.02	0.83	44.4	8	120.9	4.07	2.08	1.99	0.69	29.3	20.3	UnDef	0.21
69.22	64.7	0.62	0.96	47.7	8	120.9	4.13	2.11	2.02	0.69	15.5	10.7	UnDef	0.15
70.21	193.0	1.70	0.88	46.3	9	124.1	4.19	2.14	2.05	0.68	37.0	25.3	UnDef	0.42
71.19	168.5	2.08	1.23	46.6	8	120.9	4.25	2.17	2.08	0.68	40.3	27.4	UnDef	0.41
72.18	162.0	8.11	5.01	35.5	11	130.5	4.31	2.20	2.11	0.67	155.1	104.7	UnDef	0.00
73.16	167.6	9.41	5.61	23.2	11	130.5	4.37	2.23	2.14	0.67	160.5	107.5	UnDef	0.00
74.15	223.9	5.38	2.40	14.2	7	117.8	4.44	2.26	2.17	0.67	71.5	47.5	UnDef	0.00
75.13	274.2	7.94	2.89	7.3	12	120.9	4.49	2.29	2.21	0.66	131.3	86.8	UnDef	0.00
76.11	229.3	9.76	4.26	4.9	11	130.5	4.56	2.32	2.24	0.66	219.6	144.2	UnDef	0.00
77.10	263.1	6.59	2.50	3.0	7	117.8	4.62	2.35	2.27	0.65	84.0	54.8	UnDef	0.00
78.08	157.7	7.50	4.75	5.2	11	130.5	4.68	2.38	2.30	0.65	151.1	97.9	UnDef	0.00
79.07	361.4	7.28	2.01	5.4	8	120.9	4.74	2.41	2.33	0.64	86.5	55.7	UnDef	0.00
80.05	287.4	4.37	1.52	6.4	8	120.9	4.80	2.44	2.36	0.64	68.8	44.1	UnDef	0.00
81.04	52.1	1.97	3.78	13.5	5	114.6	4.86	2.47	2.39	0.64	24.9	15.9	3.78	0.00
82.02	34.0	0.67	1.96	22.6	6	114.6	4.91	2.49	2.42	0.63	13.0	8.3	2.33	0.19
83.00	19.6	0.35	1.80	29.2	6	114.6	4.97	2.52	2.45	0.63	7.5	4.7	1.17	0.10
83.99	18.9	0.32	1.67	33.3	6	114.6	5.03	2.54	2.48	0.63	7.2	4.5	1.11	0.10
84.97	17.4	0.24	1.37	42.8	6	114.6	5.08	2.57	2.51	0.62	6.7	4.1	0.98	0.09
85.96	16.4	0.22	1.37	51.4	6	114.6	5.14	2.60	2.54	0.62	6.3	3.9	0.90	0.09
86.94	15.9	0.21	1.30	61.9	6	114.6	5.20	2.62	2.57	0.62	6.1	3.8	0.86	0.09
87.93	15.7	0.22	1.42	95.1	6	114.6	5.25	2.65	2.60	0.61	6.0	3.7	0.84	0.09
88.91	16.0	0.33	2.06	114.1	5	114.6	5.31	2.67	2.64	0.61	7.7	4.7	0.86	0.00
89.89	16.2	0.34	2.11	142.7	5	114.6	5.37	2.70	2.67	0.61	7.8	4.7	0.87	0.00
90.88	16.8	0.29	1.71	191.8	6	114.6	5.42	2.72	2.70	0.61	6.4	3.9	0.91	0.09
91.86	18.5	0.33	1.81	244.0	6	114.6	5.48	2.75	2.73	0.60	7.1	4.3	1.04	0.10
92.85	17.3	0.35	2.00	252.6	6	114.6	5.53	2.78	2.76	0.60	6.6	4.0	0.94	0.00
93.83	17.2	0.32	1.85	270.9	6	114.6	5.59	2.80	2.79	0.60	6.6	3.9	0.93	0.00
94.82	17.0	0.28	1.67	284.9	6	114.6	5.65	2.83	2.82	0.59	6.5	3.9	0.91	0.09
[illegible]80	16.7	0.31	1.88	280.9	6	114.6	5.70	2.85	2.85	0.59	6.4	3.8	0.88	0.00
[illegible]78	17.2	0.32	1.84	278.9	6	114.6	5.76	2.88	2.88	0.59	6.6	3.9	0.91	0.00
[illegible].77	18.3	0.31	1.67	326.9	6	114.6	5.82	2.90	2.91	0.59	7.0	4.1	1.00	0.09
98.75	25.1	0.45	1.78	315.9	6	114.6	5.87	2.93	2.94	0.58	9.6	5.6	1.54	0.11
99.74	28.0	0.91	3.24	220.8	5	114.6	5.93	2.96	2.97	0.58	13.4	7.8	1.76	0.00
100.72	26.7	0.72	2.71	295.3	5	114.6	5.99	2.98	3.00	0.58	12.8	7.4	1.65	0.00
101.70	26.4	0.72	2.74	312.6	5	114.6	6.04	3.01	3.04	0.58	12.6	7.3	1.63	0.00

102.69	27.1	0.78	2.88	275.3	5	114.6	6.10	3.03	3.07	0.57	13.0	7.4	1.68	0.00
103.67	26.4	0.58	2.21	321.5	6	114.6	6.15	3.06	3.10	0.57	10.1	5.8	1.62	0.12

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
104.66	24.0	0.52	2.15	365.7	6	114.6	6.21	3.08	3.13	0.57	9.2	5.2	1.42	0.11
105.64	23.4	0.46	1.95	376.4	6	114.6	6.27	3.11	3.16	0.57	9.0	5.1	1.37	0.11
106.63	21.5	0.35	1.63	385.4	6	114.6	6.32	3.14	3.19	0.56	8.2	4.6	1.21	0.10
107.61	24.3	0.44	1.82	381.4	6	114.6	6.38	3.16	3.22	0.56	9.3	5.2	1.43	0.11
108.59	25.1	0.48	1.93	382.3	6	114.6	6.44	3.19	3.25	0.56	9.6	5.4	1.50	0.11
109.58	22.8	0.41	1.81	390.5	6	114.6	6.49	3.21	3.28	0.56	8.7	4.9	1.30	0.10
110.56	20.3	0.31	1.51	399.5	6	114.6	6.55	3.24	3.31	0.56	7.8	4.3	1.10	0.10
111.55	19.5	0.35	1.80	362.2	6	114.6	6.61	3.26	3.34	0.55	7.5	4.1	1.03	0.00
112.53	18.9	0.34	1.78	365.1	6	114.6	6.66	3.29	3.37	0.55	7.3	4.0	0.98	0.00
113.52	20.2	0.34	1.67	397.4	6	114.6	6.72	3.31	3.40	0.55	7.7	4.2	1.07	0.09
114.50	20.8	0.32	1.53	414.2	6	114.6	6.77	3.34	3.43	0.55	8.0	4.4	1.12	0.10
115.48	21.4	0.33	1.56	422.9	6	114.6	6.83	3.37	3.47	0.55	8.2	4.5	1.16	0.10
116.47	21.9	0.36	1.66	432.4	6	114.6	6.89	3.39	3.50	0.54	8.4	4.5	1.20	0.10
117.45	22.3	0.34	1.51	457.4	6	114.6	6.94	3.42	3.53	0.54	8.5	4.6	1.23	0.10
118.44	23.2	0.37	1.59	448.9	6	114.6	7.00	3.44	3.56	0.54	8.9	4.8	1.30	0.10
119.42	23.2	0.36	1.55	458.3	6	114.6	7.06	3.47	3.59	0.54	8.9	4.8	1.29	0.10
120.41	23.2	0.36	1.53	472.7	6	114.6	7.11	3.49	3.62	0.54	8.9	4.8	1.29	0.10
121.39	24.7	0.35	1.40	430.3	6	114.6	7.17	3.52	3.65	0.53	9.5	5.1	1.41	0.10
122.37	23.5	0.32	1.38	447.0	6	114.6	7.23	3.55	3.68	0.53	9.0	4.8	1.30	0.10
123.36	23.5	0.29	1.25	472.6	6	114.6	7.28	3.57	3.71	0.53	9.0	4.8	1.29	0.10
124.34	24.1	0.35	1.47	450.1	6	114.6	7.34	3.60	3.74	0.53	9.2	4.9	1.34	0.10
125.33	24.8	0.34	1.35	474.2	6	114.6	7.40	3.62	3.77	0.53	9.5	5.0	1.40	0.10
126.31	24.0	0.30	1.26	489.3	6	114.6	7.45	3.65	3.80	0.52	9.2	4.8	1.32	0.10
127.30	24.5	0.28	1.16	519.5	6	114.6	7.51	3.67	3.83	0.52	9.4	4.9	1.36	0.10
128.28	23.8	0.25	1.07	511.3	6	114.6	7.56	3.70	3.86	0.52	9.1	4.7	1.30	0.10
[illegible]26	26.7	0.39	1.47	495.7	6	114.6	7.62	3.73	3.90	0.52	10.2	5.3	1.53	0.11
[illegible]25	27.4	0.50	1.83	479.1	6	114.6	7.68	3.75	3.93	0.52	10.5	5.4	1.58	0.11
131.23	25.5	0.39	1.52	503.2	6	114.6	7.73	3.78	3.96	0.51	9.8	5.0	1.42	0.10
132.22	25.5	0.32	1.25	512.8	6	114.6	7.79	3.80	3.99	0.51	9.8	5.0	1.41	0.10
133.20	26.8	0.37	1.36	492.2	6	114.6	7.85	3.83	4.02	0.51	10.3	5.3	1.52	0.11
134.18	26.5	0.39	1.49	501.6	6	114.6	7.90	3.85	4.05	0.51	10.1	5.2	1.48	0.11
135.17	27.8	0.40	1.43	528.3	6	114.6	7.96	3.88	4.08	0.51	10.6	5.4	1.58	0.11
136.15	33.2	0.56	1.70	535.5	6	114.6	8.02	3.90	4.11	0.51	12.7	6.4	2.01	0.13
137.14	33.7	0.84	2.48	478.4	6	114.6	8.07	3.93	4.14	0.50	12.9	6.5	2.05	0.00
138.12	32.6	0.62	1.90	521.5	6	114.6	8.13	3.96	4.17	0.50	12.5	6.3	1.96	0.13
139.11	34.6	0.70	2.01	535.0	6	114.6	8.18	3.98	4.20	0.50	13.3	6.6	2.11	0.14
140.09	39.2	0.88	2.23	541.3	6	114.6	8.24	4.01	4.23	0.50	15.0	7.5	2.48	0.16
141.07	40.0	0.93	2.31	496.7	6	114.6	8.30	4.03	4.26	0.50	15.3	7.7	2.54	0.17
142.06	38.9	0.90	2.30	499.1	6	114.6	8.35	4.06	4.29	0.50	14.9	7.5	2.45	0.16
143.04	34.7	0.62	1.79	538.2	6	114.6	8.41	4.08	4.33	0.50	13.3	6.6	2.10	0.14
144.03	42.6	0.69	1.62	660.7	7	117.8	8.47	4.11	4.36	0.50	13.6	6.8	UnDef	0.18
145.01	44.0	1.01	2.30	588.9	6	114.6	8.52	4.14	4.39	0.50	16.9	8.4	2.84	0.19
146.00	49.3	1.06	2.15	541.0	6	114.6	8.58	4.16	4.42	0.50	18.9	9.4	3.25	0.23
146.98	31.4	0.67	2.14	330.9	6	114.6	8.64	4.19	4.45	0.50	12.0	6.0	1.82	0.00
147.96	26.6	0.33	1.26	366.8	6	114.6	8.69	4.21	4.48	0.50	10.2	5.1	1.43	0.10
148.95	26.0	0.35	1.33	408.2	6	114.6	8.75	4.24	4.51	0.50	9.9	5.0	1.38	0.10

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0627-1626-5105
Job No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-752
Engineer: P. MOORE
CPT Date: 10/20/06
CPT Time: 10:23
CPT File: 073C752.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 1.37 (ft): 4.5
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)60c
0.49	1.0E-15	0.00	2.4	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
1.48	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
2.46	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
3.44	1.0E-15	0.00	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
[illegible]43	1.0E-15	0.00	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]De
[illegible]1	1.0E-15	-2.73	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]
6.40	1.0E-15	-5.67	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	[illegible]
7.30	1.0E-15	-8.37	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
8.20	1.0E-15	-11.07	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
9.19	1.0E-15	-14.01	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
10.17	1.0E-15	-16.96	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
11.15	1.0E-15	-19.90	0.0	0.10	1	0.1	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
12.14	5.0E-03	0.00	122.0	0.87	9	86.6	8.2	94.8	8.2	42	63.2	1.0	-0.19	1.2	22.
13.21	5.0E-03	0.00	155.3	0.98	9	113.3	7.4	120.7	7.3	44	70.9	1.0	-0.23	1.1	28.
14.27	5.0E-02	0.00	239.8	0.74	9	179.5	0.0	179.5	3.4	46	84.0	1.0	-0.24	0.0	35.
15.26	5.0E-02	0.00	225.7	0.59	9	173.4	0.0	173.4	2.7	46	83.0	1.0	-0.21	0.0	33.
16.24	5.0E-02	0.00	206.5	0.69	9	162.7	0.0	162.7	3.8	46	81.2	1.0	-0.22	0.0	31.
17.22	5.0E-03	0.00	126.9	0.79	9	102.7	7.1	109.8	7.4	44	68.0	1.0	-0.19	1.1	26.
18.21	5.0E-03	0.00	122.9	0.45	9	101.7	0.0	101.7	4.9	42	67.8	1.0	-0.14	0.0	24.
19.19	5.0E-03	0.00	96.2	1.14	9	81.5	18.4	99.9	11.9	42	61.4	1.0	-0.20	2.6	22.
20.18	5.0E-03	0.00	83.1	0.82	9	72.0	13.4	85.4	10.9	42	57.9	1.0	-0.15	1.9	19.
21.16	5.0E-03	0.00	96.4	0.94	9	84.9	14.6	99.5	10.5	42	62.6	1.0	-0.18	2.1	22.
22.15	5.0E-02	0.00	154.2	0.52	9	137.5	0.0	137.5	4.2	44	76.4	1.0	-0.17	0.0	26.
23.13	5.0E-03	0.00	106.5	0.65	9	97.1	7.1	104.2	7.6	42	66.4	1.0	-0.15	1.1	24.
24.11	5.0E-04	-0.01	60.4	0.90	9	56.7	19.4	76.1	14.6	40	51.0	1.0	-0.13	3.5	22.
25.10	5.0E-04	-0.01	40.4	0.96	7	39.0	24.9	63.9	19.6	38	40.3	1.0	-0.10	4.1	16.
26.08	5.0E-04	-0.01	35.0	1.16	7	34.6	32.3	66.8	23.1	38	36.8	1.0	-0.10	4.9	16.
27.07	5.0E-05	-0.03	15.7	1.95	6	16.6	66.4	83.1	42.1	32	30.0	6.0	-0.06	6.5	13.
28.05	5.0E-06	0.04	7.9	2.00	4	9.3	37.3	46.6	57.7	UnDef	UnDef	3.0	UnDef	4.6	9.
29.04	5.0E-06	0.31	6.8	1.46	4	8.4	33.7	42.1	57.0	UnDef	UnDef	3.0	UnDef	4.1	8.
30.02	5.0E-06	0.51	5.7	1.23	4	7.4	29.6	37.1	59.4	UnDef	UnDef	1.5	UnDef	3.6	7.
31.00	5.0E-06	0.51	5.5	1.16	4	7.3	29.2	36.5	59.7	UnDef	UnDef	1.5	UnDef	3.6	7.
31.99	5.0E-06	0.52	5.6	1.07	4	7.5	30.2	37.7	58.0	UnDef	UnDef	1.5	UnDef	3.7	7.
32.97	5.0E-06	0.60	4.8	1.11	4	6.7	27.0	33.7	63.1	UnDef	UnDef	1.5	UnDef	3.3	6.
[illegible]96	5.0E-05	0.40	5.9	0.88	6	8.0	32.1	40.1	54.5	30	30.0	1.5	0.14	3.1	
[illegible]94	1.0E-07	0.56	4.5	0.96	4	6.7	26.7	33.3	62.7	UnDef	UnDef	1.5	UnDef	3.3	
35.92	5.0E-06	0.62	4.4	1.12	4	6.5	26.2	32.7	65.7	UnDef	UnDef	1.5	UnDef	3.2	[illegible]
36.91	5.0E-06	0.65	4.2	1.13	4	6.5	26.0	32.5	66.6	UnDef	UnDef	1.5	UnDef	3.2	6.
37.89	5.0E-06	0.72	4.0	1.16	4	6.3	25.4	31.7	68.5	UnDef	UnDef	1.5	UnDef	3.1	6.
38.88	5.0E-06	0.71	4.1	1.64	4	6.5	26.0	32.5	72.9	UnDef	UnDef	1.5	UnDef	3.2	6.
39.86	5.0E-06	0.67	4.3	1.78	4	6.8	27.2	34.0	72.5	UnDef	UnDef	1.5	UnDef	3.3	6.

40.85	5.0E-06	0.71	4.2	1.43	4	6.7	26.9	33.6	70.3	UnDef	UnDef	1.5	UnDef	3.3	6.

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	/c
41.83	5.0E-06	0.73	4.3	1.58	4	7.0	28.0	35.0	70.5	UnDef	UnDef	1.5	UnDef	3.4	6.
42.81	5.0E-06	0.72	4.3	1.41	4	7.1	28.2	35.3	69.0	UnDef	UnDef	1.5	UnDef	3.5	6.
43.80	5.0E-06	0.62	4.4	1.35	4	7.3	29.0	36.3	67.6	UnDef	UnDef	1.5	UnDef	3.5	7.
44.78	5.0E-06	0.72	4.3	1.47	4	7.2	28.8	36.0	69.5	UnDef	UnDef	1.5	UnDef	3.5	7.
45.77	5.0E-06	0.71	3.9	1.53	4	6.8	27.2	34.0	73.0	UnDef	UnDef	1.5	UnDef	3.3	6.
46.75	5.0E-06	0.71	4.1	1.48	4	7.1	28.5	35.6	70.9	UnDef	UnDef	1.5	UnDef	3.5	7.
47.74	5.0E-06	0.73	4.2	1.24	4	7.3	29.1	36.4	68.0	UnDef	UnDef	1.5	UnDef	3.6	7.
48.72	5.0E-06	0.74	4.0	1.19	4	7.1	28.6	35.7	68.6	UnDef	UnDef	1.5	UnDef	3.5	7.
49.70	5.0E-05	0.31	7.4	0.77	6	11.3	45.1	56.4	47.5	30	30.0	3.0	0.11	4.4	8.
50.69	5.0E-04	0.02	25.2	0.58	7	33.0	28.1	61.1	22.2	34	35.5	1.0	-0.01	4.3	15.
51.67	5.0E-05	0.26	6.1	1.80	4	9.8	39.4	49.2	62.9	30	30.0	1.5	0.08	3.9	7.
52.66	5.0E-03	0.03	36.7	0.85	7	47.9	31.4	79.3	19.8	38	46.2	1.0	-0.08	3.9	15.
53.64	5.0E-02	0.00	201.5	1.02	9	254.4	7.1	261.5	6.0	46	94.0	1.0	-0.26	0.9	50.
54.63	5.0E-02	0.00	233.5	1.22	9	297.2	10.4	307.6	6.3	46	95.0	1.0	-0.29	1.3	59.
55.61	5.0E-02	0.00	221.5	1.29	9	284.6	15.5	300.1	6.9	46	95.0	1.0	-0.29	1.9	57.
56.59	5.0E-02	0.00	204.3	1.35	9	265.0	20.8	285.8	7.7	46	95.0	1.0	-0.29	2.5	54.
57.58	5.0E-02	0.00	181.2	1.30	9	237.5	21.8	259.3	8.2	44	92.1	1.0	-0.27	2.6	49.
58.56	5.0E-02	0.00	166.0	1.23	9	219.6	21.6	241.1	8.3	44	89.8	1.0	-0.26	2.5	45.
59.55	5.0E-02	0.00	160.2	1.15	9	213.7	19.4	233.2	8.1	44	89.0	1.0	-0.25	2.3	44.
60.53	5.0E-02	0.00	165.5	1.15	9	222.6	18.7	241.3	7.9	44	90.2	1.0	-0.25	2.2	45.
61.52	5.0E-02	-0.01	128.6	1.13	9	175.0	24.0	199.0	9.5	44	83.3	1.0	-0.22	2.8	37.
62.42	5.0E-02	-0.01	108.0	0.87	9	148.4	18.6	167.0	9.2	42	78.6	1.0	-0.18	2.2	31.
63.32	5.0E-02	-0.01	60.7	0.74	9	85.3	23.9	109.2	13.2	40	62.7	1.0	-0.12	2.6	19.
64.30	5.0E-03	-0.02	33.3	0.63	7	48.3	28.5	76.8	18.9	36	46.4	1.0	-0.05	3.6	15.
65.29	5.0E-03	-0.02	28.2	0.76	7	41.6	36.7	78.4	22.6	36	42.1	1.0	-0.05	4.2	14.
[illegible].27	5.0E-03	-0.01	48.2	0.93	7	69.7	33.8	103.5	17.2	38	56.9	1.0	-0.11	4.4	.
[illegible]26	5.0E-02	-0.01	71.3	0.80	9	102.6	24.0	126.6	12.1	40	68.0	1.0	-0.14	2.7	.
68.24	5.0E-03	-0.01	57.0	0.86	9	83.2	29.7	112.8	14.8	40	62.0	1.0	-0.12	4.0	.
69.22	5.0E-03	-0.01	28.7	1.02	7	43.6	48.5	92.1	24.7	36	43.5	1.0	-0.07	5.2	15.
70.21	5.0E-02	0.00	88.4	0.90	9	129.2	24.4	153.7	11.0	42	74.6	1.0	-0.17	2.8	28.
71.19	5.0E-03	0.00	75.8	1.27	7	112.0	40.0	152.1	14.9	40	70.5	1.0	-0.18	5.4	32.
72.18	1.0E-15	-0.01	71.8	5.14	6	106.9	257.0	364.0	31.4	40	69.2	1.0	-0.51	82.8	187.
73.16	1.0E-15	-0.01	73.2	5.77	11	109.8	UnDef	UnDef	0.0	40	70.0	1.0	-0.62	UnDef	UnDe
74.15	5.0E-04	-0.01	97.1	2.45	7	145.7	83.2	228.9	18.6	42	78.1	1.0	-0.29	14.0	61.
75.13	1.0E-15	-0.01	117.8	2.94	7	177.4	102.9	280.3	18.8	42	83.7	1.0	-0.35	25.9	112.
76.11	1.0E-15	-0.01	96.9	4.34	11	147.3	UnDef	UnDef	0.0	42	78.4	1.0	-0.46	UnDef	UnDe
77.10	5.0E-04	-0.01	110.0	2.55	7	167.9	87.5	255.4	17.8	42	82.1	1.0	-0.31	14.9	69.
78.08	1.0E-15	-0.01	64.3	4.90	6	100.0	262.7	362.7	32.1	40	67.3	1.0	-0.45	81.1	179.
79.07	5.0E-03	-0.01	147.9	2.04	7	227.7	63.4	291.1	13.2	44	90.9	1.0	-0.31	8.8	64.
80.05	5.0E-03	-0.01	115.8	1.55	9	180.1	46.6	226.6	12.7	42	84.1	1.0	-0.25	6.5	50.
81.04	5.0E-06	-0.04	19.1	4.16	1	32.4	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
82.02	5.0E-05	-0.06	11.7	2.29	6	21.1	84.4	105.5	50.5	30	30.0	3.0	-0.05	8.3	16.
83.00	5.0E-05	-0.11	5.8	2.41	4	12.1	48.3	60.4	68.8	30	30.0	1.5	0.02	4.7	9.
83.99	5.0E-05	-0.10	5.4	2.28	4	11.6	46.3	57.9	69.7	30	30.0	1.5	0.03	4.5	9.
84.97	5.0E-05	-0.10	4.8	1.93	4	10.6	42.4	53.0	70.8	30	30.0	1.5	0.06	4.1	8.
85.96	5.0E-05	-0.08	4.3	1.99	4	10.0	39.8	49.8	74.2	30	30.0	1.5	0.07	3.9	7.
86.94	5.0E-05	-0.06	4.1	1.93	4	9.6	38.5	48.2	75.3	30	30.0	1.5	0.08	3.8	7.
87.93	5.0E-05	0.03	4.0	2.14	4	9.5	37.8	47.3	78.2	30	30.0	1.5	0.09	3.7	7.
88.91	5.0E-06	0.09	4.0	3.08	1	9.6	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
89.89	5.0E-06	0.16	4.0	3.15	1	9.7	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
90.88	5.0E-05	0.29	4.2	2.53	4	10.0	39.8	49.8	79.3	30	30.0	1.5	0.11	3.9	7.
91.86	5.0E-05	0.38	4.7	2.57	4	10.9	43.6	54.5	75.9	30	30.0	1.5	0.11	4.3	8.
92.85	5.0E-05	0.44	4.2	2.94	1	10.2	UnDef	UnDef	100.0	30	30.0	1.5	0.14	UnDef	UnDe
93.83	5.0E-05	0.49	4.1	2.73	1	10.1	UnDef	UnDef	100.0	30	30.0	1.5	0.15	UnDef	UnDe
94.82	5.0E-05	0.53	4.0	2.49	4	9.9	39.7	49.6	80.1	30	30.0	1.5	0.16	3.9	[illegible]
[illegible]80	5.0E-05	0.54	3.8	2.86	1	9.7	UnDef	UnDef	100.0	30	30.0	1.5	0.17	UnDef	
[illegible]78	5.0E-05	0.51	4.0	2.76	1	9.9	UnDef	UnDef	100.0	30	30.0	1.5	0.16	UnDef	
97.77	5.0E-05	0.58	4.3	2.45	4	10.5	42.0	52.5	77.9	30	30.0	1.5	0.17	4.1	8.
98.75	5.0E-05	0.36	6.6	2.32	4	14.4	57.5	71.9	64.8	30	30.0	3.0	0.07	5.6	11.
99.74	5.0E-06	0.18	7.5	4.11	1	15.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
100.72	5.0E-06	0.30	6.9	3.49	1	15.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
101.70	5.0E-06	0.33	6.8	3.55	1	14.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe

102.69	5.0E-06	0.26	6.9	3.72	1	15.2	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
103.67	5.0E-05	0.34	6.6	2.88	4	14.8	59.1	73.9	68.2	30	30.0	3.0	0.06	5.8	11.

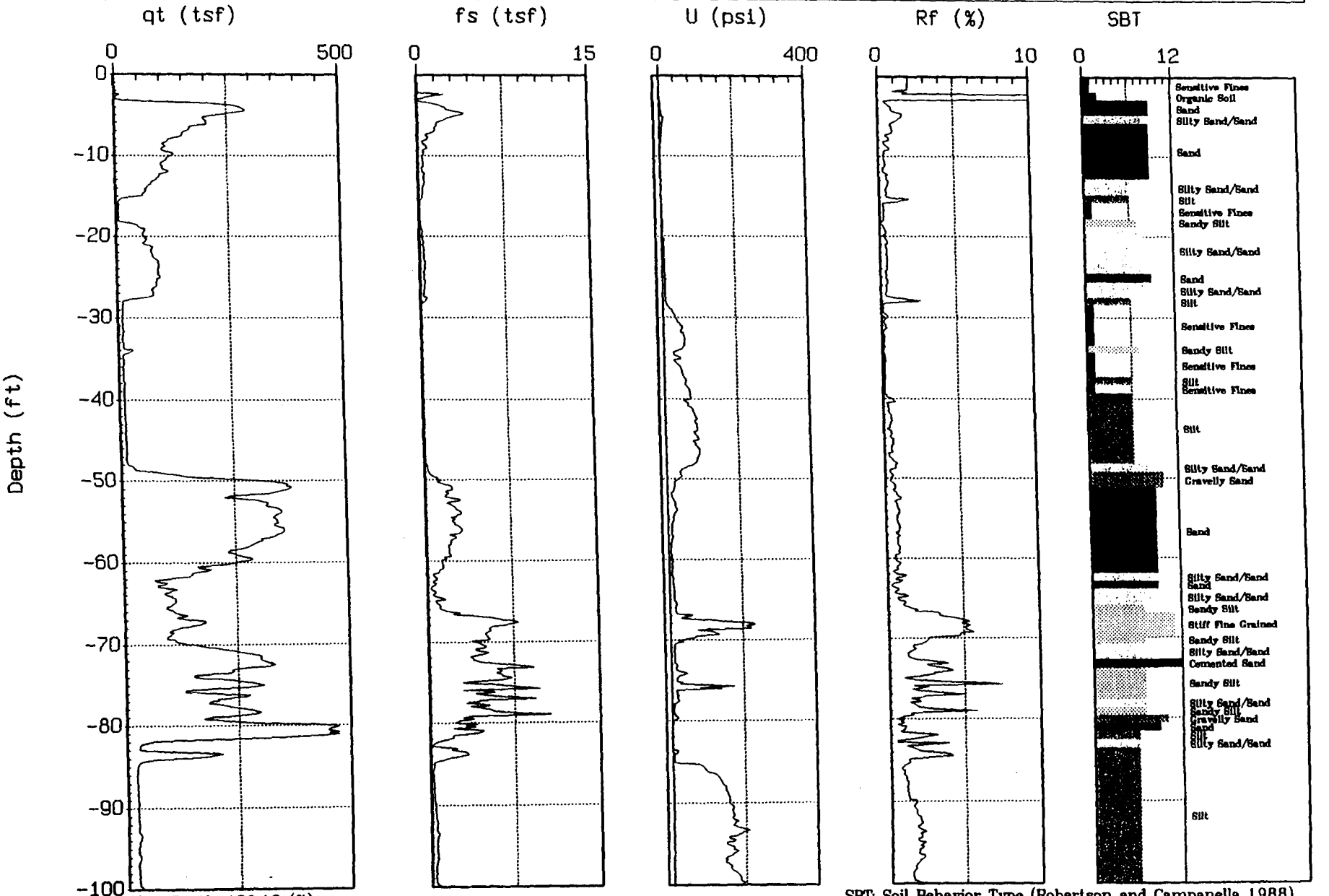
Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	[illegible]
104.66	5.0E-05	0.47	5.8	2.91	4	13.4	53.4	66.8	72.2	30	30.0	1.5	0.10	5.2	10.
105.64	5.0E-05	0.50	5.5	2.67	4	13.0	51.9	64.9	72.0	30	30.0	1.5	0.12	5.1	10.
106.63	5.0E-05	0.58	4.8	2.31	4	11.9	47.5	59.3	73.3	30	30.0	1.5	0.16	4.6	9.
107.61	5.0E-05	0.49	5.7	2.48	4	13.4	53.4	66.8	70.0	30	30.0	1.5	0.11	5.2	10.
108.59	5.0E-05	0.46	5.9	2.59	4	13.8	55.1	68.9	69.7	30	30.0	1.5	0.10	5.4	10.
109.58	5.0E-05	0.55	5.1	2.53	4	12.4	49.8	62.2	73.5	30	30.0	1.5	0.14	4.9	9.
110.56	5.0E-05	0.67	4.3	2.23	4	11.0	44.2	55.2	76.6	30	30.0	1.5	0.20	4.3	8.
111.55	5.0E-05	0.62	4.0	2.72	1	10.6	UnDef	UnDef	100.0	30	30.0	1.5	0.19	UnDef	UnDe
112.53	5.0E-05	0.65	3.7	2.75	1	10.2	UnDef	UnDef	100.0	30	30.0	1.5	0.21	UnDef	UnDe
113.52	5.0E-05	0.67	4.1	2.50	4	10.8	43.3	54.2	80.0	30	30.0	1.5	0.20	4.2	8.
114.50	5.0E-05	0.68	4.2	2.27	4	11.1	44.6	55.7	77.3	30	30.0	1.5	0.20	4.4	8.
115.48	5.0E-05	0.67	4.3	2.30	4	11.4	45.6	57.0	76.7	30	30.0	1.5	0.20	4.5	8.
116.47	5.0E-05	0.67	4.4	2.42	4	11.6	46.5	58.1	76.8	30	30.0	1.5	0.19	4.5	9.
117.45	5.0E-05	0.70	4.5	2.20	4	11.8	47.2	59.0	74.7	30	30.0	1.5	0.20	4.6	9.
118.44	5.0E-05	0.64	4.7	2.28	4	12.2	49.0	61.2	73.9	30	30.0	1.5	0.18	4.8	9.
119.42	5.0E-05	0.66	4.6	2.23	4	12.2	48.7	60.9	73.9	30	30.0	1.5	0.19	4.8	9.
120.41	5.0E-05	0.69	4.6	2.21	4	12.2	48.6	60.8	74.0	30	30.0	1.5	0.20	4.8	9.
121.39	5.0E-05	0.56	5.0	1.97	4	12.9	51.6	64.5	69.8	30	30.0	1.5	0.15	5.1	10.
122.37	5.0E-05	0.63	4.6	1.99	4	12.2	48.9	61.1	72.4	30	30.0	1.5	0.18	4.8	9.
123.36	5.0E-05	0.68	4.5	1.82	4	12.1	48.6	60.7	71.4	30	30.0	1.5	0.20	4.8	9.
124.34	5.0E-05	0.61	4.7	2.11	4	12.4	49.7	62.2	72.9	30	30.0	1.5	0.17	4.9	9.
125.33	5.0E-05	0.63	4.8	1.93	4	12.8	51.1	63.8	70.5	30	30.0	1.5	0.17	5.0	10.
126.31	5.0E-05	0.69	4.5	1.83	4	12.3	49.1	61.4	71.5	30	30.0	1.5	0.20	4.8	9.
127.30	5.0E-05	0.73	4.6	1.68	4	12.5	49.9	62.4	69.6	30	30.0	1.5	0.21	4.9	9.
128.28	5.0E-05	0.75	4.4	1.57	4	12.1	48.4	60.5	70.1	30	30.0	1.5	0.22	4.7	9.
[illegible].26	5.0E-05	0.61	5.1	2.06	4	13.6	54.2	67.8	69.7	30	30.0	1.5	0.16	5.3	[illegible]
[illegible]25	5.0E-05	0.56	5.3	2.54	4	13.8	55.3	69.2	72.5	30	30.0	1.5	0.14	5.4	
131.23	5.0E-05	0.66	4.7	2.18	4	12.9	51.4	64.3	73.1	30	30.0	1.5	0.18	5.0	.
132.22	5.0E-05	0.68	4.6	1.80	4	12.8	51.1	63.9	70.4	30	30.0	1.5	0.19	5.0	10.
133.20	5.0E-05	0.60	5.0	1.93	4	13.4	53.7	67.1	69.7	30	30.0	1.5	0.16	5.3	10.
134.18	5.0E-05	0.63	4.8	2.12	4	13.2	52.8	66.0	72.1	30	30.0	1.5	0.17	5.2	10.
135.17	5.0E-05	0.63	5.1	2.00	4	13.8	55.2	68.9	69.4	30	30.0	1.5	0.16	5.4	10.
136.15	5.0E-05	0.50	6.4	2.24	4	16.4	65.8	82.2	64.7	30	30.0	3.0	0.10	6.4	12.
137.14	5.0E-05	0.42	6.5	3.26	1	16.6	UnDef	UnDef	100.0	30	30.0	3.0	0.08	UnDef	UnDe
138.12	5.0E-05	0.49	6.2	2.53	4	16.1	64.2	80.3	67.8	30	30.0	1.5	0.10	6.3	12.
139.11	5.0E-05	0.47	6.6	2.63	4	17.0	67.9	84.8	66.6	30	30.0	3.0	0.09	6.6	13.
140.09	5.0E-05	0.41	7.7	2.83	4	19.2	76.7	95.9	63.7	30	30.0	3.0	0.06	7.5	15.
141.07	5.0E-05	0.35	7.9	2.92	4	19.5	78.1	97.6	63.8	30	30.0	3.0	0.04	7.7	15.
142.06	5.0E-05	0.37	7.5	2.93	4	18.9	75.6	94.6	65.0	30	30.0	3.0	0.05	7.5	14.
143.04	5.0E-05	0.47	6.4	2.37	4	16.8	67.2	84.0	65.7	30	30.0	3.0	0.10	6.6	13.
144.03	5.0E-04	0.48	8.3	2.02	4	20.6	82.3	102.9	56.6	30	30.0	1.0	0.07	6.8	13.
145.01	5.0E-05	0.39	8.6	2.85	4	21.2	84.7	105.8	61.2	30	30.0	3.0	0.04	8.4	16.
146.00	5.0E-05	0.31	9.8	2.60	4	23.6	94.5	118.1	56.5	30	30.0	3.0	0.01	9.4	18.
146.98	5.0E-05	0.26	5.4	2.96	1	15.0	UnDef	UnDef	100.0	30	30.0	1.5	0.07	UnDef	UnDe
147.96	5.0E-05	0.39	4.3	1.87	4	12.7	50.7	63.4	73.7	30	30.0	1.5	0.13	5.1	10.
148.95	5.0E-05	0.48	4.1	2.01	4	12.3	49.4	61.7	76.3	30	30.0	1.5	0.15	5.0	9.

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-753

Engineer : P. MOORE
Date : 06:21:02 12:17



Max. Depth: 189.13 (ft)

Depth Inc.: 0.164 (ft)

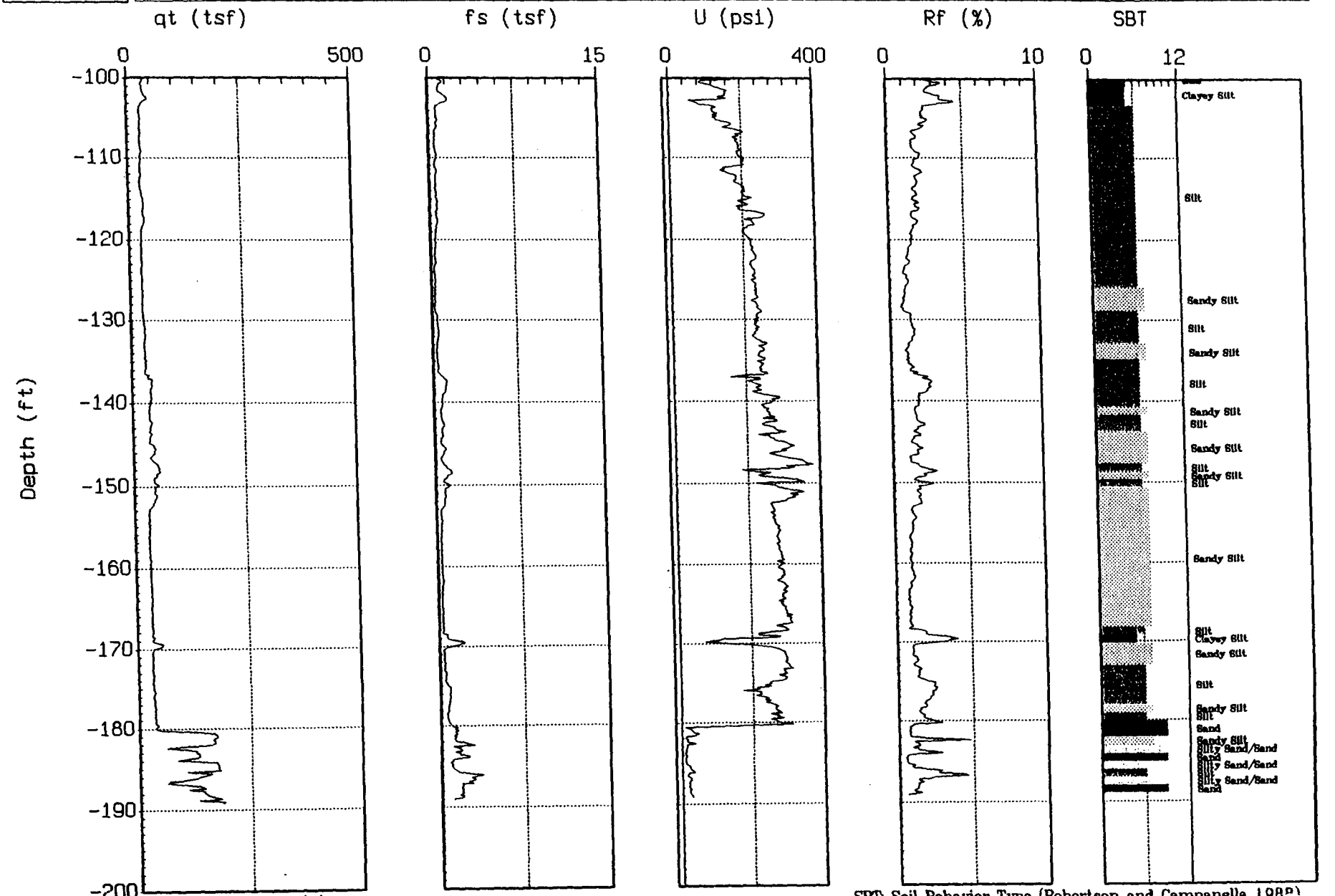
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-753

Engineer : P. MOORE
Date : 06:21:02 12:17



Max. Depth: 189.13 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
[illegible] No: 02-0627-1626-5209
Job No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-753
Engineer: P. MOORE
CPT Date: 02/21/06
CPT Time: 12:17
CPT File: 073S01.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.98 (ft): 3.2
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	1.0	0.02	1.99	0.6	1	79.6	0.02	0.02	0.00	2.00	0.5	1.0	0.08	0.00
1.48	1.0	0.02	1.83	0.4	1	79.6	0.06	0.06	0.00	2.00	0.5	1.0	0.08	0.00
2.46	3.5	0.98	27.94	3.1	2	111.4	0.11	0.11	0.00	2.00	3.4	6.7	0.27	0.00
[illegible]44	181.2	1.28	0.71	8.3	9	124.1	0.16	0.16	0.01	2.00	34.7	69.4	UnDef	0.00
[illegible]3	275.7	3.27	1.19	12.0	9	124.1	0.22	0.19	0.04	2.00	52.8	105.6	UnDef	0.00
5.41	203.0	2.50	1.23	20.8	8	120.9	0.29	0.22	0.07	2.00	48.6	97.2	UnDef	0.00
6.40	180.5	1.54	0.86	14.5	9	124.1	0.35	0.25	0.10	2.00	34.6	69.1	UnDef	0.00
7.30	149.4	0.98	0.65	11.7	9	124.1	0.40	0.27	0.13	1.91	28.6	54.7	UnDef	0.00
8.20	115.8	0.56	0.48	7.0	9	124.1	0.46	0.30	0.16	1.82	22.2	40.4	UnDef	0.00
9.19	111.1	0.59	0.53	0.3	9	124.1	0.52	0.33	0.19	1.74	21.3	37.0	UnDef	0.00
10.17	118.8	0.39	0.33	1.6	9	124.1	0.58	0.36	0.22	1.66	22.7	37.8	UnDef	0.00
11.15	103.7	0.37	0.36	1.4	9	124.1	0.64	0.39	0.25	1.60	19.9	31.7	UnDef	0.00
12.14	105.5	0.43	0.41	2.5	9	124.1	0.70	0.42	0.28	1.54	20.2	31.1	UnDef	0.45
13.21	81.7	0.44	0.53	2.1	8	120.9	0.77	0.45	0.31	1.48	19.6	29.0	UnDef	0.24
14.27	64.2	0.28	0.44	2.1	8	120.9	0.83	0.49	0.35	1.43	15.4	22.1	UnDef	0.15
15.26	21.0	0.17	0.80	2.3	6	114.6	0.89	0.51	0.38	1.40	8.1	11.2	1.61	0.09
16.24	4.4	0.01	0.23	1.9	1	79.6	0.94	0.53	0.41	1.37	2.1	2.9	0.27	0.00
17.22	4.1	0.01	0.24	3.4	1	79.6	0.98	0.54	0.44	1.36	2.0	2.7	0.25	0.00
18.21	25.6	0.03	0.12	7.5	7	117.8	1.02	0.56	0.47	1.34	8.2	10.9	UnDef	0.08
19.19	59.2	0.19	0.33	7.9	8	120.9	1.08	0.58	0.50	1.31	14.2	18.6	UnDef	0.12
20.18	63.7	0.21	0.33	10.3	8	120.9	1.14	0.61	0.53	1.28	15.2	19.5	UnDef	0.13
21.16	71.5	0.27	0.38	11.8	8	120.9	1.20	0.64	0.56	1.25	17.1	21.4	UnDef	0.14
22.15	78.3	0.32	0.41	12.6	8	120.9	1.26	0.67	0.59	1.22	18.7	22.9	UnDef	0.16
23.13	91.1	0.38	0.42	13.1	8	120.9	1.32	0.70	0.62	1.20	21.8	26.1	UnDef	0.19
24.11	90.9	0.35	0.38	14.3	8	120.9	1.38	0.73	0.65	1.17	21.8	25.5	UnDef	0.19
25.10	91.7	0.33	0.36	17.1	9	124.1	1.44	0.76	0.68	1.15	17.6	20.2	UnDef	0.18
26.08	82.8	0.31	0.38	16.4	8	120.9	1.50	0.79	0.71	1.13	19.8	22.3	UnDef	0.15
27.07	73.9	0.32	0.43	16.9	8	120.9	1.56	0.82	0.75	1.11	17.7	19.6	UnDef	0.13
28.05	14.4	0.18	1.27	21.1	6	114.6	1.62	0.84	0.78	1.09	5.5	6.0	1.02	0.12
29.04	9.8	0.01	0.12	54.5	1	79.6	1.67	0.86	0.81	1.08	4.7	5.1	0.65	0.00
30.02	8.8	0.02	0.25	80.0	1	79.6	1.71	0.87	0.84	1.07	4.2	4.5	0.57	0.09
31.00	9.1	0.02	0.22	112.8	1	79.6	1.75	0.88	0.87	1.07	4.3	4.6	0.59	0.00
31.99	9.9	0.01	0.10	123.6	1	79.6	1.78	0.89	0.90	1.06	4.7	5.0	0.65	0.00
[illegible]97	9.5	0.01	0.11	130.9	1	79.6	1.82	0.89	0.93	1.06	4.6	4.8	0.62	0.00
[illegible]96	18.9	0.01	0.06	90.3	7	117.8	1.87	0.91	0.96	1.05	6.0	6.3	UnDef	0.00
[illegible].94	9.5	0.01	0.14	81.2	1	79.6	1.92	0.93	0.99	1.04	4.5	4.7	0.60	0.00
35.92	8.8	0.01	0.11	96.2	1	79.6	1.96	0.94	1.02	1.03	4.2	4.4	0.55	0.00
36.91	8.7	0.01	0.11	117.4	1	79.6	2.00	0.95	1.05	1.03	4.2	4.3	0.54	0.00
37.89	10.1	0.01	0.10	134.2	6	114.6	2.05	0.96	1.08	1.02	3.9	3.9	0.65	0.00
38.88	9.6	0.01	0.10	156.1	1	79.6	2.09	0.98	1.11	1.01	4.6	4.6	0.60	0.00

39.86	10.3	0.05	0.47	151.6	6	114.6	2.14	1.00	1.14	1.00	4.0	4.0	0.66	0.09
40.85	10.3	0.03	0.29	159.9	6	114.6	2.20	1.02	1.18	0.99	3.9	3.9	0.65	0.09

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	10.9	0.04	0.40	186.6	6	114.6	2.26	1.05	1.21	0.98	4.2	4.1	0.69	0.09
42.81	11.2	0.05	0.46	193.0	6	114.6	2.31	1.07	1.24	0.96	4.3	4.2	0.71	0.09
43.80	10.9	0.04	0.38	195.3	6	114.6	2.37	1.10	1.27	0.95	4.2	4.0	0.68	0.09
44.78	11.5	0.05	0.47	195.8	6	114.6	2.42	1.13	1.30	0.94	4.4	4.1	0.73	0.09
45.77	11.5	0.06	0.51	195.0	6	114.6	2.48	1.15	1.33	0.93	4.4	4.1	0.72	0.09
46.75	11.3	0.04	0.37	208.3	6	114.6	2.54	1.18	1.36	0.92	4.3	4.0	0.70	0.09
47.74	14.1	0.09	0.63	186.9	6	114.6	2.59	1.20	1.39	0.91	5.4	4.9	0.92	0.10
48.72	63.5	0.26	0.42	103.3	8	120.9	2.65	1.23	1.42	0.90	15.2	13.7	UnDef	0.10
49.70	247.5	0.93	0.38	79.1	10	127.3	2.71	1.26	1.45	0.89	39.5	35.2	UnDef	0.00
50.69	369.0	2.06	0.56	45.9	10	127.3	2.78	1.29	1.48	0.88	58.9	51.8	UnDef	0.00
51.67	282.6	1.90	0.67	31.5	9	124.1	2.84	1.32	1.51	0.87	54.1	47.1	UnDef	0.00
52.66	319.1	2.46	0.77	42.3	9	124.1	2.90	1.35	1.54	0.86	61.1	52.5	UnDef	0.00
53.64	351.2	2.85	0.81	53.9	9	124.1	2.96	1.38	1.57	0.85	67.3	57.2	UnDef	0.00
54.63	342.8	2.45	0.72	36.1	9	124.1	3.02	1.41	1.61	0.84	65.6	55.2	UnDef	0.00
55.61	350.5	2.82	0.80	25.3	9	124.1	3.08	1.45	1.64	0.83	67.1	55.8	UnDef	0.00
56.59	339.8	2.70	0.79	25.0	9	124.1	3.14	1.48	1.67	0.82	65.1	53.6	UnDef	0.00
57.58	294.3	2.13	0.72	21.8	9	124.1	3.20	1.51	1.70	0.82	56.4	45.9	UnDef	0.00
58.56	246.6	1.98	0.80	16.4	9	124.1	3.26	1.54	1.73	0.81	47.2	38.1	UnDef	0.00
59.55	271.4	1.64	0.60	16.3	9	124.1	3.33	1.57	1.76	0.80	52.0	41.5	UnDef	0.00
60.53	187.7	1.34	0.71	21.4	9	124.1	3.39	1.60	1.79	0.79	36.0	28.5	UnDef	0.43
61.52	136.2	0.76	0.56	16.4	9	124.1	3.45	1.63	1.82	0.78	26.1	20.5	UnDef	0.23
62.42	79.5	0.65	0.81	21.5	8	120.9	3.50	1.65	1.85	0.78	19.0	14.8	UnDef	0.15
63.32	97.4	0.40	0.41	25.6	9	124.1	3.56	1.68	1.88	0.77	18.7	14.4	UnDef	0.12
64.30	107.6	0.84	0.78	27.5	8	120.9	3.62	1.71	1.91	0.76	25.8	19.7	UnDef	0.19
65.29	101.2	0.87	0.86	36.3	8	120.9	3.68	1.74	1.94	0.76	24.2	18.4	UnDef	0.18
[illegible].27	121.0	2.20	1.82	38.1	7	117.8	3.74	1.77	1.97	0.75	38.6	29.1	UnDef	0.38
[illegible]26	165.1	6.72	4.07	178.1	11	130.5	3.80	1.80	2.00	0.75	158.2	118.0	UnDef	0.00
[illegible].24	108.8	5.64	5.19	457.6	11	130.5	3.86	1.83	2.03	0.74	104.2	77.0	UnDef	0.00
69.22	103.0	5.19	5.04	243.6	11	130.5	3.93	1.87	2.06	0.73	98.6	72.2	UnDef	0.00
70.21	185.1	4.56	2.46	55.0	7	117.8	3.99	1.90	2.09	0.73	59.1	42.9	UnDef	0.00
71.19	284.7	4.56	1.60	22.7	8	120.9	4.05	1.92	2.12	0.72	68.2	49.2	UnDef	0.00
72.18	318.1	4.34	1.36	23.2	9	124.1	4.11	1.95	2.15	0.72	60.9	43.6	UnDef	0.00
73.16	236.4	7.32	3.10	31.1	12	120.9	4.17	1.98	2.18	0.71	113.2	80.4	UnDef	0.00
74.15	204.2	6.51	3.19	63.6	7	117.8	4.23	2.01	2.22	0.71	65.2	46.0	UnDef	0.00
75.13	247.6	5.48	2.21	75.3	7	117.8	4.28	2.04	2.25	0.70	79.1	55.4	UnDef	0.00
76.11	216.6	5.45	2.51	166.5	7	117.8	4.34	2.07	2.28	0.70	69.2	48.1	UnDef	0.00
77.10	202.1	5.95	2.94	38.6	7	117.8	4.40	2.09	2.31	0.69	64.5	44.6	UnDef	0.00
78.08	274.3	4.82	1.76	19.0	8	120.9	4.46	2.12	2.34	0.69	65.7	45.1	UnDef	0.00
79.07	215.6	6.06	2.81	16.4	7	117.8	4.52	2.15	2.37	0.68	68.8	47.0	UnDef	0.00
80.05	423.3	3.04	0.72	14.2	10	127.3	4.58	2.18	2.40	0.68	67.6	45.8	UnDef	0.00
81.04	437.2	3.54	0.81	2.3	9	124.1	4.64	2.21	2.43	0.67	83.7	56.3	UnDef	0.00
82.02	75.3	1.28	1.70	-2.9	7	117.8	4.70	2.24	2.46	0.67	24.0	16.1	UnDef	0.32
83.00	93.6	1.41	1.51	0.8	7	117.8	4.76	2.27	2.49	0.66	29.9	19.9	UnDef	0.27
83.99	106.3	2.45	2.30	19.3	7	117.8	4.81	2.29	2.52	0.66	33.9	22.4	UnDef	0.00
84.97	22.8	0.34	1.48	67.0	6	114.6	4.87	2.32	2.55	0.66	8.8	5.7	1.44	0.12
85.96	20.4	0.16	0.79	217.8	6	114.6	4.93	2.34	2.58	0.65	7.8	5.1	1.23	0.11
86.94	20.2	0.19	0.92	296.1	6	114.6	4.98	2.37	2.61	0.65	7.7	5.0	1.22	0.10
87.93	21.1	0.22	1.06	328.4	6	114.6	5.04	2.40	2.65	0.65	8.1	5.2	1.29	0.11
88.91	21.3	0.23	1.08	348.5	6	114.6	5.10	2.42	2.68	0.64	8.2	5.2	1.30	0.11
89.89	21.5	0.31	1.46	362.1	6	114.6	5.15	2.45	2.71	0.64	8.2	5.3	1.31	0.11
90.88	21.3	0.33	1.56	376.8	6	114.6	5.21	2.47	2.74	0.64	8.1	5.2	1.28	0.11
91.86	22.7	0.42	1.85	385.7	6	114.6	5.27	2.50	2.77	0.63	8.7	5.5	1.39	0.11
92.85	23.6	0.44	1.87	417.8	6	114.6	5.32	2.52	2.80	0.63	9.0	5.7	1.46	0.12
93.83	25.7	0.52	2.03	398.6	6	114.6	5.38	2.55	2.83	0.63	9.8	6.2	1.63	0.13
94.82	21.9	0.42	1.90	362.3	6	114.6	5.44	2.58	2.86	0.62	8.4	5.2	1.32	0.11
[illegible]80	23.6	0.43	1.84	386.5	6	114.6	5.49	2.60	2.89	0.62	9.1	5.6	1.45	0.11
[illegible]78	21.5	0.43	2.02	335.6	6	114.6	5.55	2.63	2.92	0.62	8.2	5.1	1.28	0.11
[illegible].77	22.5	0.36	1.62	363.3	6	114.6	5.61	2.65	2.95	0.61	8.6	5.3	1.35	0.11
98.75	22.5	0.31	1.39	411.0	6	114.6	5.66	2.68	2.98	0.61	8.6	5.3	1.35	0.11
99.74	29.4	0.62	2.10	397.4	6	114.6	5.72	2.70	3.01	0.61	11.3	6.9	1.90	0.14
100.72	33.0	1.01	3.07	272.0	5	114.6	5.77	2.73	3.04	0.61	15.8	9.6	2.18	0.00
101.70	37.6	1.16	3.10	357.2	5	114.6	5.83	2.75	3.08	0.60	18.0	10.8	2.54	0.00

102.69	37.4	1.43	3.82	227.5	5	114.6	5.89	2.78	3.11	0.60	17.9	10.7	2.52	0.00
103.67	27.5	0.66	2.39	283.4	6	114.6	5.94	2.81	3.14	0.60	10.5	6.3	1.72	0.13

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
104.66	28.2	0.68	2.41	297.8	6	114.6	6.00	2.83	3.17	0.59	10.8	6.4	1.78	0.13
105.64	27.9	0.66	2.37	367.2	6	114.6	6.06	2.86	3.20	0.59	10.7	6.3	1.75	0.13
106.63	27.2	0.50	1.84	440.0	6	114.6	6.11	2.88	3.23	0.59	10.4	6.1	1.69	0.12
107.61	26.8	0.48	1.78	424.0	6	114.6	6.17	2.91	3.26	0.59	10.3	6.0	1.65	0.12
108.59	27.8	0.46	1.67	443.4	6	114.6	6.23	2.93	3.29	0.58	10.6	6.2	1.72	0.13
109.58	28.0	0.58	2.09	441.9	6	114.6	6.28	2.96	3.32	0.58	10.7	6.2	1.74	0.13
110.56	26.4	0.46	1.74	459.0	6	114.6	6.34	2.99	3.35	0.58	10.1	5.8	1.60	0.12
111.55	26.6	0.56	2.11	359.2	6	114.6	6.39	3.01	3.38	0.58	10.2	5.9	1.62	0.12
112.53	25.8	0.49	1.88	418.3	6	114.6	6.45	3.04	3.41	0.57	9.9	5.7	1.55	0.12
113.52	26.0	0.46	1.76	466.3	6	114.6	6.51	3.06	3.44	0.57	9.9	5.7	1.56	0.12
114.50	29.4	0.52	1.77	478.5	6	114.6	6.56	3.09	3.48	0.57	11.3	6.4	1.83	0.13
115.48	31.5	0.60	1.92	457.4	6	114.6	6.62	3.11	3.51	0.57	12.1	6.8	1.99	0.14
116.47	31.0	0.52	1.69	532.4	6	114.6	6.68	3.14	3.54	0.56	11.9	6.7	1.94	0.14
117.45	33.3	0.59	1.78	528.5	6	114.6	6.73	3.17	3.57	0.56	12.8	7.2	2.13	0.15
118.44	28.6	0.46	1.60	480.5	6	114.6	6.79	3.19	3.60	0.56	11.0	6.1	1.75	0.12
119.42	26.0	0.38	1.48	482.5	6	114.6	6.85	3.22	3.63	0.56	10.0	5.5	1.53	0.11
120.41	25.6	0.37	1.43	508.1	6	114.6	6.90	3.24	3.66	0.56	9.8	5.4	1.49	0.11
121.39	25.5	0.31	1.23	521.9	6	114.6	6.96	3.27	3.69	0.55	9.8	5.4	1.48	0.11
122.37	26.0	0.32	1.24	525.9	6	114.6	7.01	3.29	3.72	0.55	10.0	5.5	1.52	0.11
123.36	25.7	0.26	1.03	515.0	6	114.6	7.07	3.32	3.75	0.55	9.9	5.4	1.49	0.11
124.34	25.8	0.26	1.02	528.9	6	114.6	7.13	3.35	3.78	0.55	9.9	5.4	1.49	0.11
125.33	26.2	0.30	1.15	521.9	6	114.6	7.18	3.37	3.81	0.54	10.0	5.5	1.52	0.11
126.31	26.2	0.25	0.97	533.3	7	117.8	7.24	3.40	3.84	0.54	8.4	4.5	UnDef	0.11
127.30	26.1	0.24	0.90	531.9	7	117.8	7.30	3.42	3.87	0.54	8.3	4.5	UnDef	0.11
128.28	25.3	0.20	0.78	545.0	7	117.8	7.36	3.45	3.91	0.54	8.1	4.4	UnDef	0.11
[illegible]26	26.9	0.33	1.22	547.0	6	114.6	7.41	3.48	3.94	0.54	10.3	5.5	1.56	0.11
[illegible]25	28.1	0.38	1.35	529.3	6	114.6	7.47	3.50	3.97	0.53	10.8	5.7	1.65	0.12
131.23	29.7	0.46	1.55	532.4	6	114.6	7.53	3.53	4.00	0.53	11.4	6.0	1.77	0.12
132.22	29.2	0.42	1.43	532.8	6	114.6	7.58	3.55	4.03	0.53	11.2	5.9	1.73	0.12
133.20	28.4	0.31	1.09	575.3	7	117.8	7.64	3.58	4.06	0.53	9.1	4.8	UnDef	0.12
134.18	29.0	0.31	1.08	554.3	7	117.8	7.70	3.61	4.09	0.53	9.2	4.9	UnDef	0.12
135.17	30.3	0.36	1.17	560.5	7	117.8	7.76	3.64	4.12	0.52	9.7	5.1	UnDef	0.12
136.15	30.6	0.43	1.40	568.2	6	114.6	7.81	3.66	4.15	0.52	11.7	6.1	1.82	0.12
137.14	40.2	0.95	2.37	478.4	6	114.6	7.87	3.69	4.18	0.52	15.4	8.0	2.59	0.18
138.12	42.0	1.03	2.46	537.5	6	114.6	7.93	3.71	4.21	0.52	16.1	8.3	2.72	0.19
139.11	40.9	0.79	1.93	586.2	6	114.6	7.98	3.74	4.24	0.52	15.7	8.1	2.63	0.18
140.09	39.1	0.69	1.76	604.3	6	114.6	8.04	3.76	4.27	0.52	15.0	7.7	2.48	0.17
141.07	36.2	0.54	1.49	592.7	7	117.8	8.10	3.79	4.30	0.51	11.6	5.9	UnDef	0.15
142.06	39.0	0.63	1.62	614.6	7	117.8	8.15	3.82	4.34	0.51	12.4	6.4	UnDef	0.17
143.04	37.6	0.69	1.84	610.3	6	114.6	8.21	3.85	4.37	0.51	14.4	7.4	2.35	0.16
144.03	37.5	0.59	1.57	618.0	7	117.8	8.27	3.87	4.40	0.51	12.0	6.1	UnDef	0.16
145.01	42.7	0.59	1.37	705.1	7	117.8	8.33	3.90	4.43	0.51	13.6	6.9	UnDef	0.19
146.00	42.5	0.73	1.71	665.7	7	117.8	8.38	3.93	4.46	0.50	13.6	6.8	UnDef	0.19
146.98	46.1	0.52	1.13	771.5	7	117.8	8.44	3.95	4.49	0.50	14.7	7.4	UnDef	0.22
147.96	55.1	1.14	2.08	660.8	7	117.8	8.50	3.98	4.52	0.50	17.6	8.8	UnDef	0.31
148.95	46.5	0.92	1.98	613.6	6	114.6	8.56	4.01	4.55	0.50	17.8	8.9	3.03	0.22
149.93	48.7	0.95	1.94	662.8	7	117.8	8.61	4.03	4.58	0.50	15.5	7.8	UnDef	0.24
150.92	46.6	0.77	1.65	751.4	7	117.8	8.67	4.06	4.61	0.50	14.9	7.4	UnDef	0.21
151.90	42.9	0.74	1.72	706.8	7	117.8	8.73	4.09	4.64	0.50	13.7	6.9	UnDef	0.18
152.89	32.5	0.46	1.42	612.6	6	114.6	8.79	4.11	4.67	0.50	12.4	6.2	1.90	0.12
153.87	31.3	0.39	1.24	615.4	7	117.8	8.84	4.14	4.70	0.50	10.0	5.0	UnDef	0.12
154.85	31.5	0.38	1.20	630.4	7	117.8	8.90	4.17	4.74	0.50	10.0	5.0	UnDef	0.12
155.84	30.9	0.35	1.14	647.5	7	117.8	8.96	4.19	4.77	0.50	9.9	4.9	UnDef	0.12
156.82	30.2	0.30	0.99	642.3	7	117.8	9.02	4.22	4.80	0.50	9.7	4.8	UnDef	0.11
157.81	30.4	0.31	1.03	643.4	7	117.8	9.08	4.25	4.83	0.50	9.7	4.9	UnDef	0.11
[illegible]79	30.9	0.31	0.99	662.1	7	117.8	9.13	4.28	4.86	0.50	9.9	4.9	UnDef	0.12
[illegible]77	31.4	0.32	1.02	656.8	7	117.8	9.19	4.30	4.89	0.50	10.0	5.0	UnDef	0.12
[illegible].76	31.7	0.34	1.07	663.6	7	117.8	9.25	4.33	4.92	0.50	10.1	5.1	UnDef	0.12
161.74	32.0	0.37	1.17	653.7	7	117.8	9.31	4.36	4.95	0.50	10.2	5.1	UnDef	0.12
162.73	32.6	0.31	0.95	680.7	7	117.8	9.37	4.39	4.98	0.50	10.4	5.2	UnDef	0.12
163.71	32.7	0.26	0.80	670.6	7	117.8	9.42	4.41	5.01	0.50	10.4	5.2	UnDef	0.12
164.70	32.7	0.28	0.85	663.3	7	117.8	9.48	4.44	5.04	0.50	10.4	5.2	UnDef	0.12

165.68	32.8	0.30	0.92	678.2	7	117.8	9.54	4.47	5.07	0.50	10.5	5.2	UnDef	0.12
166.66	32.5	0.29	0.89	704.0	7	117.8	9.60	4.49	5.10	0.50	10.4	5.2	UnDef	0.12

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
167.65	33.1	0.30	0.92	681.4	7	117.8	9.66	4.52	5.13	0.50	10.6	5.3	UnDef	0.12
168.71	36.6	0.70	1.92	605.5	6	114.6	9.72	4.55	5.17	0.50	14.0	7.0	2.15	0.13
169.78	44.2	1.39	3.15	316.3	5	114.6	9.78	4.58	5.20	0.50	21.2	10.6	2.75	0.00
170.76	32.3	0.33	1.03	631.9	7	117.8	9.84	4.60	5.23	0.50	10.3	5.2	UnDef	0.12
171.75	31.8	0.36	1.13	679.4	7	117.8	9.89	4.63	5.26	0.50	10.1	5.1	UnDef	0.12
172.73	32.0	0.37	1.17	693.6	7	117.8	9.95	4.66	5.29	0.50	10.2	5.1	UnDef	0.12
173.72	32.7	0.46	1.41	660.4	6	114.6	10.01	4.69	5.32	0.50	12.5	6.3	1.81	0.12
174.70	31.7	0.55	1.73	624.1	6	114.6	10.07	4.71	5.35	0.50	12.2	6.1	1.73	0.11
175.68	33.4	0.82	2.46	501.9	6	114.6	10.12	4.74	5.39	0.50	12.8	6.4	1.86	0.00
176.67	34.2	0.77	2.24	523.0	6	114.6	10.18	4.76	5.42	0.50	13.1	6.6	1.92	0.00
177.65	35.6	0.66	1.86	584.9	6	114.6	10.23	4.79	5.45	0.50	13.6	6.8	2.03	0.13
178.64	35.3	0.52	1.49	612.8	7	117.8	10.29	4.81	5.48	0.50	11.3	5.6	UnDef	0.13
179.62	38.1	0.76	1.99	619.2	6	114.6	10.35	4.84	5.51	0.50	14.6	7.3	2.22	0.14
180.60	142.7	1.33	0.93	210.3	9	124.1	10.41	4.87	5.54	0.50	27.3	13.7	UnDef	0.33
181.59	163.2	1.34	0.82	60.6	9	124.1	10.47	4.90	5.57	0.50	31.3	15.6	UnDef	0.30
182.57	106.8	1.87	1.75	42.9	7	117.8	10.53	4.93	5.60	0.50	34.1	17.1	UnDef	0.00
183.56	120.9	1.73	1.43	25.3	8	120.9	10.59	4.96	5.63	0.50	28.9	14.5	UnDef	0.00
184.54	175.5	0.91	0.52	26.4	9	124.1	10.65	4.99	5.66	0.50	33.6	16.8	UnDef	0.23
185.53	143.9	1.85	1.29	59.2	8	120.9	10.71	5.02	5.69	0.50	34.5	17.2	UnDef	0.00
186.51	96.5	2.78	2.88	46.9	6	114.6	10.77	5.04	5.72	0.50	37.0	18.5	6.86	0.00
187.49	137.8	1.77	1.28	43.8	8	120.9	10.82	5.07	5.75	0.50	33.0	16.5	UnDef	0.00
188.48	163.1	1.67	1.02	54.0	9	124.1	10.88	5.10	5.78	0.50	31.2	15.6	UnDef	0.39

Gregg In Situ, Inc.

Interpretation Output - Release 1.00.19e

Run No: 02-0627-1626-5209

Job No: 97-100

Client: HUSHMAND ASSOCS.

Project: CPT Site Investigation

Site: ALAMEDA N.A.S.

Location: CPT-753

Engineer: P. MOORE

CPT Date: 02/21/06

CPT Time: 12:17

CPT File: 073S01.COR

Northing (m): 0.000

Easting (m): 0.000

Elevation (m): 0.000

Water Table (m): 0.98 (ft): 3.2

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)60c
0.49	1.0E-07	0.02	50.3	2.03	7	1.9	2.0	3.9	23.9	UnDef	UnDef	10.0	UnDef	0.4	1.
1.48	1.0E-07	0.01	16.1	1.94	6	1.9	7.7	9.6	41.5	UnDef	UnDef	6.0	UnDef	1.0	1.
2.46	1.0E-15	0.03	32.3	10.00	1	6.7	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
3.44	5.0E-02	0.00	1000.0	0.71	10	347.1	0.0	347.1	0.0	50	95.0	1.0	-0.37	0.0	69.
[illegible]43	5.0E-02	0.00	1000.0	1.19	9	528.2	0.0	528.2	1.2	50	95.0	1.0	-0.43	0.0	95.
[illegible]1	5.0E-03	0.00	938.5	1.23	9	388.7	0.0	388.7	1.6	50	95.0	1.0	-0.43	0.0	.
6.40	5.0E-02	0.00	733.8	0.86	10	345.7	0.0	345.7	0.4	50	95.0	1.0	-0.36	0.0	.
7.30	5.0E-02	0.00	545.0	0.66	10	279.6	0.0	279.6	0.1	50	95.0	1.0	-0.30	0.0	54.
8.20	5.0E-02	0.00	383.1	0.48	10	206.5	0.0	206.5	0.1	48	88.1	1.0	-0.24	0.0	40.
9.19	5.0E-02	0.00	333.5	0.53	10	188.8	0.0	188.8	0.8	48	85.5	1.0	-0.24	0.0	37.
10.17	5.0E-02	0.00	326.5	0.33	10	193.2	0.0	193.2	0.0	48	86.1	1.0	-0.20	0.0	37.
11.15	5.0E-02	0.00	262.8	0.36	10	162.1	0.0	162.1	0.5	46	81.1	1.0	-0.19	0.0	31.
12.14	5.0E-02	0.00	248.0	0.41	9	158.9	0.0	158.9	1.1	46	80.5	1.0	-0.19	0.0	31.
13.21	5.0E-03	0.00	178.1	0.54	9	118.6	0.0	118.6	3.5	44	72.2	1.0	-0.19	0.0	29.
14.27	5.0E-03	0.00	130.5	0.44	9	90.2	0.0	90.2	4.5	44	64.3	1.0	-0.14	0.0	22.
15.26	5.0E-05	-0.02	39.3	0.84	7	28.7	16.9	45.7	18.9	38	31.5	6.0	-0.09	3.4	14.
16.24	1.0E-07	-0.10	6.4	0.29	1	5.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
17.22	1.0E-07	-0.11	5.8	0.32	1	5.5	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
18.21	5.0E-04	-0.01	44.1	0.13	9	33.5	0.0	33.5	5.0	38	36.0	1.0	0.05	0.0	10.
19.19	5.0E-03	0.00	99.5	0.33	9	75.8	0.0	75.8	5.0	42	59.3	1.0	-0.09	0.0	18.
20.18	5.0E-03	0.00	102.0	0.33	9	79.6	0.1	79.7	5.0	42	60.7	1.0	-0.10	0.0	19.
21.16	5.0E-03	0.00	109.5	0.39	9	87.3	0.0	87.3	5.0	42	63.4	1.0	-0.11	0.0	21.
22.15	5.0E-03	0.00	114.9	0.42	9	93.6	0.0	93.6	5.0	42	65.4	1.0	-0.12	0.0	22.
23.13	5.0E-03	0.00	128.4	0.43	9	106.6	0.0	106.6	4.5	44	69.1	1.0	-0.14	0.0	26.
24.11	5.0E-03	0.00	123.0	0.39	9	104.3	0.0	104.3	4.3	42	68.5	1.0	-0.12	0.0	25.
25.10	5.0E-02	0.00	119.1	0.37	9	103.1	0.0	103.1	4.4	42	68.1	1.0	-0.12	0.0	20.
26.08	5.0E-03	0.00	103.2	0.38	9	91.3	0.0	91.3	5.0	42	64.7	1.0	-0.11	0.0	22.
27.07	5.0E-03	0.00	88.6	0.44	9	80.1	0.0	80.1	5.0	42	60.9	1.0	-0.11	0.0	19.
28.05	5.0E-05	-0.01	15.2	1.44	6	15.4	61.5	76.8	38.9	32	30.0	6.0	-0.04	6.0	12.
29.04	1.0E-07	0.11	9.4	0.14	1	10.3	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
30.02	1.0E-07	0.23	8.1	0.31	6	9.2	36.9	46.1	38.1	UnDef	UnDef	3.0	UnDef	4.5	9.
31.00	1.0E-07	0.36	8.3	0.27	1	9.5	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
31.99	1.0E-07	0.36	9.2	0.12	1	10.3	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
32.97	1.0E-07	0.41	8.6	0.13	1	9.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
[illegible]96	5.0E-04	0.11	18.7	0.07	7	19.4	0.0	19.4	5.0	32	30.0	1.0	0.19	0.0	.
[illegible]94	1.0E-07	0.20	8.1	0.18	1	9.6	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	[illegible]
35.92	1.0E-07	0.29	7.3	0.15	1	8.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
36.91	1.0E-07	0.39	7.1	0.15	1	8.8	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
37.89	5.0E-05	0.38	8.4	0.12	1	10.1	UnDef	UnDef	100.0	30	30.0	3.0	0.24	UnDef	UnDe
38.88	1.0E-07	0.50	7.6	0.13	1	9.4	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
39.86	5.0E-05	0.44	8.2	0.59	6	10.1	40.5	50.7	42.7	30	30.0	3.0	0.14	4.0	7.

40.85	5.0E-05	0.47	7.9	0.37	6	9.9	39.8	49.7	40.0	30	30.0	3.0	0.18	3.9	7.

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	
41.83	5.0E-05	0.54	8.2	0.50	6	10.4	41.6	51.9	41.4	30	30.0	3.0	0.16	4.1	8
42.81	5.0E-05	0.54	8.3	0.58	6	10.6	42.4	53.0	42.3	30	30.0	3.0	0.15	4.2	8
43.80	5.0E-05	0.56	7.8	0.49	6	10.2	40.7	50.9	42.4	30	30.0	3.0	0.18	4.0	8
44.78	5.0E-05	0.53	8.1	0.59	6	10.6	42.4	53.0	43.1	30	30.0	3.0	0.15	4.1	8
45.77	5.0E-05	0.53	7.8	0.65	6	10.5	41.8	52.3	44.7	30	30.0	3.0	0.15	4.1	8
46.75	5.0E-05	0.59	7.4	0.48	6	10.2	40.8	51.0	43.1	30	30.0	3.0	0.19	4.0	8
47.74	5.0E-05	0.39	9.6	0.77	6	12.6	50.4	63.0	41.7	30	30.0	3.0	0.10	4.9	9.
48.72	5.0E-03	0.03	49.5	0.43	9	56.0	0.0	56.0	5.0	38	50.7	1.0	-0.05	0.0	13.
49.70	5.0E+00	0.00	194.2	0.38	9	215.7	0.0	215.7	1.9	44	89.3	1.0	-0.16	0.0	35.
50.69	5.0E+00	0.00	283.3	0.56	9	317.6	0.0	317.6	1.6	46	95.0	1.0	-0.23	0.0	51.
51.67	5.0E-02	0.00	211.4	0.68	9	240.4	0.0	240.4	3.6	46	92.4	1.0	-0.22	0.0	47.
52.66	5.0E-02	0.00	233.5	0.78	9	268.3	0.0	268.3	3.8	46	95.0	1.0	-0.24	0.0	52.
53.64	5.0E-02	0.00	251.5	0.82	9	292.1	0.0	292.1	3.7	46	95.0	1.0	-0.25	0.0	57.
54.63	5.0E-02	0.00	240.1	0.72	9	282.0	0.0	282.0	3.3	46	95.0	1.0	-0.24	0.0	55.
55.61	5.0E-02	0.00	240.4	0.81	9	285.3	0.0	285.3	3.9	46	95.0	1.0	-0.25	0.0	55.
56.59	5.0E-02	0.00	228.2	0.80	9	273.8	0.0	273.8	4.1	46	95.0	1.0	-0.24	0.0	53.
57.58	5.0E-02	0.00	193.3	0.73	9	234.7	0.0	234.7	4.5	44	91.7	1.0	-0.22	0.0	45.
58.56	5.0E-02	-0.01	158.4	0.82	9	194.7	6.1	200.8	6.1	44	86.4	1.0	-0.21	0.7	38.
59.55	5.0E-02	0.00	171.1	0.61	9	212.2	0.0	212.2	4.3	44	88.8	1.0	-0.19	0.0	41.
60.53	5.0E-02	-0.01	115.4	0.73	9	145.4	10.8	156.1	7.6	42	78.0	1.0	-0.17	1.3	29.
61.52	5.0E-02	-0.01	81.6	0.57	9	104.5	12.4	116.9	9.0	42	68.5	1.0	-0.12	1.5	21.
62.42	5.0E-03	-0.02	45.9	0.85	7	60.5	28.9	89.4	17.1	38	52.9	1.0	-0.10	3.8	18.
63.32	5.0E-02	-0.01	55.8	0.43	9	73.5	0.0	73.5	5.0	40	58.5	1.0	-0.06	0.0	14.
64.30	5.0E-03	-0.01	60.7	0.81	9	80.5	24.5	105.0	13.7	40	61.0	1.0	-0.12	3.4	23.
65.29	5.0E-03	-0.01	56.0	0.89	7	75.1	28.3	103.4	15.3	40	59.1	1.0	-0.12	3.8	22.
[illegible]27	5.0E-04	-0.01	66.3	1.87	7	89.1	58.2	147.2	19.8	40	64.0	1.0	-0.21	9.5	[illegible].
[illegible]26	1.0E-15	0.02	89.7	4.17	11	120.5	UnDef	UnDef	0.0	42	72.6	1.0	-0.42	UnDef	[illegible]
68.24	1.0E-15	0.12	57.3	5.38	6	78.6	314.6	393.2	35.1	40	60.4	1.0	-0.47	77.0	[illegible]
69.22	1.0E-15	0.06	53.1	5.24	6	73.8	295.2	368.9	35.8	40	58.6	1.0	-0.45	72.2	144.
70.21	5.0E-04	0.00	95.5	2.52	7	131.6	78.9	210.5	19.0	42	75.1	1.0	-0.30	13.2	56.
71.19	5.0E-03	-0.01	145.9	1.62	9	200.9	40.6	241.6	11.3	44	87.3	1.0	-0.28	5.8	54.
72.18	5.0E-02	0.00	160.8	1.38	9	222.8	29.5	252.3	9.4	44	90.2	1.0	-0.27	3.4	47.
73.16	1.0E-15	-0.01	117.1	3.15	7	164.3	104.8	269.0	19.6	42	81.5	1.0	-0.37	25.9	106.
74.15	5.0E-04	0.00	99.5	3.25	7	140.9	111.6	252.6	21.6	42	77.1	1.0	-0.36	17.6	63.
75.13	5.0E-04	0.00	119.4	2.25	7	169.8	69.1	238.8	15.8	42	82.4	1.0	-0.30	12.2	67.
76.11	5.0E-04	0.01	102.8	2.57	7	147.5	83.6	231.1	18.5	42	78.4	1.0	-0.31	14.1	62.
77.10	5.0E-04	-0.01	94.5	3.01	7	136.7	103.7	240.4	21.2	42	76.2	1.0	-0.33	16.5	61.
78.08	5.0E-03	-0.01	127.3	1.79	9	184.4	51.3	235.7	13.2	44	84.8	1.0	-0.28	7.1	52.
79.07	5.0E-04	-0.01	98.2	2.87	7	143.9	98.5	242.4	20.2	42	77.7	1.0	-0.33	16.0	63.
80.05	5.0E+00	0.00	192.2	0.73	9	280.7	0.0	280.7	4.4	44	95.0	1.0	-0.22	0.0	45.
81.04	5.0E-02	-0.01	195.8	0.82	9	287.8	0.0	287.8	4.9	46	95.0	1.0	-0.23	0.0	56.
82.02	5.0E-04	-0.04	31.6	1.81	7	49.3	88.7	138.0	29.1	36	47.0	1.0	-0.13	10.8	26.
83.00	5.0E-04	-0.03	39.2	1.59	7	60.9	66.6	127.5	24.6	38	53.1	1.0	-0.14	9.6	29.
83.99	5.0E-04	-0.02	44.3	2.41	7	68.7	103.9	172.6	27.5	38	56.5	1.0	-0.20	13.5	36.
84.97	5.0E-05	-0.03	7.8	1.89	4	14.7	58.7	73.4	57.3	30	30.0	3.0	0.01	5.7	11.
85.96	5.0E-05	0.27	6.6	1.04	6	13.0	52.0	65.0	53.6	30	30.0	3.0	0.10	5.1	10.
86.94	5.0E-05	0.44	6.4	1.22	6	12.8	51.4	64.2	56.2	30	30.0	3.0	0.12	5.0	10.
87.93	5.0E-05	0.47	6.7	1.39	4	13.4	53.4	66.8	56.8	30	30.0	3.0	0.11	5.2	10.
88.91	5.0E-05	0.51	6.7	1.41	4	13.4	53.5	66.9	57.1	30	30.0	3.0	0.12	5.2	10.
89.89	5.0E-05	0.53	6.7	1.93	4	13.4	53.7	67.2	61.5	30	30.0	3.0	0.11	5.3	10.
90.88	5.0E-05	0.56	6.5	2.06	4	13.2	52.9	66.1	63.2	30	30.0	3.0	0.12	5.2	10.
91.86	5.0E-05	0.53	7.0	2.41	4	14.0	56.2	70.2	63.8	30	30.0	3.0	0.10	5.5	11.
92.85	5.0E-05	0.56	7.3	2.42	4	14.6	58.2	72.8	62.8	30	30.0	3.0	0.10	5.7	11.
93.83	5.0E-05	0.47	8.0	2.57	4	15.7	63.0	78.7	61.3	30	30.0	3.0	0.07	6.2	12.
94.82	5.0E-05	0.51	6.4	2.52	4	13.4	53.5	66.8	66.9	30	30.0	3.0	0.10	5.2	10.
[illegible]80	5.0E-05	0.51	7.0	2.39	4	14.4	57.4	71.8	63.6	30	30.0	3.0	0.09	5.6	
[illegible]78	5.0E-05	0.47	6.1	2.72	4	13.0	51.9	64.9	69.6	30	30.0	1.5	0.10	5.1	
97.77	5.0E-05	0.50	6.4	2.15	4	13.5	54.1	67.7	64.4	30	30.0	3.0	0.11	5.3	[illegible]
98.75	5.0E-05	0.58	6.3	1.85	4	13.5	53.9	67.3	62.4	30	30.0	3.0	0.13	5.3	10.
99.74	5.0E-05	0.40	8.8	2.61	4	17.5	70.1	87.6	59.2	30	30.0	3.0	0.04	6.9	13.
100.72	5.0E-06	0.20	10.0	3.72	1	19.5	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
101.70	5.0E-06	0.25	11.5	3.67	1	22.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe

102.69	5.0E-06	0.13	11.3	4.53	1	22.0	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
103.67	5.0E-05	0.27	7.7	3.05	4	16.0	64.2	80.2	65.2	30	30.0	3.0	0.03	6.3	12

Gregg In Situ, Inc.

Run No: 02-0627-1626-5209

CPT File: 073S01.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	
104.66	5.0E-05	0.28	7.9	3.07	4	16.4	65.7	82.1	64.7	30	30.0	3.0	0.03	6.4	12
105.64	5.0E-05	0.38	7.6	3.02	4	16.1	64.6	80.7	65.2	30	30.0	3.0	0.05	6.3	12
106.63	5.0E-05	0.50	7.3	2.37	4	15.7	62.7	78.4	62.3	30	30.0	3.0	0.09	6.1	12
107.61	5.0E-05	0.48	7.1	2.31	4	15.4	61.5	76.9	62.7	30	30.0	3.0	0.09	6.0	12
108.59	5.0E-05	0.49	7.3	2.15	4	15.9	63.5	79.4	60.7	30	30.0	3.0	0.09	6.2	12
109.58	5.0E-05	0.48	7.3	2.69	4	15.9	63.7	79.7	64.2	30	30.0	3.0	0.08	6.2	12
110.56	5.0E-05	0.55	6.7	2.29	4	14.9	59.7	74.7	64.0	30	30.0	3.0	0.11	5.8	11.
111.55	5.0E-05	0.39	6.7	2.78	4	15.0	60.0	75.0	67.2	30	30.0	3.0	0.07	5.9	11.
112.53	5.0E-05	0.50	6.4	2.51	4	14.5	58.0	72.5	66.9	30	30.0	3.0	0.10	5.7	11.
113.52	5.0E-05	0.57	6.4	2.34	4	14.5	58.1	72.6	65.8	30	30.0	3.0	0.12	5.7	11.
114.50	5.0E-05	0.50	7.4	2.27	4	16.4	65.5	81.9	61.3	30	30.0	3.0	0.09	6.4	12.
115.48	5.0E-05	0.43	8.0	2.43	4	17.5	69.8	87.3	60.4	30	30.0	3.0	0.06	6.8	13.
116.47	5.0E-05	0.54	7.7	2.15	4	17.1	68.5	85.6	59.3	30	30.0	3.0	0.09	6.7	13.
117.45	5.0E-05	0.49	8.4	2.23	4	18.3	73.4	91.7	57.8	30	30.0	3.0	0.07	7.2	14.
118.44	5.0E-05	0.52	6.8	2.10	4	15.7	62.7	78.4	62.1	30	30.0	3.0	0.10	6.1	12.
119.42	5.0E-05	0.60	5.9	2.01	4	14.2	56.7	70.9	65.2	30	30.0	1.5	0.14	5.5	11.
120.41	5.0E-05	0.65	5.8	1.96	4	13.9	55.6	69.5	65.7	30	30.0	1.5	0.16	5.4	10.
121.39	5.0E-05	0.68	5.7	1.69	4	13.8	55.2	69.0	63.9	30	30.0	1.5	0.17	5.4	10.
122.37	5.0E-05	0.67	5.8	1.70	4	14.0	56.0	70.1	63.6	30	30.0	1.5	0.17	5.5	11.
123.36	5.0E-05	0.66	5.6	1.41	4	13.8	55.3	69.1	61.6	30	30.0	1.5	0.17	5.4	10.
124.34	5.0E-05	0.68	5.6	1.41	4	13.8	55.2	68.9	61.8	30	30.0	1.5	0.18	5.4	10.
125.33	5.0E-05	0.66	5.6	1.58	4	14.0	55.8	69.8	63.1	30	30.0	1.5	0.17	5.5	10.
126.31	5.0E-04	0.67	5.6	1.34	4	13.9	55.7	69.7	61.0	30	30.0	1.0	0.18	4.5	9.
127.30	5.0E-04	0.68	5.5	1.25	4	13.8	55.2	69.0	60.6	30	30.0	1.0	0.18	4.5	9.
128.28	5.0E-04	0.73	5.2	1.11	4	13.3	53.4	66.7	60.5	30	30.0	1.0	0.21	4.4	8.
129.26	5.0E-05	0.68	5.6	1.68	4	14.1	56.4	70.5	64.2	30	30.0	1.5	0.17	5.5	11.
[illegible]	5.0E-05	0.61	5.9	1.84	4	14.7	58.7	73.4	64.2	30	30.0	1.5	0.15	5.7	.
131.23	5.0E-05	0.57	6.3	2.08	4	15.5	61.8	77.3	64.3	30	30.0	3.0	0.13	6.0	
132.22	5.0E-05	0.58	6.1	1.93	4	15.2	60.6	75.8	64.0	30	30.0	1.5	0.13	5.9	11.
133.20	5.0E-04	0.67	5.8	1.49	4	14.7	58.8	73.5	61.5	30	30.0	1.0	0.17	4.8	9.
134.18	5.0E-04	0.62	5.9	1.47	4	14.9	59.7	74.6	60.9	30	30.0	1.0	0.16	4.9	9.
135.17	5.0E-04	0.59	6.2	1.58	4	15.6	62.2	77.8	60.5	30	30.0	1.0	0.14	5.1	10.
136.15	5.0E-05	0.60	6.2	1.88	4	15.6	62.6	78.2	63.0	30	30.0	1.5	0.14	6.1	12.
137.14	5.0E-05	0.33	8.8	2.94	4	20.5	82.0	102.5	61.2	30	30.0	3.0	0.02	8.0	16.
138.12	5.0E-05	0.37	9.2	3.04	4	21.3	85.2	106.6	60.6	30	30.0	3.0	0.02	8.3	16.
139.11	5.0E-05	0.43	8.8	2.39	4	20.7	82.7	103.4	57.8	30	30.0	3.0	0.05	8.1	16.
140.09	5.0E-05	0.47	8.2	2.22	4	19.7	78.8	98.6	58.2	30	30.0	3.0	0.07	7.7	15.
141.07	5.0E-04	0.50	7.4	1.92	4	18.2	72.8	91.0	58.7	30	30.0	1.0	0.09	5.9	11.
142.06	5.0E-04	0.48	8.1	2.05	4	19.5	78.0	97.5	57.6	30	30.0	1.0	0.08	6.4	12.
143.04	5.0E-05	0.50	7.7	2.35	4	18.8	75.1	93.9	61.0	30	30.0	3.0	0.08	7.4	14.
144.03	5.0E-04	0.51	7.5	2.02	4	18.6	74.6	93.2	59.0	30	30.0	1.0	0.09	6.1	12.
145.01	5.0E-04	0.51	8.8	1.71	6	21.2	84.6	105.8	52.8	30	30.0	1.0	0.08	6.9	13.
146.00	5.0E-04	0.48	8.7	2.13	4	21.0	83.9	104.9	56.3	30	30.0	1.0	0.07	6.8	13.
146.98	5.0E-04	0.52	9.5	1.39	6	22.7	90.8	113.5	48.3	30	30.0	1.0	0.09	7.4	14.
147.96	5.0E-04	0.35	11.7	2.46	6	27.0	108.0	135.0	51.5	30	30.0	1.0	0.00	8.8	17.
148.95	5.0E-05	0.38	9.5	2.43	4	22.7	90.9	113.7	56.2	30	30.0	3.0	0.03	8.9	17.
149.93	5.0E-04	0.40	9.9	2.36	4	23.7	94.9	118.6	54.6	30	30.0	1.0	0.03	7.8	15.
150.92	5.0E-04	0.50	9.3	2.02	6	22.6	90.5	113.1	53.8	30	30.0	1.0	0.07	7.4	14.
151.90	5.0E-04	0.51	8.4	2.16	4	20.8	83.1	103.9	57.4	30	30.0	1.0	0.08	6.9	13.
152.89	5.0E-05	0.61	5.8	1.95	4	15.7	62.7	78.4	65.6	30	30.0	1.5	0.15	6.2	12.
153.87	5.0E-04	0.65	5.4	1.74	4	15.0	60.2	75.2	65.6	30	30.0	1.0	0.17	5.0	10.
154.85	5.0E-04	0.66	5.4	1.68	4	15.1	60.4	75.4	65.1	30	30.0	1.0	0.17	5.0	10.
155.84	5.0E-04	0.70	5.2	1.61	4	14.8	59.0	73.8	65.5	30	30.0	1.0	0.19	4.9	9.
156.82	5.0E-04	0.72	5.0	1.41	4	14.4	57.6	72.0	64.7	30	30.0	1.0	0.20	4.8	9.
157.81	5.0E-04	0.72	5.0	1.46	4	14.4	57.7	72.2	65.2	30	30.0	1.0	0.20	4.9	9.
[illegible].79	5.0E-04	0.73	5.1	1.41	4	14.6	58.5	73.1	64.3	30	30.0	1.0	0.20	4.9	
[illegible]77	5.0E-04	0.70	5.2	1.44	4	14.8	59.3	74.1	64.2	30	30.0	1.0	0.19	5.0	
160.76	5.0E-04	0.70	5.2	1.51	4	14.9	59.7	74.6	64.7	30	30.0	1.0	0.19	5.1	..
161.74	5.0E-04	0.68	5.2	1.65	4	15.0	60.0	75.0	65.9	30	30.0	1.0	0.18	5.1	10.
162.73	5.0E-04	0.70	5.3	1.34	4	15.2	60.9	76.2	62.5	30	30.0	1.0	0.19	5.2	10.
[illegible]1.71	5.0E-04	0.68	5.3	1.13	4	15.2	60.9	76.2	60.4	30	30.0	1.0	0.19	5.2	10.
[illegible]4.70	5.0E-04	0.67	5.2	1.19	4	15.2	60.7	75.9	61.4	30	30.0	1.0	0.19	5.2	10.

165.68	5.0E-04	0.69	5.2	1.30	4	15.2	60.7	75.8	62.7	30	30.0	1.0	0.19	5.2	10.
166.66	5.0E-04	0.74	5.1	1.27	4	15.0	60.0	75.0	62.8	30	30.0	1.0	0.21	5.2	10.

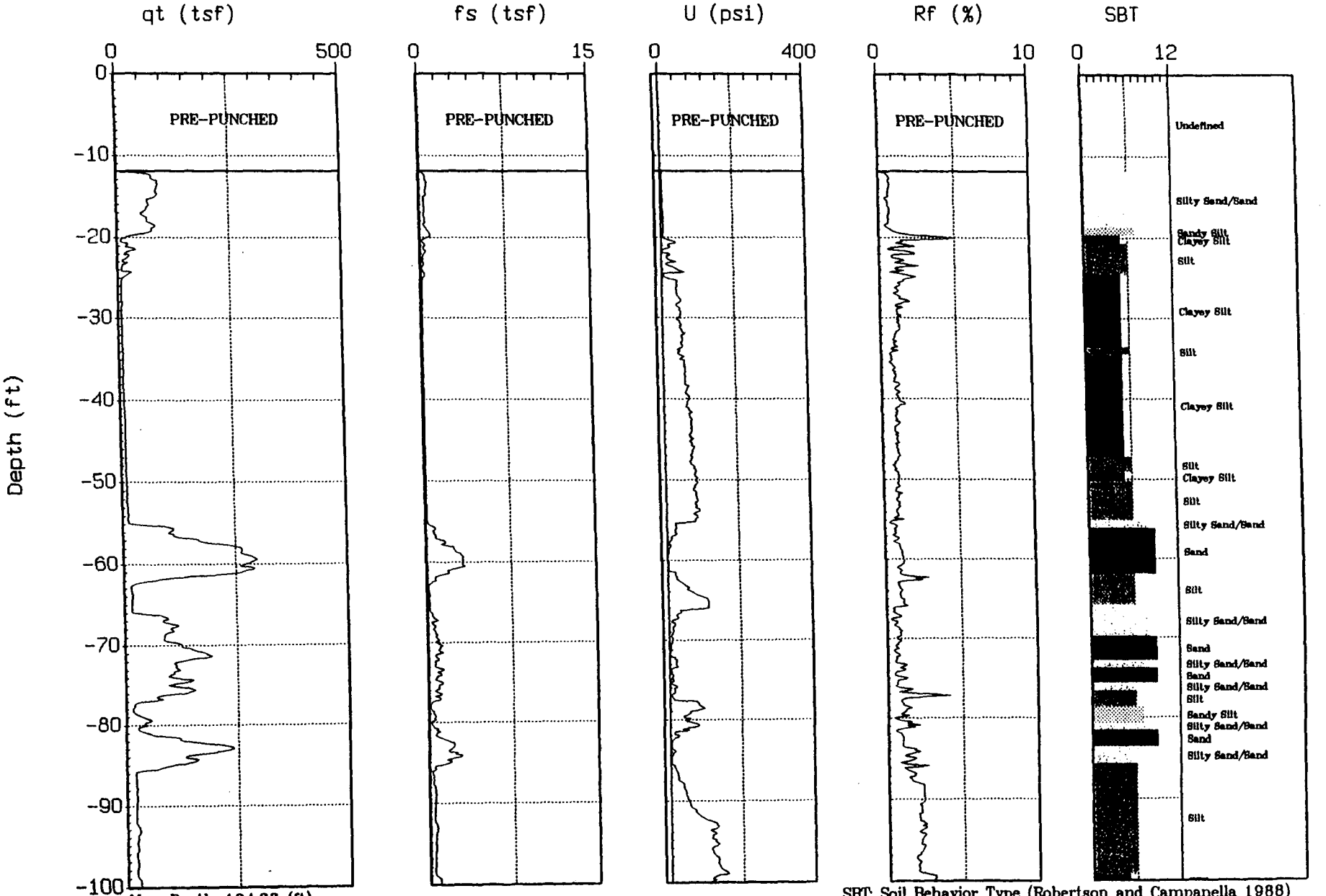
Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	c
167.65	5.0E-04	0.69	5.2	1.30	4	15.2	61.0	76.2	62.6	30	30.0	1.0	0.19	5.3	10.
168.71	5.0E-05	0.51	5.9	2.62	4	16.8	67.1	83.9	69.7	30	30.0	1.5	0.11	7.0	14.
169.78	5.0E-06	0.14	7.5	4.05	1	20.2	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
170.76	5.0E-04	0.64	4.9	1.48	4	14.7	59.0	73.7	66.1	30	30.0	1.0	0.18	5.2	10.
171.75	5.0E-04	0.73	4.7	1.64	4	14.5	57.8	72.3	68.6	30	30.0	1.0	0.21	5.1	10.
172.73	5.0E-04	0.74	4.7	1.70	4	14.5	58.0	72.5	69.1	30	30.0	1.0	0.21	5.1	10.
173.72	5.0E-05	0.67	4.8	2.03	4	14.8	59.1	73.9	71.2	30	30.0	1.5	0.18	6.3	12.
174.70	5.0E-05	0.65	4.6	2.54	4	14.3	57.2	71.5	76.4	30	30.0	1.5	0.18	6.1	12.
175.68	5.0E-05	0.44	4.9	3.53	1	15.0	UnDef	UnDef	100.0	30	30.0	1.5	0.12	UnDef	UnDe
176.67	5.0E-05	0.45	5.0	3.18	1	15.3	UnDef	UnDef	100.0	30	30.0	1.5	0.12	UnDef	UnDe
177.65	5.0E-05	0.50	5.3	2.61	4	15.9	63.7	79.7	72.7	30	30.0	1.5	0.12	6.8	13.
178.64	5.0E-04	0.55	5.2	2.10	4	15.7	63.0	78.7	69.7	30	30.0	1.0	0.14	5.6	11.
179.62	5.0E-05	0.50	5.7	2.74	4	17.0	67.8	84.8	71.3	30	30.0	1.5	0.11	7.3	14.
180.60	5.0E-02	0.01	27.2	1.01	7	63.3	75.6	138.9	25.4	36	54.2	1.0	-0.06	7.1	20.
181.59	5.0E-02	-0.02	31.2	0.88	7	72.2	61.6	133.8	22.3	36	57.9	1.0	-0.07	6.3	22.
182.57	5.0E-04	-0.04	19.5	1.94	6	47.1	188.4	235.5	37.8	34	45.7	1.0	-0.09	17.1	34.
183.56	5.0E-03	-0.04	22.3	1.56	7	53.1	157.4	210.6	33.0	34	49.2	1.0	-0.08	12.7	27.
184.54	5.0E-02	-0.03	33.1	0.55	7	76.9	41.5	118.5	18.1	36	59.8	1.0	-0.04	4.7	21.
185.53	5.0E-03	-0.03	26.6	1.39	7	62.9	110.3	173.2	28.9	36	54.0	1.0	-0.09	11.4	28.
186.51	5.0E-05	-0.05	17.0	3.24	6	42.0	168.2	210.2	47.8	32	42.4	6.0	-0.13	18.5	37.
187.49	5.0E-03	-0.03	25.0	1.39	7	59.9	117.2	177.1	29.8	34	52.6	1.0	-0.09	11.6	28.
188.48	5.0E-02	-0.03	29.9	1.10	7	70.7	79.1	149.8	24.8	36	57.3	1.0	-0.08	7.7	23.

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-757

Engineer : P. MOORE
Date : 06:20:02 12:45



Max. Depth: 194.38 (ft)

Depth Inc.: 0.164 (ft)

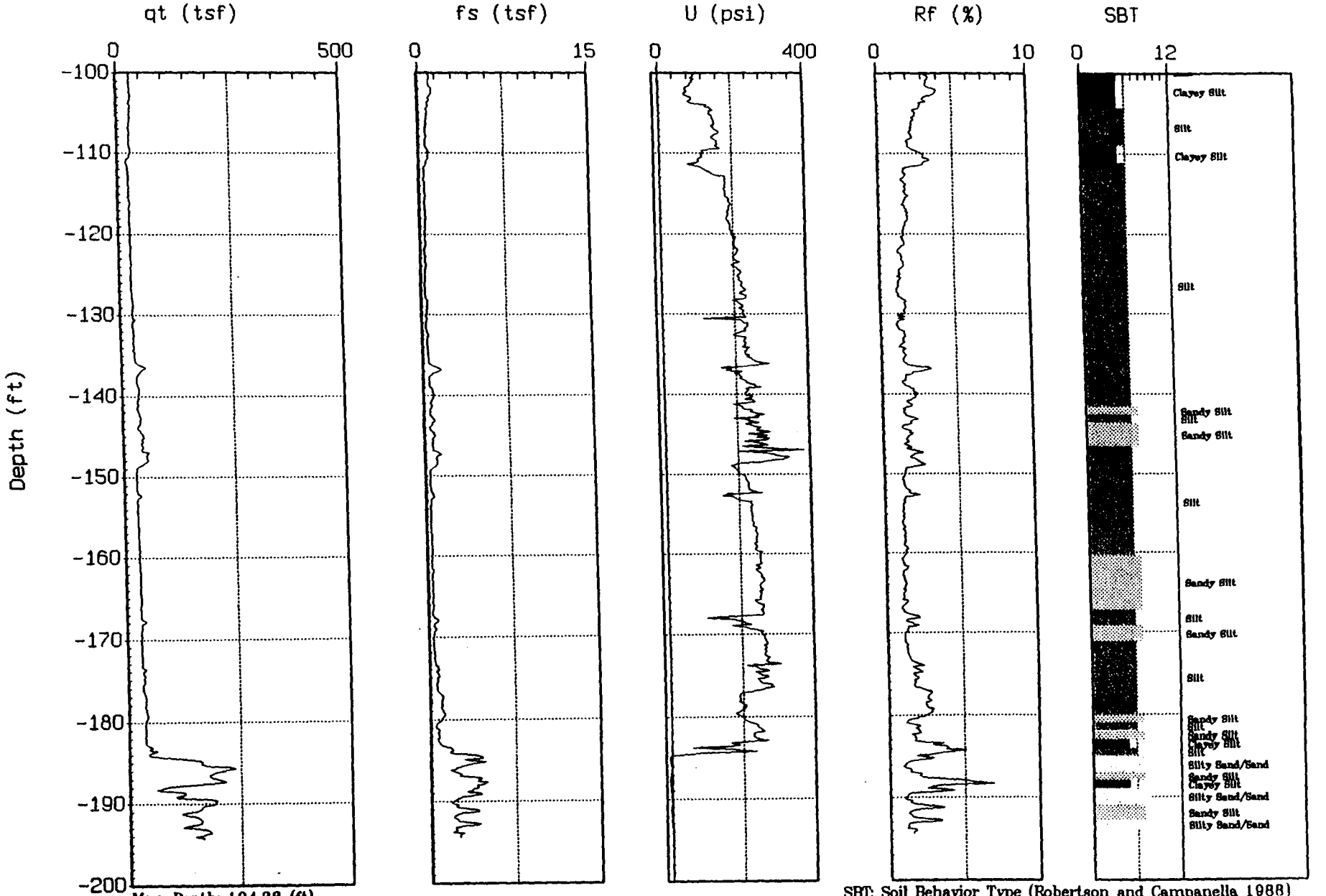
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-757

Engineer : P. MOORE
Date : 06:20:02 12:45



Max. Depth: 194.38 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
[illegible] No: 02-0627-1626-5132
Job No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-757
Engineer: P. MOORE
CPT Date: 02/20/06
CPT Time: 12:45
CPT File: 073C757.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.61 (ft): 2.0
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 (blows/ft)	Su (tsf)	CRR
0.49	0.0	0.00	0.00	0.0	UnDef	124.1	0.03	0.03	0.00	2.00	UnDef	UnDef	UnDef	0.00
1.48	0.0	0.00	0.00	0.0	UnDef	124.1	0.09	0.09	0.00	2.00	UnDef	UnDef	UnDef	0.00
2.46	0.0	0.00	0.00	0.0	UnDef	124.1	0.15	0.14	0.01	2.00	UnDef	UnDef	UnDef	0.00
[illegible]44	0.0	0.00	0.00	0.0	UnDef	124.1	0.21	0.17	0.05	2.00	UnDef	UnDef	UnDef	0.00
[illegible]3	0.0	0.00	0.00	0.0	UnDef	124.1	0.27	0.20	0.08	2.00	UnDef	UnDef	UnDef	0.00
5.41	0.0	0.00	0.00	0.0	UnDef	124.1	0.34	0.23	0.11	2.00	UnDef	UnDef	UnDef	0.00
6.40	0.0	0.00	0.00	0.0	UnDef	124.1	0.40	0.26	0.14	1.96	UnDef	UnDef	UnDef	0.00
7.30	0.0	0.00	0.00	0.0	UnDef	124.1	0.45	0.29	0.17	1.86	UnDef	UnDef	UnDef	0.00
8.20	0.0	0.00	0.00	0.0	UnDef	124.1	0.51	0.32	0.19	1.78	UnDef	UnDef	UnDef	0.00
9.19	0.0	0.00	0.00	0.0	UnDef	124.1	0.57	0.35	0.22	1.70	UnDef	UnDef	UnDef	0.00
10.17	0.0	0.00	0.00	0.0	UnDef	124.1	0.63	0.38	0.26	1.63	UnDef	UnDef	UnDef	0.00
11.15	0.0	0.00	0.00	0.0	UnDef	124.1	0.69	0.41	0.29	1.57	UnDef	UnDef	UnDef	0.00
12.14	47.8	0.29	0.60	7.6	8	120.9	0.75	0.44	0.32	1.51	11.4	17.3	UnDef	0.12
13.21	88.4	0.58	0.66	10.1	8	120.9	0.82	0.47	0.35	1.46	21.2	31.0	UnDef	0.27
14.27	88.3	0.54	0.61	10.3	8	120.9	0.88	0.50	0.38	1.42	21.1	30.0	UnDef	0.25
15.26	76.5	0.40	0.52	13.4	8	120.9	0.94	0.53	0.41	1.38	18.3	25.2	UnDef	0.18
16.24	67.4	0.42	0.62	12.0	8	120.9	1.00	0.56	0.44	1.34	16.1	21.6	UnDef	0.15
17.22	59.3	0.37	0.62	13.5	8	120.9	1.06	0.58	0.48	1.31	14.2	18.6	UnDef	0.13
18.21	75.8	0.40	0.53	15.4	8	120.9	1.12	0.61	0.51	1.28	18.2	23.2	UnDef	0.16
19.19	65.7	0.74	1.13	14.4	7	117.8	1.18	0.64	0.54	1.25	21.0	26.2	UnDef	0.17
20.18	13.2	0.38	2.86	47.7	5	114.6	1.24	0.67	0.57	1.22	6.3	7.7	0.96	0.13
21.16	27.3	0.35	1.27	35.2	6	114.6	1.29	0.69	0.60	1.20	10.5	12.6	2.08	0.10
22.15	19.7	0.25	1.29	38.9	6	114.6	1.35	0.72	0.63	1.18	7.5	8.9	1.47	0.11
23.13	13.3	0.20	1.52	56.8	6	114.6	1.40	0.74	0.66	1.16	5.1	5.9	0.95	0.12
24.11	16.5	0.19	1.14	79.0	6	114.6	1.46	0.77	0.69	1.14	6.3	7.2	1.20	0.11
25.10	8.6	0.16	1.85	60.4	5	114.6	1.52	0.80	0.72	1.12	4.1	4.6	0.56	0.09
26.08	6.8	0.08	1.15	92.8	5	114.6	1.57	0.82	0.75	1.10	3.3	3.6	0.42	0.08
27.07	7.0	0.08	1.13	101.6	5	114.6	1.63	0.85	0.78	1.09	3.3	3.6	0.43	0.08
28.05	7.4	0.11	1.44	104.8	5	114.6	1.69	0.87	0.81	1.07	3.5	3.8	0.46	0.09
29.04	6.3	0.07	1.12	113.0	5	114.6	1.74	0.90	0.84	1.05	3.0	3.2	0.36	0.08
30.02	6.9	0.08	1.16	106.3	5	114.6	1.80	0.92	0.87	1.04	3.3	3.4	0.41	0.08
31.00	7.4	0.09	1.20	116.7	5	114.6	1.86	0.95	0.91	1.03	3.5	3.6	0.44	0.08
31.99	7.1	0.07	0.91	128.8	5	114.6	1.91	0.98	0.94	1.01	3.4	3.5	0.42	0.08
[illegible]97	7.1	0.06	0.90	122.7	5	114.6	1.97	1.00	0.97	1.00	3.4	3.4	0.41	0.08
[illegible]96	8.8	0.06	0.68	103.7	6	114.6	2.02	1.03	1.00	0.99	3.4	3.3	0.54	0.09
[illegible].94	8.2	0.05	0.59	124.6	5	114.6	2.08	1.05	1.03	0.97	3.9	3.8	0.49	0.09
35.92	7.8	0.06	0.75	135.5	5	114.6	2.14	1.08	1.06	0.96	3.7	3.6	0.45	0.08
36.91	7.8	0.07	0.86	136.6	5	114.6	2.19	1.10	1.09	0.95	3.7	3.5	0.45	0.08
37.89	7.4	0.07	0.95	141.3	5	114.6	2.25	1.13	1.12	0.94	3.6	3.3	0.41	0.08
38.88	8.4	0.08	0.94	143.0	5	114.6	2.31	1.16	1.15	0.93	4.0	3.7	0.49	0.09

39.86	8.0	0.09	1.06	154.9	5	114.6	2.36	1.18	1.18	0.92	3.9	3.5	0.45	0.08
40.85	8.5	0.10	1.16	148.1	5	114.6	2.42	1.21	1.21	0.91	4.1	3.7	0.49	0.09

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	9.4	0.09	0.91	164.5	5	114.6	2.48	1.23	1.24	0.90	4.5	4.1	0.55	0.09
42.81	9.2	0.09	0.98	169.9	5	114.6	2.53	1.26	1.27	0.89	4.4	3.9	0.54	0.09
43.80	9.1	0.08	0.82	170.0	5	114.6	2.59	1.28	1.31	0.88	4.4	3.9	0.52	0.09
44.78	9.7	0.09	0.93	165.6	5	114.6	2.65	1.31	1.34	0.87	4.6	4.1	0.56	0.09
45.77	9.6	0.09	0.90	176.6	5	114.6	2.70	1.34	1.37	0.87	4.6	4.0	0.56	0.09
46.75	9.3	0.09	0.99	169.9	5	114.6	2.76	1.36	1.40	0.86	4.5	3.8	0.52	0.09
47.74	9.7	0.08	0.81	164.8	6	114.6	2.81	1.39	1.43	0.85	3.7	3.2	0.55	0.09
48.72	9.8	0.08	0.80	188.2	6	114.6	2.87	1.41	1.46	0.84	3.7	3.1	0.55	0.09
49.70	9.8	0.09	0.94	193.0	5	114.6	2.93	1.44	1.49	0.83	4.7	3.9	0.55	0.09
50.69	10.5	0.09	0.88	184.4	6	114.6	2.98	1.46	1.52	0.83	4.0	3.3	0.60	0.09
51.67	10.4	0.10	0.92	191.6	6	114.6	3.04	1.49	1.55	0.82	4.0	3.3	0.59	0.09
52.66	10.9	0.09	0.86	194.2	6	114.6	3.10	1.51	1.58	0.81	4.2	3.4	0.62	0.09
53.64	11.1	0.09	0.83	194.7	6	114.6	3.15	1.54	1.61	0.81	4.3	3.4	0.64	0.09
54.63	16.5	0.11	0.69	191.2	6	114.6	3.21	1.57	1.64	0.80	6.3	5.0	1.06	0.10
55.61	105.3	0.62	0.59	58.5	8	120.9	3.27	1.59	1.67	0.79	25.2	20.0	UnDef	0.17
56.59	137.8	0.83	0.61	46.6	9	124.1	3.33	1.62	1.70	0.79	26.4	20.7	UnDef	0.24
57.58	233.4	1.74	0.74	19.9	9	124.1	3.39	1.65	1.74	0.78	44.7	34.8	UnDef	0.00
58.56	271.7	2.68	0.99	12.5	9	124.1	3.45	1.68	1.77	0.77	52.0	40.1	UnDef	0.00
59.55	288.9	3.21	1.11	2.5	9	124.1	3.51	1.71	1.80	0.76	55.3	42.3	UnDef	0.00
60.53	275.7	2.79	1.01	2.7	9	124.1	3.57	1.74	1.83	0.76	52.8	40.0	UnDef	0.00
61.52	142.7	1.32	0.93	35.9	9	124.1	3.63	1.77	1.86	0.75	27.3	20.5	UnDef	0.29
62.42	25.2	0.50	1.99	69.2	6	114.6	3.69	1.80	1.89	0.75	9.7	7.2	1.72	0.15
63.32	16.3	0.14	0.84	121.4	6	114.6	3.74	1.82	1.91	0.74	6.3	4.6	1.01	0.10
64.30	16.4	0.15	0.91	193.4	6	114.6	3.79	1.85	1.95	0.74	6.3	4.6	1.01	0.10
65.29	15.8	0.17	1.10	254.8	6	114.6	3.85	1.88	1.98	0.73	6.1	4.4	0.96	0.10
[illegible].27	68.6	0.32	0.47	126.4	8	120.9	3.91	1.90	2.01	0.73	16.4	11.9	UnDef	0.09
[illegible].26	100.5	0.57	0.57	43.1	8	120.9	3.97	1.93	2.04	0.72	24.1	17.3	UnDef	0.15
68.24	98.9	0.57	0.58	31.4	8	120.9	4.03	1.96	2.07	0.71	23.7	16.9	UnDef	0.15
69.22	92.6	0.78	0.84	20.2	8	120.9	4.09	1.99	2.10	0.71	22.2	15.7	UnDef	0.17
70.21	138.8	0.99	0.71	16.9	9	124.1	4.15	2.02	2.13	0.70	26.6	18.7	UnDef	0.23
71.19	178.8	0.92	0.51	7.9	9	124.1	4.21	2.05	2.16	0.70	34.2	23.9	UnDef	0.30
72.18	114.9	0.71	0.62	28.8	9	124.1	4.27	2.08	2.19	0.69	22.0	15.3	UnDef	0.18
73.16	110.1	0.91	0.83	35.1	8	120.9	4.33	2.11	2.22	0.69	26.4	18.2	UnDef	0.19
74.15	127.5	0.83	0.65	17.0	9	124.1	4.39	2.14	2.25	0.68	24.4	16.7	UnDef	0.20
75.13	126.0	1.01	0.80	16.7	9	124.1	4.45	2.17	2.28	0.68	24.1	16.4	UnDef	0.21
76.11	102.9	0.82	0.80	35.5	8	120.9	4.51	2.20	2.31	0.67	24.6	16.6	UnDef	0.18
77.10	38.6	0.68	1.75	17.2	6	114.6	4.57	2.23	2.34	0.67	14.8	9.9	2.72	0.27
78.08	15.9	0.16	0.98	191.3	6	114.6	4.63	2.25	2.38	0.67	6.1	4.1	0.90	0.09
79.07	41.6	0.45	1.07	132.2	7	117.8	4.68	2.28	2.41	0.66	13.3	8.8	UnDef	0.31
80.05	35.4	0.29	0.82	120.1	7	117.8	4.74	2.30	2.44	0.66	11.3	7.5	UnDef	0.22
81.04	57.5	0.67	1.17	121.3	7	117.8	4.80	2.33	2.47	0.65	18.3	12.0	UnDef	0.23
82.02	152.2	1.22	0.80	36.2	9	124.1	4.86	2.36	2.50	0.65	29.1	19.0	UnDef	0.27
83.00	223.2	2.03	0.91	7.7	9	124.1	4.92	2.39	2.53	0.65	42.8	27.7	UnDef	0.00
83.99	148.1	2.39	1.61	19.6	8	120.9	4.98	2.42	2.56	0.64	35.5	22.8	UnDef	0.43
84.97	105.5	1.43	1.36	6.8	8	120.9	5.04	2.45	2.59	0.64	25.3	16.1	UnDef	0.27
85.96	21.7	0.33	1.53	31.6	6	114.6	5.10	2.48	2.62	0.64	8.3	5.3	1.33	0.11
86.94	19.9	0.32	1.59	47.6	6	114.6	5.15	2.50	2.65	0.63	7.6	4.8	1.18	0.10
87.93	21.6	0.43	1.98	82.3	6	114.6	5.21	2.53	2.68	0.63	8.3	5.2	1.31	0.11
88.91	21.8	0.50	2.31	98.3	6	114.6	5.27	2.55	2.71	0.63	8.3	5.2	1.32	0.00
89.89	19.7	0.45	2.30	111.0	5	114.6	5.32	2.58	2.74	0.62	9.4	5.9	1.15	0.00
90.88	19.4	0.41	2.10	140.5	6	114.6	5.38	2.60	2.78	0.62	7.4	4.6	1.12	0.00
91.86	19.7	0.40	2.04	189.4	6	114.6	5.44	2.63	2.81	0.62	7.5	4.7	1.14	0.10
92.85	26.2	0.58	2.20	283.5	6	114.6	5.49	2.66	2.84	0.61	10.0	6.2	1.66	0.13
93.83	22.7	0.50	2.20	267.8	6	114.6	5.55	2.68	2.87	0.61	8.7	5.3	1.37	0.11
94.82	21.3	0.47	2.23	272.9	6	114.6	5.61	2.71	2.90	0.61	8.1	5.0	1.25	0.00
[illegible]80	21.2	0.46	2.19	273.1	6	114.6	5.66	2.73	2.93	0.60	8.1	4.9	1.24	0.00
[illegible]78	20.4	0.40	1.96	281.2	6	114.6	5.72	2.76	2.96	0.60	7.8	4.7	1.17	0.10
[illegible].77	20.8	0.40	1.91	301.7	6	114.6	5.77	2.78	2.99	0.60	8.0	4.8	1.20	0.10
98.75	22.4	0.47	2.08	332.8	6	114.6	5.83	2.81	3.02	0.60	8.6	5.1	1.33	0.11
99.74	28.6	0.89	3.11	253.4	5	114.6	5.89	2.84	3.05	0.59	13.7	8.1	1.82	0.00
100.72	29.0	0.98	3.39	219.3	5	114.6	5.94	2.86	3.08	0.59	13.9	8.2	1.85	0.00
101.70	29.3	1.07	3.64	185.8	5	114.6	6.00	2.89	3.11	0.59	14.0	8.3	1.87	0.00

102.69	30.0	1.05	3.50	184.1	5	114.6	6.06	2.91	3.14	0.59	14.4	8.4	1.91	0.00
103.67	28.9	0.85	2.96	234.3	5	114.6	6.11	2.94	3.17	0.58	13.8	8.1	1.82	0.00

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Run No: 02-0627-1626-5132

CPT File: 073C757.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
104.66	28.7	0.72	2.50	326.1	6	114.6	6.17	2.96	3.21	0.58	11.0	6.4	1.81	0.00
105.64	27.3	0.65	2.37	342.7	6	114.6	6.23	2.99	3.24	0.58	10.4	6.0	1.68	0.00
106.63	25.7	0.58	2.26	348.1	6	114.6	6.28	3.02	3.27	0.58	9.9	5.7	1.56	0.12
107.61	26.0	0.58	2.23	359.4	6	114.6	6.34	3.04	3.30	0.57	10.0	5.7	1.57	0.12
108.59	25.4	0.51	2.01	360.1	6	114.6	6.39	3.07	3.33	0.57	9.7	5.6	1.52	0.11
109.58	27.8	0.70	2.50	318.3	6	114.6	6.45	3.09	3.36	0.57	10.6	6.0	1.71	0.00
110.56	22.8	0.72	3.17	258.2	5	114.6	6.51	3.12	3.39	0.57	10.9	6.2	1.31	0.00
111.55	19.8	0.46	2.31	239.6	5	114.6	6.56	3.14	3.42	0.56	9.5	5.4	1.06	0.00
112.53	22.6	0.39	1.72	355.9	6	114.6	6.62	3.17	3.45	0.56	8.6	4.9	1.28	0.10
113.52	23.0	0.39	1.68	414.2	6	114.6	6.68	3.20	3.48	0.56	8.8	4.9	1.30	0.10
114.50	22.9	0.40	1.77	410.4	6	114.6	6.73	3.22	3.51	0.56	8.8	4.9	1.29	0.10
115.48	23.4	0.42	1.81	427.4	6	114.6	6.79	3.25	3.54	0.56	9.0	5.0	1.33	0.10
116.47	23.9	0.41	1.70	440.8	6	114.6	6.85	3.27	3.57	0.55	9.2	5.1	1.37	0.11
117.45	24.3	0.46	1.89	425.6	6	114.6	6.90	3.30	3.60	0.55	9.3	5.1	1.39	0.11
118.44	23.7	0.43	1.80	431.5	6	114.6	6.96	3.32	3.64	0.55	9.1	5.0	1.34	0.10
119.42	24.6	0.40	1.61	445.9	6	114.6	7.02	3.35	3.67	0.55	9.4	5.1	1.40	0.11
120.41	24.7	0.38	1.56	464.9	6	114.6	7.07	3.37	3.70	0.54	9.5	5.1	1.41	0.11
121.39	25.1	0.38	1.50	467.5	6	114.6	7.13	3.40	3.73	0.54	9.6	5.2	1.44	0.11
122.37	24.7	0.33	1.33	475.1	6	114.6	7.18	3.43	3.76	0.54	9.4	5.1	1.40	0.11
123.36	25.6	0.39	1.51	469.1	6	114.6	7.24	3.45	3.79	0.54	9.8	5.3	1.47	0.11
124.34	24.9	0.34	1.37	483.6	6	114.6	7.30	3.48	3.82	0.54	9.6	5.1	1.41	0.11
125.33	24.5	0.32	1.29	490.8	6	114.6	7.35	3.50	3.85	0.53	9.4	5.0	1.37	0.10
126.31	24.7	0.29	1.18	510.9	6	114.6	7.41	3.53	3.88	0.53	9.5	5.0	1.38	0.10
127.30	26.2	0.29	1.12	518.7	6	114.6	7.47	3.55	3.91	0.53	10.0	5.3	1.50	0.11
128.28	27.3	0.42	1.54	492.7	6	114.6	7.52	3.58	3.94	0.53	10.5	5.5	1.59	0.11
[illegible].26	26.6	0.44	1.64	507.7	6	114.6	7.58	3.61	3.97	0.53	10.2	5.4	1.53	0.11
[illegible]25	27.9	0.39	1.40	472.7	6	114.6	7.64	3.63	4.00	0.52	10.7	5.6	1.62	0.11
.23	26.3	0.29	1.09	526.8	6	114.6	7.69	3.66	4.03	0.52	10.1	5.3	1.49	0.11
132.22	27.5	0.40	1.46	489.3	6	114.6	7.75	3.68	4.07	0.52	10.6	5.5	1.58	0.11
133.20	26.9	0.39	1.45	520.4	6	114.6	7.80	3.71	4.10	0.52	10.3	5.3	1.53	0.11
134.18	27.7	0.37	1.34	524.3	6	114.6	7.86	3.73	4.13	0.52	10.6	5.5	1.59	0.11
135.17	28.7	0.43	1.50	541.1	6	114.6	7.92	3.76	4.16	0.52	11.0	5.7	1.66	0.12
136.15	41.4	0.82	1.98	560.5	6	114.6	7.97	3.79	4.19	0.51	15.9	8.2	2.68	0.19
137.14	38.1	0.94	2.46	454.3	6	114.6	8.03	3.81	4.22	0.51	14.6	7.5	2.41	0.16
138.12	32.6	0.48	1.46	508.3	6	114.6	8.09	3.84	4.25	0.51	12.5	6.4	1.96	0.13
139.11	36.1	0.64	1.79	560.9	6	114.6	8.14	3.86	4.28	0.51	13.8	7.0	2.24	0.15
140.09	35.4	0.78	2.20	528.5	6	114.6	8.20	3.89	4.31	0.51	13.6	6.9	2.17	0.14
141.07	33.2	0.59	1.78	512.7	6	114.6	8.26	3.91	4.34	0.51	12.7	6.4	1.99	0.13
142.06	35.1	0.50	1.42	555.5	7	117.8	8.31	3.94	4.37	0.50	11.2	5.6	UnDef	0.14
143.04	38.7	0.74	1.92	546.2	6	114.6	8.37	3.97	4.40	0.50	14.8	7.4	2.43	0.16
144.03	35.5	0.52	1.47	565.2	7	117.8	8.43	3.99	4.43	0.50	11.3	5.7	UnDef	0.14
145.01	43.2	0.76	1.75	615.3	7	117.8	8.49	4.02	4.47	0.50	13.8	6.9	UnDef	0.19
146.00	41.3	0.63	1.52	580.7	7	117.8	8.54	4.05	4.50	0.50	13.2	6.6	UnDef	0.17
146.98	49.2	0.99	2.01	671.2	6	114.6	8.60	4.07	4.53	0.50	18.8	9.4	3.25	0.24
147.96	49.2	0.98	1.98	713.3	7	117.8	8.66	4.10	4.56	0.50	15.7	7.9	UnDef	0.24
148.95	28.9	0.61	2.13	438.7	6	114.6	8.71	4.13	4.59	0.50	11.1	5.5	1.61	0.00
149.93	26.9	0.35	1.32	480.3	6	114.6	8.77	4.15	4.62	0.50	10.3	5.1	1.45	0.10
150.92	26.5	0.33	1.23	515.7	6	114.6	8.83	4.18	4.65	0.50	10.1	5.1	1.41	0.10
151.90	30.4	0.47	1.54	519.3	6	114.6	8.88	4.20	4.68	0.50	11.7	5.8	1.72	0.12
152.89	28.4	0.45	1.58	444.2	6	114.6	8.94	4.23	4.71	0.50	10.9	5.4	1.56	0.11
153.87	27.3	0.33	1.21	535.5	6	114.6	9.00	4.25	4.74	0.50	10.5	5.2	1.47	0.11
154.85	27.9	0.33	1.19	537.9	6	114.6	9.05	4.28	4.77	0.50	10.7	5.3	1.51	0.11
155.84	28.5	0.33	1.17	543.1	6	114.6	9.11	4.31	4.80	0.50	10.9	5.5	1.55	0.11
156.82	28.9	0.35	1.21	560.2	6	114.6	9.17	4.33	4.83	0.50	11.1	5.5	1.58	0.11
157.81	29.1	0.37	1.26	566.7	6	114.6	9.22	4.36	4.86	0.50	11.1	5.6	1.59	0.11
79	29.7	0.38	1.27	561.0	6	114.6	9.28	4.38	4.90	0.50	11.4	5.7	1.63	0.11
[illegible]	29.7	0.39	1.32	578.9	6	114.6	9.33	4.41	4.93	0.50	11.4	5.7	1.63	0.11
[illegible]	29.8	0.32	1.08	587.6	7	117.8	9.39	4.44	4.96	0.50	9.5	4.8	UnDef	0.11
161.74	30.3	0.39	1.27	568.8	6	114.6	9.45	4.46	4.99	0.50	11.6	5.8	1.67	0.11
162.73	31.2	0.34	1.09	595.4	7	117.8	9.51	4.49	5.02	0.50	9.9	5.0	UnDef	0.11
163.71	30.5	0.38	1.23	589.4	7	117.8	9.56	4.52	5.05	0.50	9.7	4.9	UnDef	0.11
164.70	31.2	0.36	1.16	587.8	7	117.8	9.62	4.54	5.08	0.50	10.0	5.0	UnDef	0.11

165.68	31.3	0.37	1.17	570.6	7	117.8	9.68	4.57	5.11	0.50	10.0	5.0	UnDef	0.11
166.66	30.1	0.32	1.08	596.1	7	117.8	9.74	4.60	5.14	0.50	9.6	4.8	UnDef	0.11

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	BStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
167.65	34.9	0.55	1.59	471.7	6	114.6	9.80	4.62	5.17	0.50	13.4	6.7	2.01	0.13
168.71	31.6	0.48	1.51	472.2	6	114.6	9.86	4.65	5.21	0.50	12.1	6.0	1.74	0.11
169.78	30.4	0.38	1.24	582.6	7	117.8	9.92	4.68	5.24	0.50	9.7	4.8	UnDef	0.11
170.76	30.1	0.34	1.13	612.4	7	117.8	9.98	4.71	5.27	0.50	9.6	4.8	UnDef	0.11
171.75	30.1	0.38	1.25	606.1	6	114.6	10.03	4.73	5.30	0.50	11.5	5.8	1.61	0.11
172.73	30.5	0.41	1.34	613.5	6	114.6	10.09	4.76	5.33	0.50	11.7	5.9	1.64	0.11
173.72	33.8	0.61	1.81	590.6	6	114.6	10.15	4.78	5.36	0.50	13.0	6.5	1.89	0.12
174.70	35.2	0.66	1.88	588.2	6	114.6	10.20	4.81	5.39	0.50	13.5	6.7	2.00	0.13
175.68	32.9	0.59	1.81	590.0	6	114.6	10.26	4.84	5.42	0.50	12.6	6.3	1.81	0.12
176.67	35.5	0.74	2.09	573.5	6	114.6	10.32	4.86	5.45	0.50	13.6	6.8	2.01	0.00
177.65	36.3	0.98	2.70	437.2	6	114.6	10.37	4.89	5.48	0.50	13.9	7.0	2.08	0.00
178.64	38.9	1.00	2.58	464.2	6	114.6	10.43	4.91	5.52	0.50	14.9	7.4	2.27	0.00
179.62	38.8	1.05	2.71	437.4	6	114.6	10.48	4.94	5.55	0.50	14.9	7.4	2.27	0.00
180.60	35.8	0.53	1.47	504.9	7	117.8	10.54	4.96	5.58	0.50	11.4	5.7	UnDef	0.13
181.59	36.0	0.68	1.90	558.9	6	114.6	10.60	4.99	5.61	0.50	13.8	6.9	2.03	0.13
182.57	40.5	0.69	1.71	534.7	7	117.8	10.66	5.02	5.64	0.50	12.9	6.5	UnDef	0.14
183.56	48.4	1.60	3.31	359.8	5	114.6	10.71	5.04	5.67	0.50	23.2	11.6	3.02	0.00
184.54	128.1	3.83	2.99	135.2	6	114.6	10.77	5.07	5.70	0.50	49.1	24.5	9.39	0.00
185.53	204.4	3.14	1.54	-6.5	8	120.9	10.83	5.10	5.73	0.50	48.9	24.5	UnDef	0.00
186.51	187.5	2.49	1.33	-2.6	8	120.9	10.89	5.13	5.76	0.50	44.9	22.5	UnDef	0.00
187.49	152.6	4.35	2.85	-12.8	7	117.8	10.95	5.15	5.79	0.50	48.7	24.4	UnDef	0.00
188.48	99.7	3.79	3.80	-10.7	5	114.6	11.00	5.18	5.82	0.50	47.7	23.9	7.09	0.00
189.46	162.2	2.81	1.73	-6.3	8	120.9	11.06	5.21	5.85	0.50	38.8	19.4	UnDef	0.00
190.45	162.2	2.32	1.43	-4.3	8	120.9	11.12	5.24	5.88	0.50	38.8	19.4	UnDef	0.00
191.43	139.3	2.81	2.01	-7.6	7	117.8	11.18	5.26	5.91	0.50	44.5	22.2	UnDef	0.00
192.42	144.8	2.98	2.06	-5.0	7	117.8	11.24	5.29	5.95	0.50	46.2	23.1	UnDef	0.00
[illegible]40	168.7	2.24	1.33	-0.8	8	120.9	11.30	5.32	5.98	0.50	40.4	20.2	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0627-1626-5132
[illegible] No: 97-100
[illegible]ient: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-757
Engineer: P. MOORE
CPT Date: 02/20/06
CPT Time: 12:45
CPT File: 073C757.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.61 (ft): 2.0
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)60c
0.49	1.0E-15	0.00	2.4	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
1.48	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
2.46	1.0E-15	-1.38	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
3.44	1.0E-15	-4.32	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
[illegible].43	1.0E-15	-7.26	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	De
[illegible]41	1.0E-15	-10.21	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	e
[illegible].40	1.0E-15	-13.15	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	De
7.30	1.0E-15	-15.85	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
8.20	1.0E-15	-18.54	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
9.19	1.0E-15	-21.49	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
10.17	1.0E-15	-24.43	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
11.15	1.0E-15	-27.37	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
12.14	5.0E-03	0.00	107.8	0.61	9	70.8	4.3	75.1	7.2	42	57.4	1.0	-0.15	0.6	18.
13.21	5.0E-03	0.00	187.4	0.66	9	126.5	0.0	126.5	4.2	44	74.0	1.0	-0.21	0.0	31.
14.27	5.0E-03	0.00	175.4	0.62	9	122.4	0.0	122.4	4.2	44	73.1	1.0	-0.20	0.0	30.
15.26	5.0E-03	0.00	143.4	0.52	9	103.1	0.0	103.1	4.6	44	68.2	1.0	-0.16	0.0	25.
16.24	5.0E-03	0.00	119.4	0.63	9	88.4	4.0	92.5	6.6	42	63.8	1.0	-0.16	0.6	22.
17.22	5.0E-03	0.00	99.6	0.63	9	75.9	6.4	82.3	7.9	42	59.4	1.0	-0.15	0.9	19.
18.21	5.0E-03	0.00	121.8	0.54	9	94.7	1.9	96.7	5.7	42	65.7	1.0	-0.15	0.3	23.
19.19	5.0E-04	0.00	100.5	1.15	9	80.2	17.1	97.3	11.6	42	61.0	1.0	-0.20	3.2	29.
20.18	5.0E-06	0.08	17.9	3.16	6	15.8	63.1	78.9	46.4	UnDef	UnDef	6.0	UnDef	7.7	15.
21.16	5.0E-05	0.02	37.5	1.33	7	32.1	31.0	63.1	23.4	38	34.7	6.0	-0.12	5.6	18.
22.15	5.0E-05	0.03	25.5	1.39	7	22.7	42.8	65.5	29.5	34	30.0	6.0	-0.08	6.1	15.
23.13	5.0E-05	0.09	16.0	1.69	6	15.1	60.5	75.6	39.9	32	30.0	6.0	-0.04	5.9	11.
24.11	5.0E-05	0.12	19.5	1.26	7	18.4	53.5	71.9	32.9	34	30.0	6.0	-0.04	6.3	13.
25.10	5.0E-06	0.17	8.9	2.25	4	9.4	37.6	47.0	56.6	UnDef	UnDef	3.0	UnDef	4.6	9.
26.08	5.0E-06	0.41	6.4	1.50	4	7.3	29.4	36.7	59.2	UnDef	UnDef	3.0	UnDef	3.6	7.
27.07	5.0E-06	0.45	6.3	1.47	4	7.4	29.6	37.1	59.1	UnDef	UnDef	3.0	UnDef	3.6	7.
28.05	5.0E-06	0.43	6.5	1.87	4	7.8	31.0	38.8	61.5	UnDef	UnDef	3.0	UnDef	3.8	7.
29.04	5.0E-06	0.59	5.0	1.55	4	6.5	25.8	32.3	66.1	UnDef	UnDef	1.5	UnDef	3.2	6.
30.02	5.0E-06	0.48	5.5	1.56	4	7.0	28.2	35.2	63.4	UnDef	UnDef	1.5	UnDef	3.4	6.
31.00	5.0E-06	0.49	5.8	1.60	4	7.4	29.7	37.1	62.4	UnDef	UnDef	1.5	UnDef	3.6	7.
31.99	5.0E-06	0.59	5.4	1.25	4	7.1	28.3	35.4	61.2	UnDef	UnDef	1.5	UnDef	3.5	6.
32.97	5.0E-06	0.56	5.1	1.24	4	6.9	27.7	34.7	62.4	UnDef	UnDef	1.5	UnDef	3.4	6.
[illegible].96	5.0E-05	0.33	6.6	0.89	6	8.5	34.0	42.5	51.7	30	30.0	3.0	0.11	3.3	
[illegible]94	5.0E-06	0.47	5.8	0.80	6	7.8	31.1	38.9	54.0	UnDef	UnDef	1.5	UnDef	3.8	
35.92	5.0E-06	0.56	5.3	1.03	4	7.4	29.5	36.9	59.3	UnDef	UnDef	1.5	UnDef	3.6	7.
36.91	5.0E-06	0.57	5.0	1.20	4	7.2	28.9	36.1	62.4	UnDef	UnDef	1.5	UnDef	3.5	7.
37.89	5.0E-06	0.64	4.6	1.36	4	6.8	27.3	34.2	66.8	UnDef	UnDef	1.5	UnDef	3.3	6.
38.88	5.0E-06	0.55	5.3	1.29	4	7.6	30.5	38.1	62.3	UnDef	UnDef	1.5	UnDef	3.7	7.
39.86	5.0E-06	0.64	4.8	1.50	4	7.2	29.0	36.2	66.7	UnDef	UnDef	1.5	UnDef	3.5	7.

40.85	5.0E-06	0.56	5.0	1.63	4	7.6	30.2	37.8	66.7	UnDef	UnDef	1.5	UnDef	3.7	7.

Gregg In Situ, Inc.
Run No: 02-0627-1626-5132
CPT File: 073C757.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(
41.83	5.0E-06	0.56	5.6	1.23	4	8.3	33.2	41.5	59.8	UnDef	UnDef	1.5	UnDef	4.1	8
42.81	5.0E-06	0.60	5.3	1.35	4	8.1	32.2	40.3	62.5	UnDef	UnDef	1.5	UnDef	3.9	7
43.80	5.0E-06	0.61	5.1	1.15	4	7.9	31.6	39.5	61.5	UnDef	UnDef	1.5	UnDef	3.9	7
44.78	5.0E-06	0.54	5.4	1.28	4	8.3	33.2	41.5	61.4	UnDef	UnDef	1.5	UnDef	4.1	8
45.77	5.0E-06	0.60	5.2	1.25	4	8.2	32.7	40.8	62.1	UnDef	UnDef	1.5	UnDef	4.0	8
46.75	5.0E-06	0.60	4.8	1.40	4	7.8	31.2	39.1	65.8	UnDef	UnDef	1.5	UnDef	3.8	7
47.74	5.0E-05	0.54	5.0	1.14	4	8.0	32.2	40.2	62.3	30	30.0	1.5	0.16	3.2	6
48.72	5.0E-05	0.64	4.9	1.14	4	8.0	32.2	40.2	62.7	30	30.0	1.5	0.19	3.1	6.
49.70	5.0E-06	0.66	4.8	1.34	4	8.0	31.9	39.9	65.5	UnDef	UnDef	1.5	UnDef	3.9	7.
50.69	5.0E-05	0.56	5.1	1.22	4	8.5	33.9	42.4	62.2	30	30.0	1.5	0.16	3.3	6.
51.67	5.0E-05	0.60	4.9	1.29	4	8.3	33.4	41.7	63.9	30	30.0	1.5	0.17	3.3	6.
52.66	5.0E-05	0.57	5.2	1.20	4	8.7	34.7	43.4	61.8	30	30.0	1.5	0.17	3.4	6.
53.64	5.0E-05	0.56	5.2	1.16	4	8.8	35.0	43.8	61.3	30	30.0	1.5	0.16	3.4	6.
54.63	5.0E-05	0.33	8.5	0.86	6	12.9	51.6	64.5	45.5	30	30.0	3.0	0.09	5.0	10.
55.61	5.0E-03	0.00	64.0	0.61	9	81.6	17.1	98.7	11.5	40	61.5	1.0	-0.10	2.4	22.
56.59	5.0E-02	0.00	82.8	0.62	9	105.8	13.7	119.5	9.3	42	68.9	1.0	-0.13	1.6	22.
57.58	5.0E-02	0.00	139.2	0.75	9	177.7	7.6	185.3	6.5	44	83.8	1.0	-0.19	0.9	35.
58.56	5.0E-02	-0.01	159.3	1.00	9	204.9	13.3	218.2	7.3	44	87.8	1.0	-0.23	1.6	41.
59.55	5.0E-02	-0.01	166.5	1.13	9	216.0	17.1	233.0	7.7	44	89.3	1.0	-0.25	2.0	44.
60.53	5.0E-02	-0.01	156.0	1.02	9	204.3	15.0	219.3	7.6	44	87.8	1.0	-0.23	1.8	41.
61.52	5.0E-02	-0.01	78.4	0.95	9	104.8	25.9	130.7	12.4	42	68.6	1.0	-0.16	2.9	23.
62.42	5.0E-05	0.01	12.0	2.32	6	18.4	73.7	92.1	50.1	30	30.0	3.0	-0.04	7.2	14.
63.32	5.0E-05	0.15	6.9	1.09	6	11.8	47.4	59.2	52.9	30	30.0	3.0	0.08	4.6	9.
64.30	5.0E-05	0.32	6.8	1.18	6	11.8	47.2	59.0	54.2	30	30.0	3.0	0.09	4.6	9.
65.29	5.0E-05	0.50	6.4	1.45	4	11.3	45.3	56.6	58.5	30	30.0	3.0	0.12	4.4	8.
66.27	5.0E-03	0.03	34.0	0.50	7	48.7	0.0	48.7	5.0	38	46.6	1.0	-0.03	0.0	.
[illegible]26	5.0E-03	-0.01	50.0	0.60	9	70.8	21.8	92.5	13.8	38	57.4	1.0	-0.08	3.0	.
68.24	5.0E-03	-0.01	48.4	0.61	9	69.1	22.7	91.8	14.3	38	56.7	1.0	-0.08	3.1	.
69.22	5.0E-03	-0.02	44.5	0.88	7	64.2	33.0	97.3	17.7	38	54.6	1.0	-0.10	4.2	20.
70.21	5.0E-02	-0.01	66.7	0.74	9	95.6	22.8	118.4	12.2	40	66.0	1.0	-0.12	2.6	21.
71.19	5.0E-02	-0.01	85.2	0.52	9	122.3	11.4	133.7	8.2	42	73.0	1.0	-0.12	1.3	25.
72.18	5.0E-02	-0.01	53.2	0.64	9	78.0	23.4	101.4	13.6	40	60.2	1.0	-0.09	2.6	17.
73.16	5.0E-03	-0.01	50.2	0.86	7	74.2	31.6	105.8	16.2	38	58.7	1.0	-0.11	4.2	22.
74.15	5.0E-02	-0.01	57.6	0.67	9	85.3	23.5	108.8	13.1	40	62.7	1.0	-0.10	2.6	19.
75.13	5.0E-02	-0.01	56.0	0.83	9	83.7	29.4	113.2	14.7	40	62.2	1.0	-0.12	3.2	19.
76.11	5.0E-03	-0.01	44.7	0.83	7	67.9	33.1	101.0	17.3	38	56.2	1.0	-0.10	4.3	20.
77.10	5.0E-05	-0.05	15.3	1.99	6	25.3	101.3	126.7	42.8	32	30.0	6.0	-0.07	9.9	19.
78.08	5.0E-05	0.32	5.0	1.38	4	10.4	41.5	51.8	64.5	30	30.0	1.5	0.12	4.1	8.
79.07	5.0E-04	0.05	16.2	1.21	6	27.0	108.0	135.0	35.8	32	30.0	1.0	-0.02	8.8	17.
80.05	5.0E-04	0.04	13.3	0.95	6	22.8	91.4	114.2	37.0	32	30.0	1.0	0.01	7.5	14.
81.04	5.0E-04	0.03	22.6	1.28	7	36.8	79.5	116.4	30.6	34	38.6	1.0	-0.06	9.0	21.
82.02	5.0E-02	-0.01	62.4	0.83	9	96.9	29.1	126.0	13.7	40	66.4	1.0	-0.13	3.2	22.
83.00	5.0E-02	-0.01	91.3	0.93	9	141.3	26.5	167.8	10.9	42	77.2	1.0	-0.17	3.0	30.
83.99	5.0E-03	-0.01	59.1	1.67	7	93.2	61.9	155.1	20.0	40	65.2	1.0	-0.19	7.6	30.
84.97	5.0E-03	-0.02	41.0	1.42	7	66.0	60.3	126.3	22.9	38	55.4	1.0	-0.14	6.9	23.
85.96	5.0E-05	-0.10	6.7	2.00	4	13.5	54.1	67.6	61.8	30	30.0	3.0	0.02	5.3	10.
86.94	5.0E-05	-0.08	5.9	2.15	4	12.3	49.3	61.7	66.4	30	30.0	1.5	0.03	4.8	9.
87.93	5.0E-05	-0.01	6.5	2.61	4	13.3	53.1	66.3	67.1	30	30.0	3.0	0.02	5.2	10.
88.91	5.0E-05	0.02	6.5	3.04	1	13.3	UnDef	UnDef	100.0	30	30.0	3.0	0.01	UnDef	UnDe
89.89	5.0E-06	0.05	5.6	3.16	1	12.0	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
90.88	5.0E-05	0.12	5.4	2.91	1	11.8	UnDef	UnDef	100.0	30	30.0	1.5	0.05	UnDef	UnDe
91.86	5.0E-05	0.22	5.4	2.81	4	11.9	47.5	59.4	73.4	30	30.0	1.5	0.07	4.7	9.
92.85	5.0E-05	0.29	7.8	2.78	4	15.7	63.0	78.7	63.2	30	30.0	3.0	0.03	6.2	12.
93.83	5.0E-05	0.32	6.4	2.92	4	13.6	54.3	67.9	69.3	30	30.0	3.0	0.06	5.3	10.
94.82	5.0E-05	0.36	5.8	3.03	1	12.7	UnDef	UnDef	100.0	30	30.0	1.5	0.08	UnDef	UnDe
[illegible].80	5.0E-05	0.36	5.7	3.00	1	12.5	UnDef	UnDef	100.0	30	30.0	1.5	0.08	UnDef	
[illegible]78	5.0E-05	0.40	5.3	2.72	4	12.0	48.1	60.1	73.3	30	30.0	1.5	0.10	4.7	.
97.77	5.0E-05	0.43	5.4	2.65	4	12.2	48.7	60.9	72.5	30	30.0	1.5	0.11	4.8	9.
98.75	5.0E-05	0.44	5.9	2.81	4	13.1	52.3	65.4	70.9	30	30.0	1.5	0.10	5.1	10.
99.74	5.0E-06	0.21	8.0	3.91	1	16.6	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
100.72	5.0E-06	0.16	8.1	4.26	1	16.8	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
101.70	5.0E-06	0.12	8.1	4.58	1	16.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe

102.69	5.0E-06	0.11	8.2	4.38	1	17.2	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
103.67	5.0E-06	0.18	7.7	3.75	1	16.5	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD

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Run No: 02-0627-1626-5132

CPT File: 073C757.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	[illegible]
104.66	5.0E-05	0.31	7.6	3.18	1	16.3	UnDef	UnDef	100.0	30	30.0	3.0	0.03	UnDef	UnD
105.64	5.0E-05	0.35	7.0	3.08	1	15.4	UnDef	UnDef	100.0	30	30.0	3.0	0.05	UnDef	UnD
106.63	5.0E-05	0.39	6.4	2.99	4	14.5	58.0	72.5	69.6	30	30.0	3.0	0.07	5.7	11
107.61	5.0E-05	0.40	6.5	2.94	4	14.6	58.3	72.9	69.2	30	30.0	3.0	0.08	5.7	11
108.59	5.0E-05	0.42	6.2	2.68	4	14.2	56.7	70.9	68.8	30	30.0	1.5	0.09	5.6	11
109.58	5.0E-05	0.31	6.9	3.26	1	15.5	UnDef	UnDef	100.0	30	30.0	3.0	0.05	UnDef	UnD
110.56	5.0E-06	0.29	5.2	4.43	1	12.6	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnD
111.55	5.0E-06	0.31	4.2	3.45	1	10.9	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnD
112.53	5.0E-05	0.48	5.0	2.44	4	12.4	49.6	62.1	73.1	30	30.0	1.5	0.13	4.9	9.
113.52	5.0E-05	0.58	5.1	2.37	4	12.6	50.3	62.9	72.1	30	30.0	1.5	0.15	4.9	9.
114.50	5.0E-05	0.58	5.0	2.50	4	12.5	49.9	62.4	73.6	30	30.0	1.5	0.15	4.9	9.
115.48	5.0E-05	0.59	5.1	2.55	4	12.7	50.9	63.6	73.3	30	30.0	1.5	0.15	5.0	10.
116.47	5.0E-05	0.60	5.2	2.38	4	13.0	51.8	64.8	71.6	30	30.0	1.5	0.15	5.1	10.
117.45	5.0E-05	0.56	5.3	2.64	4	13.1	52.3	65.4	73.1	30	30.0	1.5	0.14	5.1	10.
118.44	5.0E-05	0.59	5.0	2.55	4	12.7	50.9	63.6	73.8	30	30.0	1.5	0.15	5.0	10.
119.42	5.0E-05	0.58	5.2	2.26	4	13.1	52.5	65.6	70.6	30	30.0	1.5	0.15	5.1	10.
120.41	5.0E-05	0.61	5.2	2.18	4	13.2	52.6	65.8	70.2	30	30.0	1.5	0.16	5.1	10.
121.39	5.0E-05	0.60	5.3	2.10	4	13.3	53.3	66.7	69.1	30	30.0	1.5	0.15	5.2	10.
122.37	5.0E-05	0.63	5.1	1.87	4	13.0	52.1	65.2	68.4	30	30.0	1.5	0.17	5.1	10.
123.36	5.0E-05	0.59	5.3	2.11	4	13.5	53.9	67.4	69.1	30	30.0	1.5	0.15	5.3	10.
124.34	5.0E-05	0.64	5.1	1.94	4	13.1	52.4	65.5	69.1	30	30.0	1.5	0.17	5.1	10.
125.33	5.0E-05	0.67	4.9	1.85	4	12.8	51.1	63.9	69.4	30	30.0	1.5	0.18	5.0	10.
126.31	5.0E-05	0.70	4.9	1.69	4	12.9	51.5	64.4	68.0	30	30.0	1.5	0.19	5.0	10.
127.30	5.0E-05	0.66	5.3	1.57	4	13.6	54.4	68.0	64.8	30	30.0	1.5	0.17	5.3	10.
128.28	5.0E-05	0.58	5.5	2.12	4	14.1	56.6	70.7	68.1	30	30.0	1.5	0.14	5.5	11.
129.26	5.0E-05	0.62	5.3	2.29	4	13.7	54.9	68.7	70.6	30	30.0	1.5	0.16	5.4	[illegible]
[illegible]25	5.0E-05	0.53	5.6	1.93	4	14.3	57.4	71.7	66.2	30	30.0	1.5	0.13	5.6	
131.23	5.0E-05	0.67	5.1	1.54	4	13.5	53.8	67.3	65.6	30	30.0	1.5	0.18	5.3	[illegible]
132.22	5.0E-05	0.57	5.4	2.03	4	14.0	56.2	70.2	68.2	30	30.0	1.5	0.14	5.5	11.
133.20	5.0E-05	0.64	5.1	2.04	4	13.7	54.6	68.3	69.5	30	30.0	1.5	0.17	5.3	10.
134.18	5.0E-05	0.62	5.3	1.87	4	14.0	56.2	70.2	67.2	30	30.0	1.5	0.16	5.5	11.
135.17	5.0E-05	0.61	5.5	2.07	4	14.5	58.0	72.4	67.7	30	30.0	1.5	0.15	5.7	11.
136.15	5.0E-05	0.40	8.8	2.46	4	20.8	83.3	104.2	58.1	30	30.0	3.0	0.04	8.2	16.
137.14	5.0E-05	0.33	7.9	3.12	4	19.1	76.4	95.5	64.9	30	30.0	3.0	0.03	7.5	15.
138.12	5.0E-05	0.47	6.4	1.95	4	16.3	65.2	81.5	62.8	30	30.0	3.0	0.10	6.4	12.
139.11	5.0E-05	0.47	7.2	2.31	4	18.0	71.9	89.9	62.1	30	30.0	3.0	0.08	7.0	14.
140.09	5.0E-05	0.45	7.0	2.87	4	17.6	70.2	87.8	66.6	30	30.0	3.0	0.08	6.9	13.
141.07	5.0E-05	0.47	6.4	2.37	4	16.4	65.6	82.0	65.9	30	30.0	3.0	0.10	6.4	12.
142.06	5.0E-04	0.48	6.8	1.87	4	17.3	69.2	86.4	60.6	30	30.0	1.0	0.10	5.6	11.
143.04	5.0E-05	0.42	7.7	2.44	4	19.0	76.1	95.1	61.6	30	30.0	3.0	0.06	7.4	14.
144.03	5.0E-04	0.49	6.8	1.93	4	17.4	69.6	86.9	61.0	30	30.0	1.0	0.10	5.7	11.
145.01	5.0E-04	0.42	8.6	2.18	4	21.1	84.3	105.4	56.8	30	30.0	1.0	0.06	6.9	13.
146.00	5.0E-04	0.42	8.1	1.92	4	20.1	80.4	100.5	56.5	30	30.0	1.0	0.07	6.6	13.
146.98	5.0E-05	0.40	10.0	2.44	4	23.9	95.4	119.3	55.0	30	30.0	3.0	0.03	9.4	18.
147.96	5.0E-04	0.44	9.9	2.40	4	23.8	95.2	119.0	55.0	30	30.0	1.0	0.04	7.9	15.
148.95	5.0E-05	0.45	4.9	3.05	1	13.9	UnDef	UnDef	100.0	30	30.0	1.5	0.12	UnDef	UnDe
149.93	5.0E-05	0.57	4.4	1.96	4	12.9	51.6	64.5	73.7	30	30.0	1.5	0.17	5.1	10.
150.92	5.0E-05	0.65	4.2	1.84	4	12.7	50.7	63.4	73.7	30	30.0	1.5	0.19	5.1	10.
151.90	5.0E-05	0.54	5.1	2.17	4	14.5	58.1	72.6	70.6	30	30.0	1.5	0.14	5.8	11.
152.89	5.0E-05	0.47	4.6	2.30	4	13.5	54.1	67.6	74.7	30	30.0	1.5	0.13	5.4	10.
153.87	5.0E-05	0.65	4.3	1.80	4	13.0	51.9	64.9	72.7	30	30.0	1.5	0.19	5.2	10.
154.85	5.0E-05	0.64	4.4	1.76	4	13.2	52.8	65.9	71.7	30	30.0	1.5	0.19	5.3	10.
155.84	5.0E-05	0.63	4.5	1.72	4	13.5	53.8	67.3	70.6	30	30.0	1.5	0.18	5.5	10.
156.82	5.0E-05	0.64	4.6	1.78	4	13.6	54.4	68.0	70.9	30	30.0	1.5	0.18	5.5	11.
157.81	5.0E-05	0.65	4.6	1.85	4	13.6	54.5	68.1	71.5	30	30.0	1.5	0.18	5.6	11.
[illegible]79	5.0E-05	0.62	4.7	1.84	4	13.9	55.6	69.4	70.7	30	30.0	1.5	0.17	5.7	
[illegible]77	5.0E-05	0.65	4.6	1.93	4	13.8	55.4	69.2	71.7	30	30.0	1.5	0.18	5.7	
160.76	5.0E-04	0.65	4.6	1.57	4	13.9	55.5	69.3	68.7	30	30.0	1.0	0.19	4.8	9.
161.74	5.0E-05	0.61	4.7	1.85	4	14.0	56.2	70.2	70.7	30	30.0	1.5	0.17	5.8	11.
162.73	5.0E-04	0.63	4.8	1.57	4	14.4	57.6	72.0	67.4	30	30.0	1.0	0.18	5.0	9.
163.71	5.0E-04	0.64	4.6	1.80	4	14.0	56.2	70.2	70.5	30	30.0	1.0	0.18	4.9	9.
164.70	5.0E-04	0.61	4.8	1.67	4	14.3	57.3	71.6	68.7	30	30.0	1.0	0.17	5.0	10.

165.68	5.0E-04	0.59	4.7	1.70	4	14.3	57.3	71.7	69.1	30	30.0	1.0	0.17	5.0	10.
166.66	5.0E-04	0.66	4.4	1.59	4	13.8	55.0	68.8	70.0	30	30.0	1.0	0.19	4.8	9.

Gregg In Situ, Inc.

Run No: 02-0627-1626-5132

CPT File: 073C757.COR

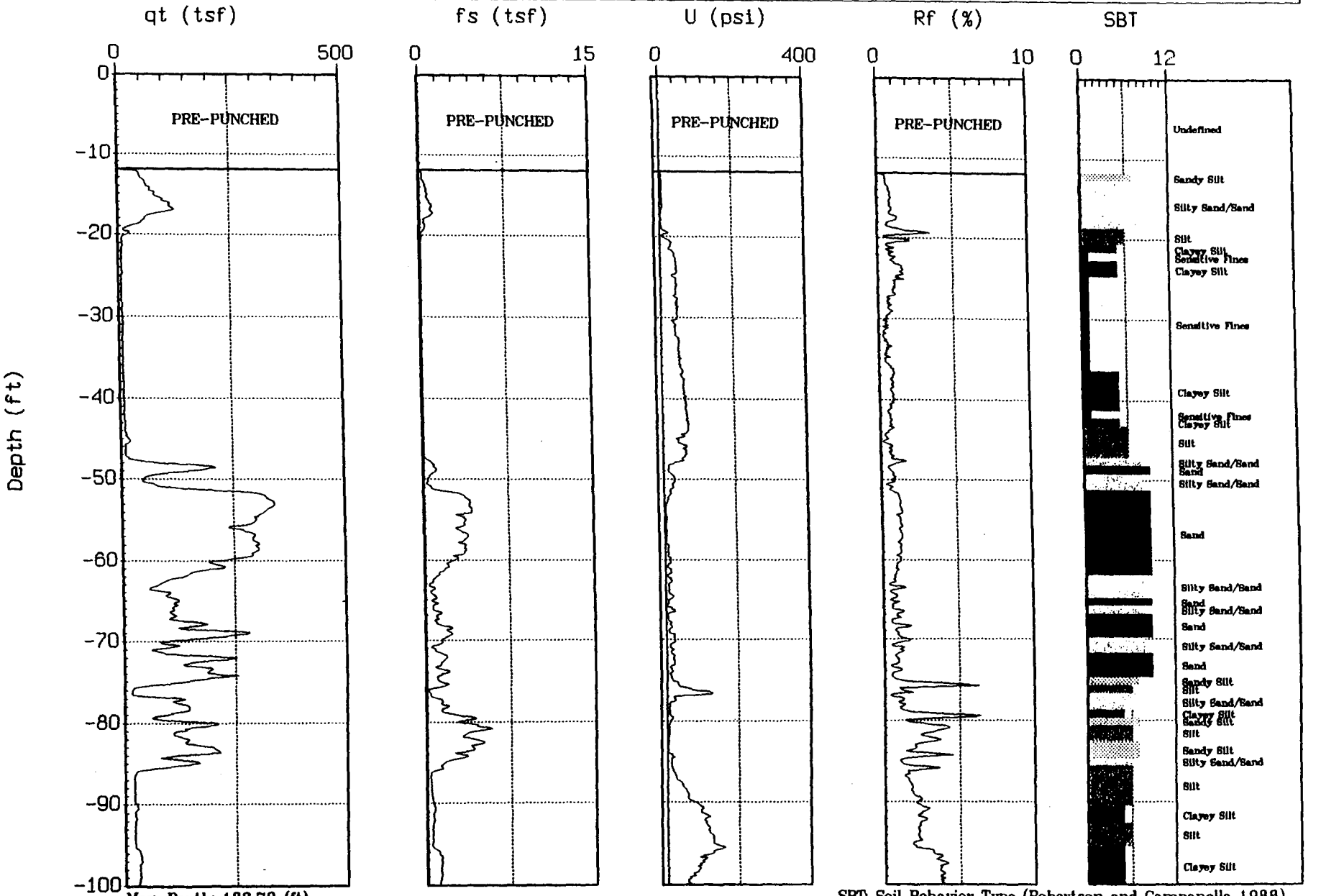
Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	
167.65	5.0E-05	0.38	5.4	2.21	4	15.9	63.5	79.4	69.3	30	30.0	1.5	0.10	6.7	13
168.71	5.0E-05	0.44	4.7	2.20	4	14.3	57.3	71.6	73.6	30	30.0	1.5	0.13	6.0	12
169.78	5.0E-04	0.63	4.4	1.84	4	13.7	55.0	68.7	72.6	30	30.0	1.0	0.18	4.8	9
170.76	5.0E-04	0.69	4.3	1.69	4	13.6	54.3	67.9	72.0	30	30.0	1.0	0.20	4.8	9
171.75	5.0E-05	0.68	4.2	1.87	4	13.5	54.2	67.7	73.8	30	30.0	1.5	0.20	5.8	11
172.73	5.0E-05	0.68	4.3	2.00	4	13.7	54.8	68.5	74.5	30	30.0	1.5	0.20	5.9	11.
173.72	5.0E-05	0.55	4.9	2.58	4	15.1	60.5	75.6	74.6	30	30.0	1.5	0.14	6.5	13.
174.70	5.0E-05	0.52	5.2	2.64	4	15.7	62.9	78.6	73.5	30	30.0	1.5	0.12	6.7	13.
175.68	5.0E-05	0.57	4.7	2.62	4	14.7	58.6	73.3	76.4	30	30.0	1.5	0.16	6.3	12.
176.67	5.0E-05	0.49	5.2	2.95	1	15.7	UnDef	UnDef	100.0	30	30.0	1.5	0.12	UnDef	UnDe
177.65	5.0E-05	0.31	5.3	3.78	1	16.1	UnDef	UnDef	100.0	30	30.0	1.5	0.08	UnDef	UnDe
178.64	5.0E-05	0.32	5.8	3.53	1	17.2	UnDef	UnDef	100.0	30	30.0	1.5	0.07	UnDef	UnDe
179.62	5.0E-05	0.29	5.7	3.72	1	17.1	UnDef	UnDef	100.0	30	30.0	1.5	0.06	UnDef	UnDe
180.60	5.0E-04	0.40	5.1	2.09	4	15.7	62.8	78.6	70.2	30	30.0	1.0	0.11	5.7	11.
181.59	5.0E-05	0.47	5.1	2.70	4	15.8	63.1	78.8	74.5	30	30.0	1.5	0.12	6.9	13.
182.57	5.0E-04	0.37	5.9	2.32	4	17.7	70.7	88.4	67.5	30	30.0	1.0	0.09	6.5	12.
183.56	5.0E-06	0.15	7.5	4.25	1	21.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
184.54	5.0E-05	-0.01	23.1	3.27	6	55.7	222.7	278.4	41.9	34	50.5	6.0	-0.17	24.5	49.
185.53	5.0E-03	-0.03	38.0	1.62	7	88.6	104.1	192.7	25.2	38	63.8	1.0	-0.14	12.5	37.
186.51	5.0E-03	-0.03	34.5	1.41	7	81.1	94.4	175.5	25.2	38	61.3	1.0	-0.12	11.4	33.
187.49	5.0E-04	-0.04	27.5	3.07	6	65.8	263.1	328.9	38.0	36	55.3	1.0	-0.18	24.4	48.
188.48	5.0E-06	-0.07	17.1	4.28	1	42.9	UnDef	UnDef	100.0	UnDef	UnDef	6.0	UnDef	UnDef	UnDe
189.46	5.0E-03	-0.04	29.0	1.86	7	69.6	151.3	220.8	30.7	36	56.9	1.0	-0.13	14.6	34.
190.45	5.0E-03	-0.04	28.9	1.53	7	69.4	118.4	187.8	28.6	36	56.8	1.0	-0.11	12.6	32.
191.43	5.0E-04	-0.05	24.3	2.19	6	59.4	237.6	297.0	35.5	34	52.3	1.0	-0.13	22.2	44.
192.42	5.0E-04	-0.05	25.2	2.23	6	61.6	246.5	308.1	35.1	34	53.4	1.0	-0.13	23.1	[illegible]
[illegible]0	5.0E-03	-0.04	29.6	1.42	7	71.6	107.0	178.6	27.4	36	57.7	1.0	-0.10	12.1	[illegible]

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-758

Engineer : P. MOORE
Date : 06:20:02 14:40



Max. Depth: 183.72 (ft)

Depth Inc.: 0.164 (ft)

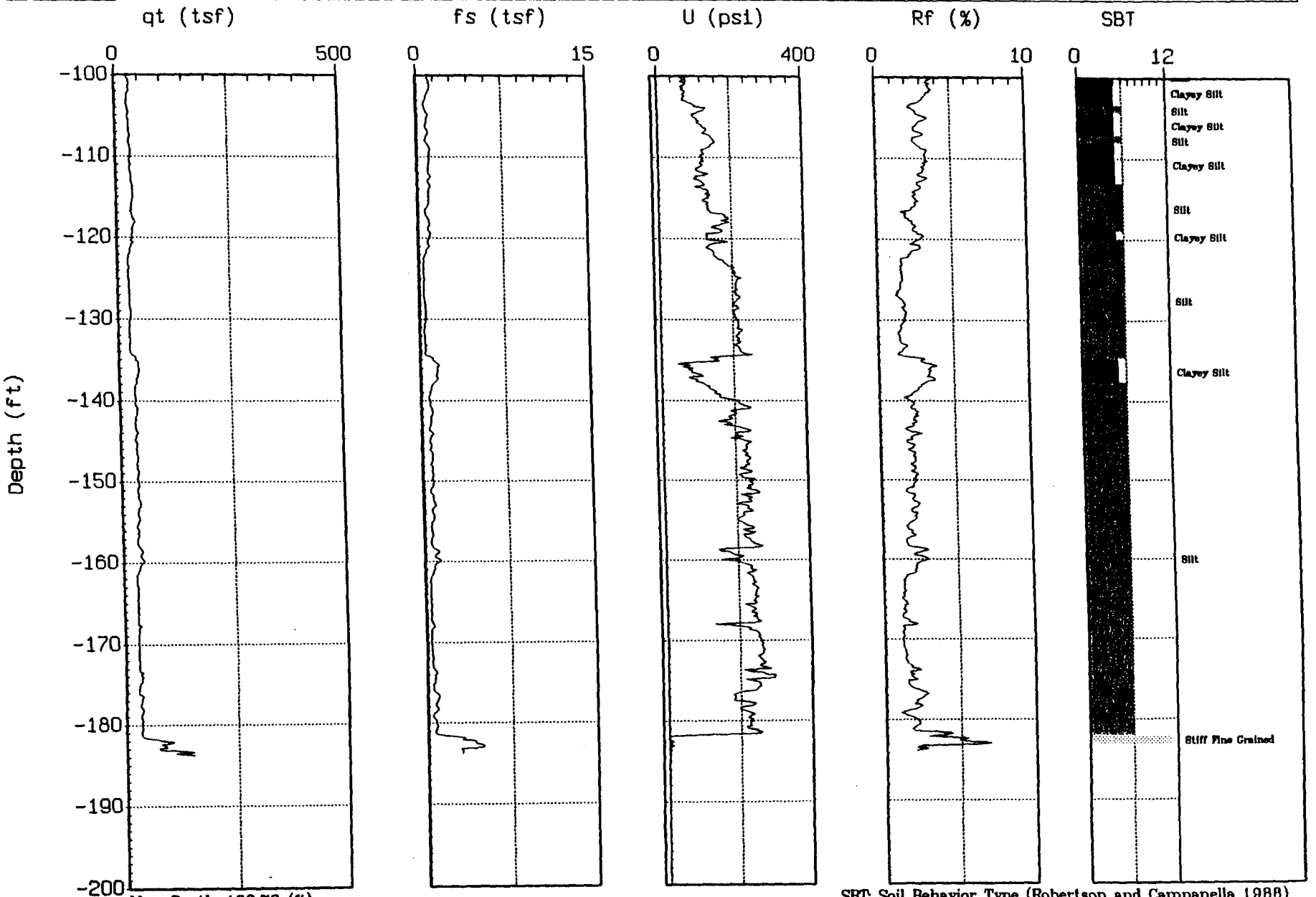
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

HUSHMAND ASSOC.

Site : ALAMEDA N.A.S.
Location : CPT-758

Engineer : P. MOORE
Date : 06:20:02 14:40



Max. Depth: 183.72 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
[illegible] No: 02-0627-1626-5176
Job No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-758
Engineer: P. MOORE
CPT Date: 02/20/06
CPT Time: 14:40
CPT File: 073C758.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.76 (ft): 2.5
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 (blows/ft)	Su (tsf)	CRR
0.49	0.0	0.00	0.00	0.0	UnDef	124.1	0.03	0.03	0.00	2.00	UnDef	UnDef	UnDef	0.00
1.48	0.0	0.00	0.00	0.0	UnDef	124.1	0.09	0.09	0.00	2.00	UnDef	UnDef	UnDef	0.00
2.46	0.0	0.00	0.00	0.0	UnDef	124.1	0.15	0.15	0.00	2.00	UnDef	UnDef	UnDef	0.00
[illegible]44	0.0	0.00	0.00	0.0	UnDef	124.1	0.21	0.18	0.03	2.00	UnDef	UnDef	UnDef	0.00
[illegible]3	0.0	0.00	0.00	0.0	UnDef	124.1	0.27	0.21	0.06	2.00	UnDef	UnDef	UnDef	0.00
5.41	0.0	0.00	0.00	0.0	UnDef	124.1	0.34	0.25	0.09	2.00	UnDef	UnDef	UnDef	0.00
6.40	0.0	0.00	0.00	0.0	UnDef	124.1	0.40	0.28	0.12	1.91	UnDef	UnDef	UnDef	0.00
7.30	0.0	0.00	0.00	0.0	UnDef	124.1	0.45	0.30	0.15	1.82	UnDef	UnDef	UnDef	0.00
8.20	0.0	0.00	0.00	0.0	UnDef	124.1	0.51	0.33	0.18	1.74	UnDef	UnDef	UnDef	0.00
9.19	0.0	0.00	0.00	0.0	UnDef	124.1	0.57	0.36	0.21	1.66	UnDef	UnDef	UnDef	0.00
10.17	0.0	0.00	0.00	0.0	UnDef	124.1	0.63	0.39	0.24	1.60	UnDef	UnDef	UnDef	0.00
11.15	0.0	0.00	0.00	0.0	UnDef	124.1	0.69	0.42	0.27	1.54	UnDef	UnDef	UnDef	0.00
12.14	29.9	0.15	0.51	6.9	7	117.8	0.75	0.45	0.30	1.49	9.5	14.2	UnDef	0.09
13.21	56.4	0.34	0.60	11.6	8	120.9	0.82	0.48	0.33	1.44	13.5	19.5	UnDef	0.13
14.27	70.8	0.57	0.80	12.8	8	120.9	0.88	0.51	0.37	1.40	16.9	23.7	UnDef	0.18
15.26	89.5	0.72	0.80	13.1	8	120.9	0.94	0.54	0.40	1.36	21.4	29.1	UnDef	0.25
16.24	114.9	0.95	0.83	14.2	8	120.9	1.00	0.57	0.43	1.32	27.5	36.5	UnDef	0.39
17.22	96.0	1.00	1.04	5.8	8	120.9	1.06	0.60	0.46	1.29	23.0	29.7	UnDef	0.29
18.21	53.8	0.38	0.70	6.6	8	120.9	1.12	0.63	0.49	1.26	12.9	16.3	UnDef	0.12
19.19	19.4	0.34	1.77	29.8	6	114.6	1.18	0.65	0.52	1.24	7.4	9.2	1.46	0.13
20.18	12.2	0.13	1.06	38.8	6	114.6	1.23	0.68	0.55	1.21	4.7	5.7	0.88	0.12
21.16	8.2	0.06	0.76	66.0	5	114.6	1.29	0.71	0.58	1.19	3.9	4.6	0.55	0.09
22.15	6.5	0.06	0.85	91.4	1	79.6	1.34	0.72	0.61	1.18	3.1	3.6	0.41	0.08
23.13	6.5	0.08	1.29	100.4	5	114.6	1.38	0.74	0.64	1.16	3.1	3.6	0.41	0.08
24.11	6.7	0.10	1.49	98.6	5	114.6	1.44	0.77	0.67	1.14	3.2	3.7	0.42	0.08
25.10	5.7	0.07	1.17	91.7	1	79.6	1.49	0.78	0.71	1.13	2.7	3.1	0.34	0.08
26.08	5.3	0.05	1.01	98.6	1	79.6	1.53	0.79	0.74	1.12	2.5	2.8	0.30	0.00
27.07	5.4	0.04	0.81	96.1	1	79.6	1.57	0.80	0.77	1.12	2.6	2.9	0.30	0.00
28.05	5.8	0.04	0.67	102.3	1	79.6	1.61	0.81	0.80	1.11	2.8	3.1	0.33	0.08
29.04	5.9	0.04	0.73	103.1	1	79.6	1.65	0.82	0.83	1.11	2.8	3.1	0.34	0.08
30.02	6.9	0.03	0.46	93.6	1	79.6	1.68	0.83	0.86	1.10	3.3	3.6	0.42	0.08
31.00	6.8	0.03	0.44	88.4	1	79.6	1.72	0.83	0.89	1.10	3.3	3.6	0.41	0.08
31.99	7.1	0.02	0.31	94.2	1	79.6	1.76	0.84	0.92	1.09	3.4	3.7	0.43	0.00
[illegible]97	6.2	0.03	0.54	112.2	1	79.6	1.80	0.85	0.95	1.08	3.0	3.2	0.35	0.08
[illegible]96	6.4	0.03	0.47	111.0	1	79.6	1.84	0.86	0.98	1.08	3.1	3.3	0.36	0.08
4.94	6.9	0.03	0.46	114.8	1	79.6	1.88	0.87	1.01	1.07	3.3	3.6	0.40	0.08
35.92	6.7	0.05	0.75	120.5	1	79.6	1.92	0.88	1.04	1.07	3.2	3.4	0.38	0.08
36.91	7.4	0.06	0.84	129.1	5	114.6	1.97	0.89	1.07	1.06	3.5	3.7	0.43	0.09
37.89	7.8	0.07	0.83	139.2	5	114.6	2.02	0.92	1.11	1.04	3.8	3.9	0.47	0.09
38.88	7.7	0.06	0.78	139.2	5	114.6	2.08	0.94	1.14	1.03	3.7	3.8	0.45	0.09

39.86	8.0	0.07	0.86	146.9	5	114.6	2.14	0.97	1.17	1.02	3.8	3.9	0.47	0.09
40.85	7.9	0.05	0.65	149.9	5	114.6	2.19	1.00	1.20	1.00	3.8	3.8	0.46	0.09

Gregg In Situ, Inc.

Run No: 02-0627-1626-5176

CPT File: 073C758.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	7.5	0.05	0.60	154.3	1	79.6	2.24	1.01	1.23	0.99	3.6	3.6	0.42	0.08
42.81	8.1	0.05	0.66	159.5	5	114.6	2.29	1.03	1.26	0.99	3.9	3.8	0.46	0.09
43.80	8.6	0.05	0.57	159.5	6	114.6	2.34	1.06	1.29	0.97	3.3	3.2	0.50	0.09
44.78	14.6	0.04	0.30	111.2	6	114.6	2.40	1.08	1.32	0.96	5.6	5.4	0.98	0.00
45.77	10.7	0.06	0.53	126.7	6	114.6	2.46	1.11	1.35	0.95	4.1	3.9	0.66	0.09
46.75	8.6	0.06	0.66	145.3	6	114.6	2.51	1.13	1.38	0.94	3.3	3.1	0.49	0.09
47.74	62.2	0.53	0.86	91.2	8	120.9	2.57	1.16	1.41	0.93	14.9	13.8	UnDef	0.13
48.72	172.5	0.98	0.57	34.7	9	124.1	2.63	1.19	1.44	0.92	33.0	30.5	UnDef	0.43
49.70	56.8	0.45	0.79	63.6	8	120.9	2.69	1.22	1.47	0.91	13.6	12.3	UnDef	0.12
50.69	92.0	0.48	0.52	57.2	8	120.9	2.75	1.25	1.50	0.90	22.0	19.7	UnDef	0.15
51.67	293.5	2.91	0.99	37.4	9	124.1	2.81	1.28	1.54	0.89	56.2	49.8	UnDef	0.00
52.66	338.1	3.99	1.18	19.2	9	124.1	2.87	1.31	1.57	0.87	64.8	56.7	UnDef	0.00
53.64	326.7	4.18	1.28	7.6	9	124.1	2.93	1.34	1.60	0.86	62.6	54.1	UnDef	0.00
54.63	301.9	3.36	1.11	10.5	9	124.1	3.00	1.37	1.63	0.86	57.8	49.4	UnDef	0.00
55.61	267.7	3.26	1.22	10.0	9	124.1	3.06	1.40	1.66	0.85	51.3	43.4	UnDef	0.00
56.59	290.8	3.62	1.25	12.1	9	124.1	3.12	1.43	1.69	0.84	55.7	46.6	UnDef	0.00
57.58	298.8	3.42	1.15	9.4	9	124.1	3.18	1.46	1.72	0.83	57.2	47.4	UnDef	0.00
58.56	300.3	3.55	1.18	20.7	9	124.1	3.24	1.49	1.75	0.82	57.5	47.1	UnDef	0.00
59.55	257.4	2.76	1.07	25.3	9	124.1	3.30	1.52	1.78	0.81	49.3	40.0	UnDef	0.00
60.53	212.4	1.99	0.94	23.3	9	124.1	3.36	1.55	1.81	0.80	40.7	32.7	UnDef	0.00
61.52	153.4	1.31	0.86	29.8	9	124.1	3.42	1.58	1.84	0.80	29.4	23.4	UnDef	0.33
62.42	99.3	0.74	0.74	30.9	8	120.9	3.48	1.61	1.87	0.79	23.8	18.8	UnDef	0.17
63.32	69.4	0.56	0.80	22.7	8	120.9	3.53	1.63	1.90	0.78	16.6	13.0	UnDef	0.13
64.30	102.5	0.68	0.67	31.8	8	120.9	3.59	1.66	1.93	0.78	24.5	19.0	UnDef	0.17
65.29	117.3	0.75	0.64	17.8	9	124.1	3.65	1.69	1.96	0.77	22.5	17.3	UnDef	0.19
[illegible]27	107.9	0.92	0.85	38.2	8	120.9	3.71	1.72	1.99	0.76	25.8	19.7	UnDef	0.20
[illegible]6	123.6	0.93	0.76	11.9	9	124.1	3.77	1.75	2.02	0.76	23.7	17.9	UnDef	0.22
68.24	165.7	1.69	1.02	32.2	9	124.1	3.83	1.78	2.05	0.75	31.7	23.8	UnDef	0.38
69.22	237.1	2.00	0.85	34.3	9	124.1	3.90	1.81	2.08	0.74	45.4	33.7	UnDef	0.00
70.21	102.9	1.18	1.14	45.1	8	120.9	3.96	1.84	2.11	0.74	24.6	18.2	UnDef	0.22
71.19	87.7	0.92	1.05	31.2	8	120.9	4.02	1.87	2.14	0.73	21.0	15.4	UnDef	0.18
72.18	204.1	1.64	0.80	45.6	9	124.1	4.08	1.90	2.18	0.73	39.1	28.4	UnDef	0.00
73.16	172.0	1.18	0.69	39.2	9	124.1	4.14	1.93	2.21	0.72	32.9	23.7	UnDef	0.32
74.15	209.1	1.41	0.67	26.0	9	124.1	4.20	1.96	2.24	0.71	40.0	28.6	UnDef	0.45
75.13	101.1	1.37	1.36	53.1	8	120.9	4.26	1.99	2.27	0.71	24.2	17.2	UnDef	0.24
76.11	16.8	0.41	2.46	181.3	5	114.6	4.32	2.02	2.30	0.70	8.0	5.6	1.00	0.00
77.10	109.7	0.90	0.82	91.6	8	120.9	4.37	2.04	2.33	0.70	26.3	18.4	UnDef	0.19
78.08	141.1	1.53	1.09	17.7	8	120.9	4.43	2.07	2.36	0.69	33.8	23.5	UnDef	0.30
79.07	83.7	2.72	3.25	20.9	6	114.6	4.49	2.10	2.39	0.69	32.1	22.1	6.34	0.00
80.05	173.7	3.66	2.11	21.8	7	117.8	4.55	2.13	2.42	0.69	55.5	38.0	UnDef	0.00
81.04	119.5	4.63	3.88	13.7	6	114.6	4.61	2.15	2.45	0.68	45.8	31.2	9.19	0.00
82.02	135.8	3.97	2.93	9.3	6	114.6	4.66	2.18	2.48	0.68	52.0	35.3	10.49	0.00
83.00	191.8	4.29	2.24	6.3	7	117.8	4.72	2.21	2.51	0.67	61.2	41.2	UnDef	0.00
83.99	135.6	3.16	2.33	20.9	7	117.8	4.78	2.23	2.54	0.67	43.3	29.0	UnDef	0.00
84.97	140.1	1.64	1.17	27.3	8	120.9	4.84	2.26	2.58	0.67	33.5	22.3	UnDef	0.30
85.96	34.0	0.84	2.48	35.4	6	114.6	4.89	2.29	2.61	0.66	13.0	8.6	2.33	0.20
86.94	18.9	0.27	1.45	60.2	6	114.6	4.95	2.31	2.64	0.66	7.2	4.8	1.12	0.10
87.93	19.9	0.35	1.76	103.2	6	114.6	5.01	2.34	2.67	0.65	7.6	5.0	1.19	0.10
88.91	19.9	0.38	1.90	129.3	6	114.6	5.06	2.37	2.70	0.65	7.6	5.0	1.19	0.10
89.89	23.2	0.52	2.26	174.1	6	114.6	5.12	2.39	2.73	0.65	8.9	5.7	1.45	0.12
90.88	22.7	0.60	2.62	220.8	5	114.6	5.18	2.42	2.76	0.64	10.9	7.0	1.41	0.00
91.86	22.3	0.55	2.45	249.8	6	114.6	5.23	2.44	2.79	0.64	8.6	5.5	1.37	0.00
92.85	21.1	0.47	2.25	257.8	6	114.6	5.29	2.47	2.82	0.64	8.1	5.1	1.26	0.00
93.83	20.2	0.45	2.22	281.1	6	114.6	5.34	2.49	2.85	0.63	7.7	4.9	1.19	0.00
94.82	21.0	0.43	2.06	306.2	6	114.6	5.40	2.52	2.88	0.63	8.0	5.1	1.24	0.11
[illegible]80	30.7	0.88	2.87	312.4	5	114.6	5.46	2.54	2.91	0.63	14.7	9.2	2.02	0.00
[illegible]78	34.4	1.26	3.67	230.9	5	114.6	5.51	2.57	2.94	0.62	16.5	10.3	2.31	0.00
97.77	31.4	1.18	3.74	200.2	5	114.6	5.57	2.60	2.97	0.62	15.0	9.3	2.07	0.00
98.75	31.5	1.19	3.78	164.5	5	114.6	5.63	2.62	3.01	0.62	15.1	9.3	2.07	0.00
99.74	28.4	1.06	3.74	141.6	5	114.6	5.68	2.65	3.04	0.61	13.6	8.4	1.82	0.00
100.72	31.7	1.13	3.56	168.1	5	114.6	5.74	2.67	3.07	0.61	15.2	9.3	2.07	0.00
101.70	30.2	1.07	3.55	169.6	5	114.6	5.80	2.70	3.10	0.61	14.5	8.8	1.95	0.00

102.69	26.3	0.78	2.97	177.0	5	114.6	5.85	2.72	3.13	0.61	12.6	7.6	1.64	0.00
103.67	26.3	0.64	2.43	265.6	6	114.6	5.91	2.75	3.16	0.60	10.1	6.1	1.63	0.00

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
104.66	28.6	0.90	3.13	237.8	5	114.6	5.97	2.78	3.19	0.60	13.7	8.2	1.81	0.00
105.64	28.5	0.78	2.75	264.9	5	114.6	6.02	2.80	3.22	0.60	13.6	8.2	1.80	0.00
106.63	29.7	0.85	2.86	302.5	5	114.6	6.08	2.83	3.25	0.59	14.2	8.4	1.89	0.00
107.61	30.1	0.77	2.56	347.8	6	114.6	6.13	2.85	3.28	0.59	11.5	6.8	1.92	0.00
108.59	31.3	0.95	3.04	322.5	5	114.6	6.19	2.88	3.31	0.59	15.0	8.8	2.01	0.00
109.58	32.3	1.06	3.29	281.2	5	114.6	6.25	2.90	3.34	0.59	15.5	9.1	2.08	0.00
110.56	30.8	1.00	3.25	277.2	5	114.6	6.30	2.93	3.37	0.58	14.7	8.6	1.96	0.00
111.55	30.7	0.93	3.04	262.9	5	114.6	6.36	2.96	3.40	0.58	14.7	8.6	1.95	0.00
112.53	32.8	1.01	3.08	253.9	5	114.6	6.42	2.98	3.44	0.58	15.7	9.1	2.11	0.00
113.52	34.9	0.99	2.83	277.0	6	114.6	6.47	3.01	3.47	0.58	13.4	7.7	2.27	0.00
114.50	36.0	0.90	2.51	313.3	6	114.6	6.53	3.03	3.50	0.57	13.8	7.9	2.35	0.18
115.48	34.8	0.91	2.63	296.3	6	114.6	6.59	3.06	3.53	0.57	13.3	7.6	2.26	0.17
116.47	31.5	0.64	2.02	328.8	6	114.6	6.64	3.08	3.56	0.57	12.1	6.9	1.99	0.14
117.45	35.9	0.77	2.14	425.1	6	114.6	6.70	3.11	3.59	0.57	13.7	7.8	2.33	0.17
118.44	36.4	0.89	2.46	375.6	6	114.6	6.75	3.13	3.62	0.56	13.9	7.9	2.37	0.17
119.42	33.6	0.97	2.89	327.2	5	114.6	6.81	3.16	3.65	0.56	16.1	9.0	2.14	0.00
120.41	32.1	0.83	2.57	351.8	6	114.6	6.87	3.19	3.68	0.56	12.3	6.9	2.02	0.00
121.39	27.9	0.67	2.42	328.2	6	114.6	6.92	3.21	3.71	0.56	10.7	6.0	1.68	0.00
122.37	23.3	0.41	1.74	374.9	6	114.6	6.98	3.24	3.74	0.56	8.9	5.0	1.31	0.10
123.36	23.4	0.37	1.57	445.6	6	114.6	7.04	3.26	3.77	0.55	9.0	5.0	1.31	0.10
124.34	22.7	0.36	1.59	480.2	6	114.6	7.09	3.29	3.80	0.55	8.7	4.8	1.25	0.10
125.33	24.4	0.38	1.54	483.3	6	114.6	7.15	3.31	3.83	0.55	9.3	5.1	1.38	0.11
126.31	24.7	0.34	1.36	478.3	6	114.6	7.21	3.34	3.87	0.55	9.5	5.2	1.40	0.11
127.30	24.6	0.37	1.51	493.0	6	114.6	7.26	3.37	3.90	0.55	9.4	5.1	1.39	0.11
128.28	25.5	0.44	1.74	478.2	6	114.6	7.32	3.39	3.93	0.54	9.8	5.3	1.46	0.11
[illegible]26	27.3	0.49	1.81	469.5	6	114.6	7.37	3.42	3.96	0.54	10.5	5.7	1.59	0.12
[illegible]25	25.1	0.42	1.67	491.5	6	114.6	7.43	3.44	3.99	0.54	9.6	5.2	1.41	0.11
131.23	23.7	0.34	1.44	500.9	6	114.6	7.49	3.47	4.02	0.54	9.1	4.9	1.30	0.10
132.22	25.0	0.36	1.43	489.9	6	114.6	7.54	3.49	4.05	0.54	9.6	5.1	1.40	0.11
133.20	24.5	0.42	1.73	488.1	6	114.6	7.60	3.52	4.08	0.53	9.4	5.0	1.35	0.10
134.18	29.6	0.50	1.68	479.4	6	114.6	7.66	3.55	4.11	0.53	11.3	6.0	1.76	0.12
135.17	40.1	1.28	3.20	256.1	5	114.6	7.71	3.57	4.14	0.53	19.2	10.1	2.59	0.00
136.15	43.1	1.46	3.39	183.7	5	114.6	7.77	3.60	4.17	0.53	20.6	10.9	2.82	0.00
137.14	39.7	1.36	3.43	219.7	5	114.6	7.83	3.62	4.20	0.53	19.0	10.0	2.55	0.00
138.12	34.8	0.96	2.76	284.3	6	114.6	7.88	3.65	4.23	0.52	13.3	7.0	2.15	0.00
139.11	33.3	0.70	2.10	352.2	6	114.6	7.94	3.67	4.27	0.52	12.8	6.7	2.03	0.14
140.09	34.0	0.72	2.11	482.3	6	114.6	8.00	3.70	4.30	0.52	13.0	6.8	2.08	0.14
141.07	37.7	0.87	2.30	495.5	6	114.6	8.05	3.72	4.33	0.52	14.5	7.5	2.38	0.16
142.06	34.1	0.79	2.33	417.2	6	114.6	8.11	3.75	4.36	0.52	13.1	6.7	2.08	0.14
143.04	32.2	0.67	2.07	456.9	6	114.6	8.16	3.78	4.39	0.51	12.3	6.3	1.92	0.13
144.03	36.1	0.81	2.24	500.9	6	114.6	8.22	3.80	4.42	0.51	13.8	7.1	2.23	0.15
145.01	33.6	0.66	1.96	515.0	6	114.6	8.28	3.83	4.45	0.51	12.9	6.6	2.03	0.14
146.00	35.0	0.73	2.09	524.2	6	114.6	8.33	3.85	4.48	0.51	13.4	6.8	2.14	0.14
146.98	36.9	0.83	2.25	539.5	6	114.6	8.39	3.88	4.51	0.51	14.1	7.2	2.28	0.15
147.96	35.4	0.77	2.17	522.9	6	114.6	8.45	3.90	4.54	0.51	13.6	6.9	2.16	0.14
148.95	37.1	0.82	2.22	521.7	6	114.6	8.50	3.93	4.57	0.50	14.2	7.2	2.29	0.15
149.93	36.8	0.82	2.22	553.3	6	114.6	8.56	3.96	4.60	0.50	14.1	7.1	2.26	0.15
150.92	35.2	0.64	1.82	558.6	6	114.6	8.62	3.98	4.63	0.50	13.5	6.8	2.12	0.14
151.90	37.1	0.77	2.07	542.7	6	114.6	8.67	4.01	4.66	0.50	14.2	7.1	2.28	0.15
152.89	39.2	0.90	2.29	515.1	6	114.6	8.73	4.03	4.70	0.50	15.0	7.5	2.44	0.16
153.87	35.0	0.74	2.10	518.8	6	114.6	8.78	4.06	4.73	0.50	13.4	6.7	2.10	0.14
154.85	34.8	0.71	2.04	479.4	6	114.6	8.84	4.08	4.76	0.50	13.3	6.7	2.08	0.14
155.84	33.5	0.59	1.75	542.9	6	114.6	8.90	4.11	4.79	0.50	12.8	6.4	1.97	0.13
156.82	32.9	0.62	1.88	520.5	6	114.6	8.95	4.14	4.82	0.50	12.6	6.3	1.91	0.13
157.81	34.5	0.57	1.65	580.2	6	114.6	9.01	4.16	4.85	0.50	13.2	6.6	2.04	0.13
[illegible]79	40.0	1.01	2.53	389.5	6	114.6	9.07	4.19	4.88	0.50	15.3	7.7	2.47	0.00
[illegible]77	41.4	1.10	2.65	452.1	6	114.6	9.12	4.21	4.91	0.50	15.9	7.9	2.58	0.00
[illegible]0.76	34.9	0.77	2.20	538.3	6	114.6	9.18	4.24	4.94	0.50	13.4	6.7	2.06	0.00
161.74	28.6	0.52	1.81	540.0	6	114.6	9.24	4.26	4.97	0.50	10.9	5.5	1.55	0.11
162.73	29.7	0.40	1.35	560.0	6	114.6	9.29	4.29	5.00	0.50	11.4	5.7	1.63	0.11
163.71	30.0	0.41	1.35	575.9	6	114.6	9.35	4.31	5.03	0.50	11.5	5.7	1.65	0.11
164.70	29.9	0.39	1.30	567.1	6	114.6	9.40	4.34	5.06	0.50	11.5	5.7	1.64	0.11

165.68	30.0	0.43	1.42	544.6	6	114.6	9.46	4.37	5.09	0.50	11.5	5.8	1.64	0.11
166.66	29.3	0.37	1.28	557.2	6	114.6	9.52	4.39	5.13	0.50	11.2	5.6	1.58	0.11

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
167.65	30.6	0.51	1.67	504.7	6	114.6	9.57	4.42	5.16	0.50	11.7	5.9	1.68	0.11
168.71	29.6	0.37	1.25	549.2	6	114.6	9.63	4.45	5.19	0.50	11.3	5.7	1.60	0.11
169.78	28.7	0.34	1.19	591.2	6	114.6	9.70	4.47	5.22	0.50	11.0	5.5	1.52	0.11
170.76	28.2	0.35	1.23	607.2	6	114.6	9.75	4.50	5.25	0.50	10.8	5.4	1.48	0.11
171.75	29.3	0.40	1.36	592.2	6	114.6	9.81	4.52	5.28	0.50	11.2	5.6	1.56	0.11
172.73	29.3	0.42	1.44	602.9	6	114.6	9.87	4.55	5.32	0.50	11.2	5.6	1.56	0.11
173.72	35.0	0.66	1.88	585.5	6	114.6	9.92	4.58	5.35	0.50	13.4	6.7	2.00	0.13
174.70	32.6	0.59	1.81	608.8	6	114.6	9.98	4.60	5.38	0.50	12.5	6.3	1.81	0.12
175.68	28.3	0.46	1.63	577.8	6	114.6	10.03	4.63	5.41	0.50	10.8	5.4	1.46	0.10
176.67	35.1	0.89	2.52	444.1	6	114.6	10.09	4.65	5.44	0.50	13.4	6.7	2.00	0.00
177.65	33.4	0.72	2.15	492.9	6	114.6	10.15	4.68	5.47	0.50	12.8	6.4	1.86	0.00
178.64	34.4	0.61	1.78	491.7	6	114.6	10.20	4.70	5.50	0.50	13.2	6.6	1.93	0.12
179.62	33.8	0.57	1.70	521.2	6	114.6	10.26	4.73	5.53	0.50	13.0	6.5	1.88	0.12
180.60	34.0	0.69	2.04	522.1	6	114.6	10.32	4.76	5.56	0.50	13.0	6.5	1.89	0.00
181.59	59.5	1.96	3.30	322.0	6	114.6	10.37	4.78	5.59	0.50	22.8	11.4	3.93	0.00
182.57	82.9	4.45	5.36	10.0	11	130.5	10.43	4.81	5.62	0.50	79.4	39.7	UnDef	0.00

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19e
Run No: 02-0627-1626-5176
Job No: 97-100
Client: HUSHMAND ASSOCS.
Project: CPT Site Investigation
Site: ALAMEDA N.A.S.
Location: CPT-758
Engineer: P. MOORE
CPT Date: 02/20/06
CPT Time: 14:40
CPT File: 073C758.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.76 (ft): 2.5
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)60c
0.49	1.0E-15	0.00	2.4	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
1.48	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
2.46	1.0E-15	0.00	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
3.44	1.0E-15	-2.83	0.1	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
[illegible]43	1.0E-15	-5.77	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	De
[illegible]41	1.0E-15	-8.71	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	e
6.40	1.0E-15	-11.65	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	De
7.30	1.0E-15	-14.35	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
8.20	1.0E-15	-17.05	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
9.19	1.0E-15	-19.99	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
10.17	1.0E-15	-22.94	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
11.15	1.0E-15	-25.88	0.0	0.10	1	0.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDe
12.14	5.0E-04	0.00	64.6	0.52	9	43.6	7.6	51.1	10.5	40	43.5	1.0	-0.09	1.4	15.
13.21	5.0E-03	0.00	115.5	0.61	9	79.6	3.8	83.4	6.7	42	60.7	1.0	-0.16	0.6	20.
14.27	5.0E-03	0.00	136.4	0.81	9	96.8	5.6	102.4	7.1	44	66.3	1.0	-0.20	0.8	24.
15.26	5.0E-03	0.00	163.7	0.81	9	119.1	2.9	122.0	5.9	44	72.3	1.0	-0.21	0.4	29.
16.24	5.0E-03	0.00	199.9	0.84	9	149.0	0.0	149.0	4.9	46	78.7	1.0	-0.24	0.0	36.
17.22	5.0E-03	0.00	158.6	1.05	9	121.5	9.1	130.5	7.6	44	72.8	1.0	-0.24	1.3	31.
18.21	5.0E-03	-0.01	84.0	0.72	9	66.5	10.2	76.7	10.0	42	55.6	1.0	-0.14	1.5	17.
19.19	5.0E-05	0.02	27.8	1.88	7	23.4	56.6	80.0	31.5	36	30.0	6.0	-0.12	7.3	16.
20.18	5.0E-05	0.06	16.1	1.18	6	14.4	57.8	72.2	35.6	32	30.0	6.0	-0.02	5.7	11.
21.16	5.0E-06	0.22	9.7	0.90	6	9.5	38.0	47.5	42.9	UnDef	UnDef	3.0	UnDef	4.6	9.
22.15	1.0E-07	0.44	7.1	1.07	6	7.5	29.8	37.3	52.1	UnDef	UnDef	3.0	UnDef	3.6	7.
23.13	5.0E-06	0.49	6.9	1.64	4	7.4	29.4	36.8	58.4	UnDef	UnDef	3.0	UnDef	3.6	7.
24.11	5.0E-06	0.45	6.9	1.89	4	7.5	30.2	37.7	60.2	UnDef	UnDef	3.0	UnDef	3.7	7.
25.10	1.0E-07	0.51	5.4	1.58	4	6.3	25.3	31.6	64.2	UnDef	UnDef	1.5	UnDef	3.1	6.
26.08	1.0E-07	0.62	4.7	1.43	4	5.8	23.2	29.0	66.5	UnDef	UnDef	1.5	UnDef	2.8	5.
27.07	1.0E-07	0.59	4.8	1.14	4	5.9	23.5	29.4	63.3	UnDef	UnDef	1.5	UnDef	2.9	5.
28.05	1.0E-07	0.58	5.2	0.92	4	6.3	25.1	31.4	58.6	UnDef	UnDef	1.5	UnDef	3.1	6.
29.04	1.0E-07	0.56	5.2	1.02	4	6.4	25.7	32.1	59.3	UnDef	UnDef	1.5	UnDef	3.1	6.
30.02	1.0E-07	0.40	6.3	0.61	6	7.4	29.7	37.1	49.2	UnDef	UnDef	3.0	UnDef	3.6	7.
31.00	1.0E-07	0.37	6.1	0.59	6	7.3	29.2	36.5	49.7	UnDef	UnDef	1.5	UnDef	3.6	7.
31.99	1.0E-07	0.38	6.3	0.41	1	7.6	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
32.97	1.0E-07	0.58	5.2	0.76	6	6.6	26.4	33.0	56.2	UnDef	UnDef	1.5	UnDef	3.2	6.
[illegible]96	1.0E-07	0.54	5.3	0.66	6	6.8	27.0	33.8	54.2	UnDef	UnDef	1.5	UnDef	3.3	
[illegible]94	1.0E-07	0.51	5.8	0.63	6	7.3	29.2	36.4	51.3	UnDef	UnDef	1.5	UnDef	3.6	
35.92	1.0E-07	0.57	5.4	1.06	4	7.0	27.8	34.8	58.9	UnDef	UnDef	1.5	UnDef	3.4	6.
36.91	5.0E-06	0.55	6.0	1.15	4	7.6	30.5	38.1	57.0	UnDef	UnDef	1.5	UnDef	3.7	7.
37.89	5.0E-06	0.56	6.3	1.12	6	8.0	32.0	40.0	55.5	UnDef	UnDef	3.0	UnDef	3.9	7.
38.88	5.0E-06	0.57	5.9	1.07	6	7.7	30.9	38.7	56.7	UnDef	UnDef	1.5	UnDef	3.8	7.
39.86	5.0E-06	0.59	6.0	1.17	4	7.9	31.7	39.7	57.3	UnDef	UnDef	1.5	UnDef	3.9	7.

40.85	5.0E-06	0.61	5.7	0.91	6	7.8	31.0	38.8	55.5	UnDef	UnDef	1.5	UnDef	3.8

Gregg In Situ, Inc.
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CPT File: 073C758.COR

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	Jc
41.83	1.0E-07	0.68	5.2	0.85	6	7.3	29.3	36.6	57.3	UnDef	UnDef	1.5	UnDef	3.6	7.
42.81	5.0E-06	0.64	5.6	0.92	6	7.8	31.1	38.9	56.3	UnDef	UnDef	1.5	UnDef	3.8	7.
43.80	5.0E-05	0.59	5.9	0.78	6	8.2	32.6	40.8	53.2	30	30.0	1.5	0.18	3.2	6.
44.78	5.0E-05	0.18	11.3	0.35	7	13.8	0.0	13.8	5.0	30	30.0	3.0	0.11	0.0	5.
45.77	5.0E-05	0.32	7.4	0.69	6	9.9	39.7	49.6	46.4	30	30.0	3.0	0.12	3.9	7.
46.75	5.0E-05	0.52	5.4	0.93	6	7.9	31.8	39.7	57.4	30	30.0	1.5	0.16	3.1	6.
47.74	5.0E-03	0.02	51.4	0.89	7	56.5	24.1	80.7	16.2	38	50.9	1.0	-0.11	3.2	17.
48.72	5.0E-02	0.00	142.9	0.58	9	154.8	0.2	155.1	5.1	44	79.8	1.0	-0.17	0.0	30.
49.70	5.0E-03	0.01	44.4	0.83	7	50.4	24.7	75.1	17.3	38	47.6	1.0	-0.09	3.2	15.
50.69	5.0E-03	0.00	71.6	0.54	9	80.7	11.9	92.5	9.8	40	61.1	1.0	-0.10	1.7	21.
51.67	5.0E-02	0.00	227.7	1.00	9	254.2	1.6	255.8	5.2	46	94.0	1.0	-0.27	0.2	49.
52.66	5.0E-02	0.00	256.5	1.19	9	289.4	5.1	294.5	5.6	46	95.0	1.0	-0.30	0.6	57.
53.64	5.0E-02	0.00	242.1	1.29	9	276.5	11.1	287.6	6.4	46	95.0	1.0	-0.30	1.3	55.
54.63	5.0E-02	0.00	218.5	1.13	9	252.6	7.9	260.6	6.1	46	93.8	1.0	-0.27	1.0	50.
55.61	5.0E-02	-0.01	189.3	1.23	9	221.6	16.1	237.7	7.5	44	90.1	1.0	-0.27	1.9	45.
56.59	5.0E-02	0.00	201.4	1.26	9	238.1	15.7	253.8	7.3	46	92.1	1.0	-0.28	1.9	48.
57.58	5.0E-02	0.00	202.6	1.16	9	242.1	11.8	253.9	6.7	46	92.6	1.0	-0.27	1.4	48.
58.56	5.0E-02	0.00	199.4	1.19	9	240.8	13.7	254.5	7.0	46	92.5	1.0	-0.27	1.6	48.
59.55	5.0E-02	0.00	167.2	1.08	9	204.4	14.4	218.8	7.5	44	87.8	1.0	-0.24	1.7	41.
60.53	5.0E-02	-0.01	134.9	0.95	9	167.0	14.9	181.9	8.1	44	82.0	1.0	-0.21	1.8	34.
61.52	5.0E-02	-0.01	94.9	0.88	9	119.4	19.3	138.7	10.2	42	72.4	1.0	-0.17	2.2	25.
62.42	5.0E-03	-0.01	59.6	0.77	9	76.7	22.8	99.5	13.6	40	59.7	1.0	-0.12	3.1	21.
63.32	5.0E-03	-0.02	40.3	0.85	7	53.1	30.5	83.6	18.7	38	49.1	1.0	-0.09	3.8	16.
64.30	5.0E-03	-0.01	59.5	0.69	9	77.8	21.0	98.7	12.9	40	60.1	1.0	-0.11	2.9	21.
65.29	5.0E-02	-0.01	67.2	0.66	9	88.3	18.3	106.6	11.4	40	63.7	1.0	-0.11	2.1	19.
[illegible].27	5.0E-03	-0.01	60.5	0.89	9	80.5	27.0	107.5	14.4	40	61.1	1.0	-0.13	3.7	
[illegible]26	5.0E-02	-0.01	68.4	0.78	9	91.4	22.3	113.7	12.3	40	64.7	1.0	-0.13	2.5	
68.24	5.0E-02	-0.01	90.9	1.04	9	121.5	26.7	148.2	11.7	42	72.9	1.0	-0.18	3.0	[illegible]
69.22	5.0E-02	0.00	128.7	0.86	9	172.3	13.9	186.2	7.8	44	82.9	1.0	-0.20	1.6	35.
70.21	5.0E-03	-0.01	53.7	1.19	7	74.2	39.3	113.5	18.0	40	58.7	1.0	-0.14	5.0	23.
71.19	5.0E-03	-0.01	44.8	1.10	7	62.8	39.6	102.4	19.5	38	53.9	1.0	-0.12	4.9	20.
72.18	5.0E-02	0.00	105.3	0.82	9	144.9	17.2	162.1	9.0	42	77.9	1.0	-0.17	2.0	30.
73.16	5.0E-02	-0.01	87.0	0.70	9	121.2	16.9	138.0	9.6	42	72.8	1.0	-0.14	2.0	25.
74.15	5.0E-02	-0.01	104.5	0.69	9	146.1	12.8	158.9	8.0	42	78.1	1.0	-0.16	1.5	30.
75.13	5.0E-03	-0.01	48.7	1.42	7	70.1	50.6	120.7	20.7	38	57.1	1.0	-0.15	6.1	23.
76.11	5.0E-06	0.27	6.2	3.32	1	11.5	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDe
77.10	5.0E-03	0.01	51.5	0.86	7	75.0	30.7	105.7	15.9	38	59.0	1.0	-0.11	4.1	22.
78.08	5.0E-03	-0.01	65.9	1.12	7	95.9	36.4	132.3	15.3	40	66.1	1.0	-0.16	4.9	28.
79.07	5.0E-05	-0.02	37.7	3.43	6	56.5	209.6	266.1	34.5	38	50.9	6.0	-0.24	21.5	43.
80.05	5.0E-04	-0.01	79.5	2.17	7	116.6	72.2	188.8	19.3	42	71.7	1.0	-0.25	12.0	50.
81.04	5.0E-05	-0.02	53.3	4.03	6	79.7	199.6	279.3	31.8	40	60.8	10.0	-0.33	25.2	56.
82.02	5.0E-05	-0.02	60.2	3.03	7	90.1	119.3	209.4	26.3	40	64.3	10.0	-0.28	19.5	54.
83.00	5.0E-04	-0.01	84.8	2.29	7	126.4	77.6	204.0	19.3	42	74.0	1.0	-0.27	12.9	54.
83.99	5.0E-04	-0.01	58.6	2.42	7	88.8	91.1	179.9	24.0	40	63.9	1.0	-0.23	13.4	42.
84.97	5.0E-03	-0.01	59.8	1.21	7	91.2	42.8	133.9	17.0	40	64.6	1.0	-0.16	5.6	27.
85.96	5.0E-05	-0.05	12.7	2.90	4	22.0	88.0	110.0	52.2	32	30.0	6.0	-0.08	8.6	17.
86.94	5.0E-05	-0.05	6.0	1.96	4	12.2	48.7	60.8	64.4	30	30.0	1.5	0.03	4.8	9.
87.93	5.0E-05	0.04	6.4	2.36	4	12.7	50.9	63.6	65.9	30	30.0	3.0	0.03	5.0	10.
88.91	5.0E-05	0.09	6.3	2.55	4	12.7	50.7	63.3	67.6	30	30.0	3.0	0.03	5.0	9.
89.89	5.0E-05	0.15	7.6	2.90	4	14.7	58.7	73.4	64.8	30	30.0	3.0	0.01	5.7	11.
90.88	5.0E-06	0.24	7.3	3.40	1	14.3	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
91.86	5.0E-05	0.29	7.0	3.20	1	14.0	UnDef	UnDef	100.0	30	30.0	3.0	0.04	UnDef	UnDe
92.85	5.0E-05	0.33	6.4	3.01	1	13.1	UnDef	UnDef	100.0	30	30.0	3.0	0.06	UnDef	UnDe
93.83	5.0E-05	0.40	6.0	3.02	1	12.5	UnDef	UnDef	100.0	30	30.0	1.5	0.08	UnDef	UnDe
94.82	5.0E-05	0.43	6.2	2.77	4	12.9	51.7	64.6	69.4	30	30.0	1.5	0.09	5.1	10.
[illegible]80	5.0E-06	0.27	9.9	3.50	1	18.8	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	
[illegible]78	5.0E-06	0.15	11.3	4.37	1	21.0	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	
97.77	5.0E-06	0.13	10.0	4.55	1	19.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
98.75	5.0E-06	0.08	9.9	4.61	1	19.0	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
99.74	5.0E-06	0.06	8.6	4.68	1	17.1	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
00.72	5.0E-06	0.08	9.7	4.35	1	18.9	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
01.70	5.0E-06	0.09	9.0	4.40	1	18.0	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe

102.69	5.0E-06	0.12	7.5	3.82	1	15.6	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
103.67	5.0E-05	0.25	7.4	3.14	1	15.5	UnDef	UnDef	100.0	30	30.0	3.0	0.03	UnDef	UnDe

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Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	
104.66	5.0E-06	0.19	8.2	3.96	1	16.8	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
105.64	5.0E-06	0.22	8.0	3.49	1	16.7	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
106.63	5.0E-06	0.26	8.3	3.59	1	17.3	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
107.61	5.0E-05	0.32	8.4	3.21	1	17.4	UnDef	UnDef	100.0	30	30.0	3.0	0.02	UnDef	UnD
108.59	5.0E-06	0.27	8.7	3.79	1	18.0	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
109.58	5.0E-06	0.21	9.0	4.08	1	18.5	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
110.56	5.0E-06	0.22	8.4	4.09	1	17.6	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
111.55	5.0E-06	0.20	8.2	3.83	1	17.5	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
112.53	5.0E-06	0.17	8.9	3.83	1	18.6	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnD
113.52	5.0E-05	0.18	9.4	3.47	1	19.7	UnDef	UnDef	100.0	30	30.0	3.0	-0.02	UnDef	UnD
114.50	5.0E-05	0.21	9.7	3.07	4	20.2	80.8	101.0	59.4	30	30.0	3.0	-0.01	7.9	15.
115.48	5.0E-05	0.20	9.2	3.24	4	19.5	77.9	97.4	61.5	30	30.0	3.0	-0.01	7.6	15.
116.47	5.0E-05	0.27	8.1	2.56	4	17.5	70.2	87.7	61.0	30	30.0	3.0	0.03	6.9	13.
117.45	5.0E-05	0.33	9.4	2.63	4	19.9	79.7	99.6	57.7	30	30.0	3.0	0.02	7.8	15.
118.44	5.0E-05	0.27	9.4	3.02	4	20.1	80.4	100.5	59.8	30	30.0	3.0	0.00	7.9	15.
119.42	5.0E-06	0.25	8.5	3.63	1	18.5	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
120.41	5.0E-05	0.29	7.9	3.27	1	17.6	UnDef	UnDef	100.0	30	30.0	3.0	0.02	UnDef	UnDe
121.39	5.0E-05	0.31	6.5	3.22	1	15.2	UnDef	UnDef	100.0	30	30.0	3.0	0.05	UnDef	UnDe
122.37	5.0E-05	0.49	5.1	2.48	4	12.7	50.8	63.5	73.2	30	30.0	1.5	0.13	5.0	9.
123.36	5.0E-05	0.62	5.0	2.25	4	12.7	50.7	63.4	71.8	30	30.0	1.5	0.16	5.0	9.
124.34	5.0E-05	0.72	4.7	2.32	4	12.2	48.9	61.2	74.0	30	30.0	1.5	0.20	4.8	9.
125.33	5.0E-05	0.65	5.2	2.18	4	13.1	52.4	65.5	70.3	30	30.0	1.5	0.17	5.1	10.
126.31	5.0E-05	0.63	5.3	1.92	4	13.3	53.0	66.3	68.0	30	30.0	1.5	0.16	5.2	10.
127.30	5.0E-05	0.66	5.2	2.14	4	13.1	52.5	65.6	70.2	30	30.0	1.5	0.17	5.1	10.
128.28	5.0E-05	0.60	5.4	2.44	4	13.6	54.3	67.9	71.2	30	30.0	1.5	0.15	5.3	10.
[illegible]26	5.0E-05	0.54	5.8	2.48	4	14.4	57.8	72.2	69.2	30	30.0	1.5	0.12	5.7	[illegible]
[illegible]25	5.0E-05	0.64	5.1	2.37	4	13.2	53.0	66.2	72.0	30	30.0	1.5	0.17	5.2	[illegible]
131.23	5.0E-05	0.71	4.7	2.10	4	12.5	49.9	62.4	72.6	30	30.0	1.5	0.20	4.9	[illegible]
132.22	5.0E-05	0.64	5.0	2.05	4	13.1	52.3	65.4	70.4	30	30.0	1.5	0.17	5.1	10.
133.20	5.0E-05	0.66	4.8	2.51	4	12.8	51.0	63.8	75.0	30	30.0	1.5	0.18	5.0	10.
134.18	5.0E-05	0.49	6.2	2.27	4	15.4	61.6	76.9	66.0	30	30.0	1.5	0.11	6.0	12.
135.17	5.0E-06	0.12	9.1	3.96	1	20.7	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
136.15	5.0E-06	0.04	9.8	4.13	1	22.2	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
137.14	5.0E-06	0.08	8.8	4.27	1	20.4	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDe
138.12	5.0E-05	0.17	7.4	3.57	1	17.8	UnDef	UnDef	100.0	30	30.0	3.0	0.01	UnDef	UnDe
139.11	5.0E-05	0.26	6.9	2.76	4	17.0	68.1	85.1	66.3	30	30.0	3.0	0.04	6.7	13.
140.09	5.0E-05	0.41	7.0	2.75	4	17.3	69.3	86.6	65.7	30	30.0	3.0	0.07	6.8	13.
141.07	5.0E-05	0.38	8.0	2.92	4	19.1	76.6	95.7	63.5	30	30.0	3.0	0.04	7.5	15.
142.06	5.0E-05	0.33	6.9	3.05	4	17.2	68.9	86.1	68.0	30	30.0	3.0	0.05	6.7	13.
143.04	5.0E-05	0.41	6.4	2.77	4	16.2	64.9	81.1	68.6	30	30.0	3.0	0.08	6.3	12.
144.03	5.0E-05	0.40	7.3	2.90	4	18.1	72.4	90.5	65.6	30	30.0	3.0	0.06	7.1	14.
145.01	5.0E-05	0.46	6.6	2.60	4	16.8	67.2	84.0	66.4	30	30.0	3.0	0.09	6.6	13.
146.00	5.0E-05	0.45	6.9	2.74	4	17.5	69.8	87.3	66.1	30	30.0	3.0	0.08	6.8	13.
146.98	5.0E-05	0.43	7.4	2.92	4	18.3	73.4	91.7	65.6	30	30.0	3.0	0.07	7.2	14.
147.96	5.0E-05	0.44	6.9	2.85	4	17.5	70.1	87.7	66.9	30	30.0	3.0	0.08	6.9	13.
148.95	5.0E-05	0.41	7.3	2.88	4	18.3	73.2	91.5	65.7	30	30.0	3.0	0.06	7.2	14.
149.93	5.0E-05	0.45	7.1	2.89	4	18.1	72.4	90.5	66.2	30	30.0	3.0	0.07	7.1	14.
150.92	5.0E-05	0.48	6.7	2.41	4	17.3	69.0	86.3	65.0	30	30.0	3.0	0.09	6.8	13.
151.90	5.0E-05	0.43	7.1	2.70	4	18.1	72.6	90.7	65.2	30	30.0	3.0	0.07	7.1	14.
152.89	5.0E-05	0.37	7.6	2.94	4	19.1	76.4	95.5	65.0	30	30.0	3.0	0.05	7.5	15.
153.87	5.0E-05	0.44	6.5	2.81	4	17.0	68.0	85.0	68.4	30	30.0	3.0	0.08	6.7	13.
154.85	5.0E-05	0.39	6.4	2.74	4	16.8	67.4	84.2	68.4	30	30.0	3.0	0.08	6.7	13.
155.84	5.0E-05	0.49	6.0	2.39	4	16.2	64.7	80.9	67.8	30	30.0	1.5	0.11	6.4	12.
156.82	5.0E-05	0.48	5.8	2.59	4	15.8	63.3	79.1	70.1	30	30.0	1.5	0.11	6.3	12.
157.81	5.0E-05	0.52	6.1	2.24	4	16.6	66.2	82.8	66.1	30	30.0	1.5	0.11	6.6	13.
[illegible]79	5.0E-05	0.24	7.4	3.28	1	19.1	UnDef	UnDef	100.0	30	30.0	3.0	0.02	UnDef	
[illegible]77	5.0E-05	0.28	7.7	3.39	1	19.8	UnDef	UnDef	100.0	30	30.0	3.0	0.03	UnDef	
160.76	5.0E-05	0.46	6.1	2.98	1	16.6	UnDef	UnDef	100.0	30	30.0	1.5	0.10	UnDef	UnDe
161.74	5.0E-05	0.61	4.5	2.68	4	13.5	54.2	67.7	77.8	30	30.0	1.5	0.17	5.5	10.
162.73	5.0E-05	0.61	4.8	1.97	4	14.0	56.1	70.1	71.2	30	30.0	1.5	0.17	5.7	11.
163.71	5.0E-05	0.63	4.8	1.97	4	14.1	56.5	70.6	71.1	30	30.0	1.5	0.17	5.7	11.
164.70	5.0E-05	0.62	4.7	1.89	4	14.0	56.2	70.2	70.8	30	30.0	1.5	0.17	5.7	11.

165.68	5.0E-05	0.58	4.7	2.07	4	14.1	56.2	70.3	72.3	30	30.0	1.5	0.16	5.8
166.66	5.0E-05	0.62	4.5	1.89	4	13.7	54.7	68.4	72.2	30	30.0	1.5	0.18	5.6

Gregg In Situ, Inc.

Run No: 02-0627-1626-5176

CPT File: 073C758.COR

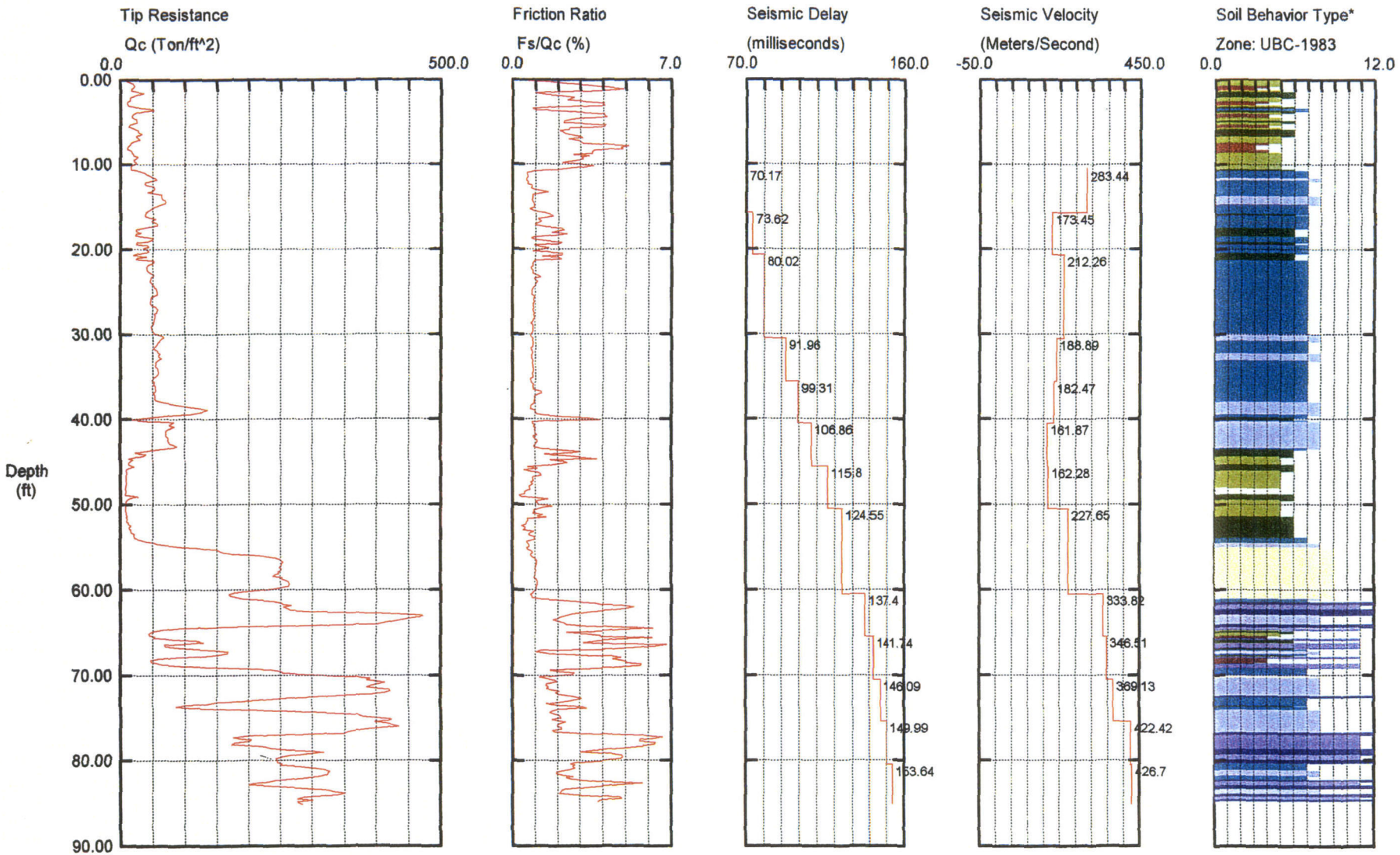
Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	()
167.65	5.0E-05	0.50	4.8	2.44	4	14.2	56.9	71.2	74.7	30	30.0	1.5	0.14	5.9	11.
168.71	5.0E-05	0.60	4.5	1.85	4	13.7	55.0	68.7	71.9	30	30.0	1.5	0.17	5.7	11.
169.78	5.0E-05	0.70	4.3	1.80	4	13.3	53.2	66.5	73.1	30	30.0	1.5	0.21	5.5	11.
170.76	5.0E-05	0.74	4.1	1.87	4	13.0	52.1	65.1	74.8	30	30.0	1.5	0.23	5.4	10.
171.75	5.0E-05	0.68	4.3	2.05	4	13.5	53.9	67.4	74.8	30	30.0	1.5	0.20	5.6	11.
172.73	5.0E-05	0.69	4.3	2.17	4	13.5	53.9	67.3	75.9	30	30.0	1.5	0.20	5.6	11.
173.72	5.0E-05	0.52	5.5	2.62	4	16.0	64.0	80.0	71.9	30	30.0	1.5	0.12	6.7	13.
174.70	5.0E-05	0.60	4.9	2.61	4	14.9	59.6	74.5	74.9	30	30.0	1.5	0.16	6.3	12.
175.68	5.0E-05	0.69	4.0	2.52	4	12.9	51.5	64.4	81.0	30	30.0	1.5	0.21	5.4	10.
176.67	5.0E-05	0.34	5.4	3.54	1	15.9	UnDef	UnDef	100.0	30	30.0	1.5	0.08	UnDef	UnDe
177.65	5.0E-05	0.43	5.0	3.09	1	15.1	UnDef	UnDef	100.0	30	30.0	1.5	0.11	UnDef	UnDe
178.64	5.0E-05	0.41	5.1	2.53	4	15.5	62.1	77.6	73.1	30	30.0	1.5	0.11	6.6	13.
179.62	5.0E-05	0.46	5.0	2.44	4	15.2	60.9	76.1	73.4	30	30.0	1.5	0.12	6.5	13.
180.60	5.0E-05	0.45	5.0	2.93	1	15.2	UnDef	UnDef	100.0	30	30.0	1.5	0.12	UnDef	UnDe
181.59	5.0E-05	0.09	10.3	3.99	1	26.6	UnDef	UnDef	100.0	30	30.0	3.0	-0.06	UnDef	UnDe
182.57	1.0E-15	-0.07	15.1	6.14	1	37.0	UnDef	UnDef	100.0	32	38.8	1.0	-0.30	UnDef	UnDe

oil behavior type and S ed on data from UBC-1983

HUSHM ND ASSOC.

Operator: ALAMEDA NAS #2
Sounding: SDF128
Cone Used: 472/GO-VO/R#4

CPT Date/Time: 02-21-02 08:15
Location: CPT-06Seis
Job Number: 010810



Maximum Depth = 85.14 feet

Depth Increment = 0.16 feet

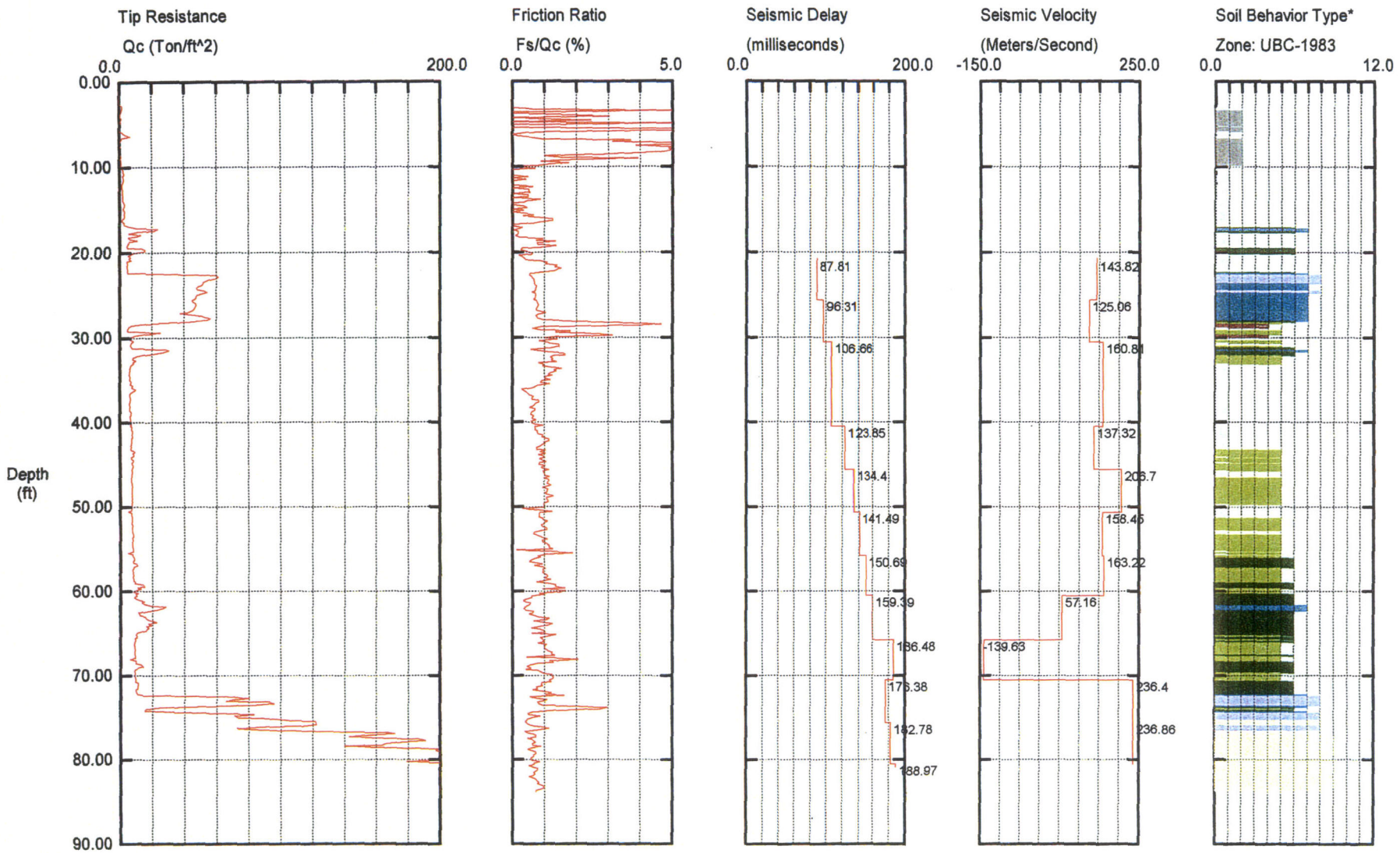
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

Soil behavior type and SPT based on data from UBC-1983

HUSHMAND ASSOC.

Operator: Alameda NAS#2
Sounding: SDF137
Cone Used: 472/GO-VO/R#4

CPT Date/Time: 02-22-02 07:28
Location: CPT-13Seis
Job Number: 010810



Maximum Depth = 84.15 feet

Depth Increment = 0.16 feet

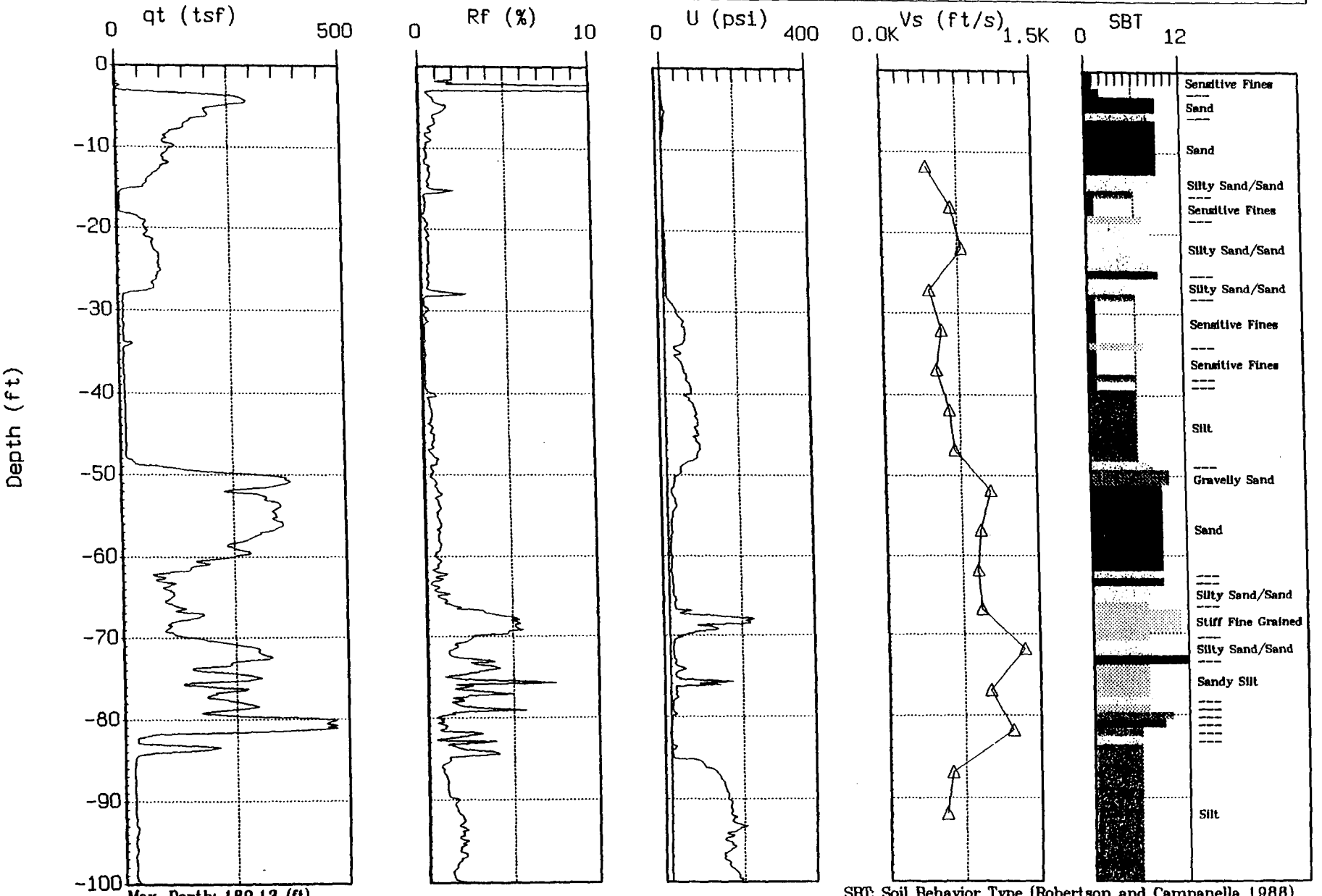
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

GREGG

HUSHMAND ASSOCS.

Site : ALAMEDA N.A.S.
Location : CPT-753

Engineer : P. MOORE
Date : 06:21:02 12:17



Max. Depth: 189.13 (ft)

Depth Inc.: 0.164 (ft)

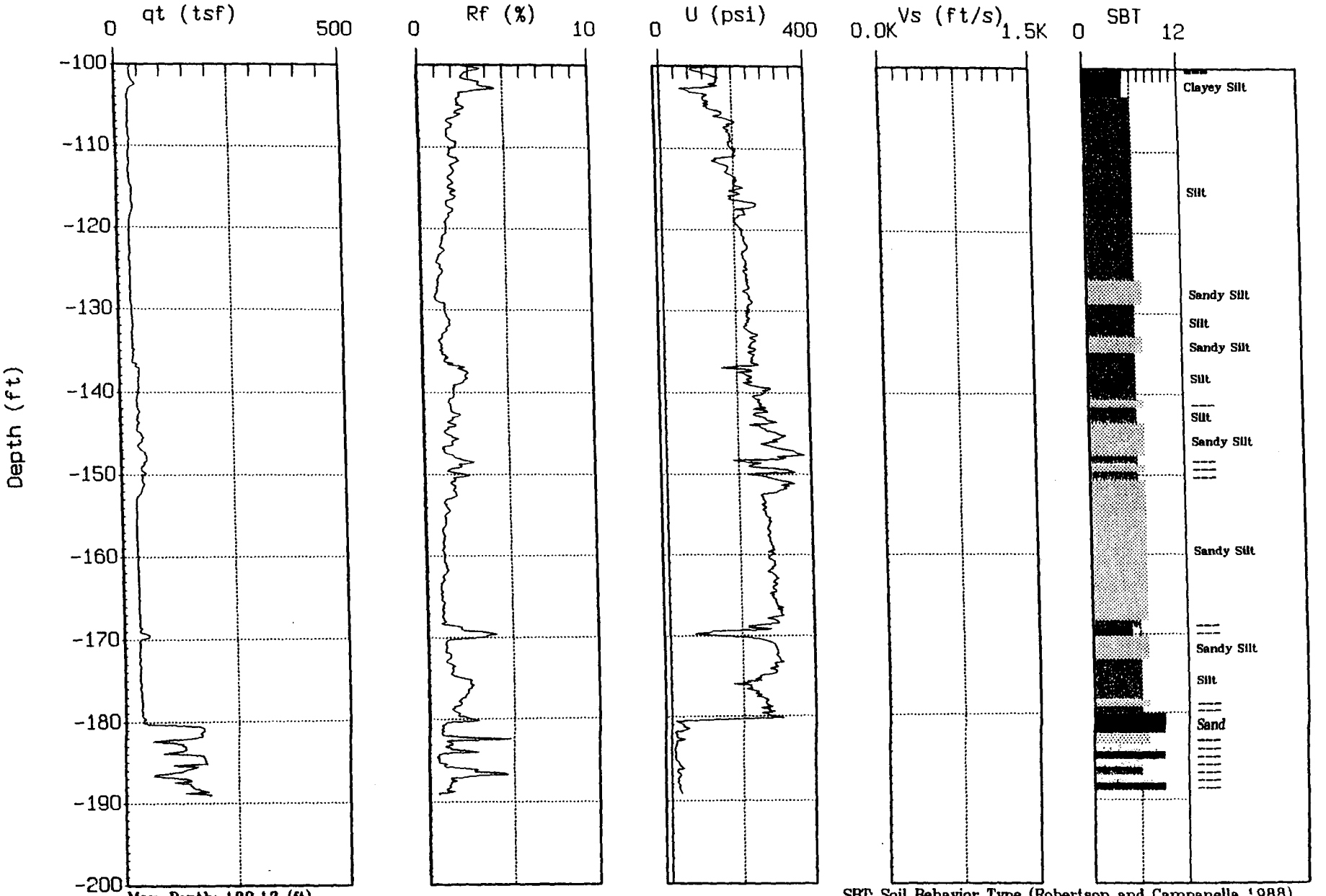
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

HUSHMAND ASSOCS.

Site : ALAMEDA N.A.S.
Location : CPT-753

Engineer : P. MOORE
Date : 06:21:02 12:17



Max. Depth: 189.13 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

APPENDIX C

BORING LOGS/
METAL AVOIDANCE CLEARANCE LOGS

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING B-2-7

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 471,881.36 Feet (CCS27 Zone 3)
Date Started: February 14, 2002	Easting: 1,472,780.20 Feet (CCS27 Zone 3)
Date Completed: February 14, 2002	Ground Surface Elevation: 16.85 Feet MSL, NGVD 29
Total Depth: 23.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1–10		Boring located approximately 11 feet above grade on berm, began UXO clearance at 11 feet		SM		Artificial Fill Sandy Silt / Clay, grey, no odor	16, 14, 12, 10, 8
11	1425	Installed PVC at 11 feet - UXO cleared to 15 feet					6
12–13				R		Refuse, consisting of paper and wood in a dark grey silt matrix	4
14–15	0700	Installed PVC at 15 feet - UXO cleared to 19 feet		ML		Sandy Silt / Clay, grey, no odor, wet soil encountered at 19 feet	2
16–18						Groundwater encountered at 19 feet bgs.	0
19	0810	Installed PCV at 19 feet, UXO cleared to 23 feet.	▼				-2
20–22				SP		Sand, fine-grained, grey, no refuse or odor	-4
23	0852	Installed PCV at 23 feet, UXO cleared to 27 feet.					-6
24–29						Boring terminated by field geologist at 23 feet bgs No refuse encountered at total depth - UXO cleared Groundwater encountered at approximately 19 feet bgs Soil boring backfilled with bentonite grout	-8, -10, -12

Notes: Boring Log Reviewed By: V. Richards 7/26/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum
SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING B-2-7A

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,897.59 Feet (CCS27 Zone 3)
Date Started: March 13, 2002	Easting: 1,472,721.18 Feet (CCS27 Zone 3)
Date Completed: March 13, 2002	Ground Surface Elevation: 8.53 Feet MSL, NGVD 29
Total Depth: 51.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1, 2, 3				SP-SM		Artificial Fill Sandy Silt / Silty Sand: olive brown	8, 6
4	0750	Installed PVC at 4 feet - UXO cleared to 8 feet					4
5	0812	Encountered refuse at 5 feet, dark gray sandy silt with wire and decomposing wood		R		Sand Silt: refuse present in form of telephone wire, decomposed wood and rags. Refuse zone approximately 5 to 10 feet bgs.	2
8	0825	Installed PVC at 8 feet - UXO cleared to 12 feet	▼			Groundwater encountered at 8 feet bgs.	0
11				SP		Poorly Graded Sand: fine grained, dark greenish grey (5BG 4/1)	-2
12	0840	Installed PVC at 12 feet - UXO cleared to 16 feet					-4
15							-6
17							-8
18, 19						Boring terminated by field geologist at 16 feet No refuse encountered at total depth Groundwater encountered at approximately 8 feet Boring backfilled with bentonite grout	-10

Notes: Boring Log Reviewed By: V. Richards 7/30/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum
SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING B-2-12

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 473,453.12 Feet (CCS27 Zone 3)
Date Started: February 13, 2002	Easting: 1,471,403.97 Feet (CCS27 Zone 3)
Date Completed: February 13, 2002	Ground Surface Elevation: 4.57 Feet MSL, NGVD 29
Total Depth: 24.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1		Hand Auger 0feet to 4 feet bgs, UXO clear		SM		ARTIFICIAL FILL AND REFUSE 0 to 16 feet:	4
2						REFUSE: Wood, concrete, wire and other construction debris in matrix of silty sand, soil dark blueish grey (5B 4/1), saturated at 3 feet bgs.	2
3			▼				
4	0814	Installed PVC at 4 feet - UXO cleared to 8 feet					0
5							
6						REFUSE: Wood, concrete, wire and other construction debris in matrix of silty sand, soil dark blueish grey (5B 4/1)	-2
7							
8	0821	Installed PVC at 8 feet - UXO cleared to 12 feet					-4
9							
10							-6
11						REFUSE: Wood, concrete, wire and other construction debris in matrix of silty sand, soil dark blueish grey (5B 4/1)	
12	0854	Installed PVC at 12 feet - UXO cleared to 16 feet					-8
13							
14							-10
15							
16	0919	Installed PVC at 16 feet - UXO cleared to 20 feet					-12
17							
18				SM		SILTY SAND: Fine sand with high plastic fines, dark blueish grey (5B 4/1)	-14
19							
20	0957	Installed PVC at 20 feet - UXO cleared to 24 feet					-16
21							
22							-18
23							
24		This UXO boring also utilized for the clearance of C-2-14					-20
25							
26						Boring terminated by field geologist at 24 feet No refuse encountered at total depth Groundwater encountered at approximately 3 feet Boring backfilled with bentonite grout	-22
27							
28							-24
29							

Notes: Boring Log Reviewed By: V. Richards 8/6/02

bgs = below ground surface

MSL = mean sea level

CCS27 = California Coordinate System 27

NGVD = National Geodetic Vertical Datum

SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING B-2-11

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: February 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: February 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 16.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	0742	Boring augered to 6-inches - UXO cleared		GP		Asphalt Base Material slight hydrocarbon odor	
1							
2	0752	UXO cleared at 2 feet					6
3				ML		Sandy Silt: gray, wet, fine grain sand with minor amounts of wood and roots	
4	0817	Installed PVC at 4 feet - UXO cleared to 8 feet					4
5							
6			▼				
7						Groundwater encountered at approximately 6 feet bgs	
8	0828	Installed PVC at 8 feet - UXO cleared to 12 feet					0
9						Fine gray sand / no refuse	
10							-2
11							
12	0846	Installed PVC at 12 feet - UXO cleared to 16 feet					-4
13						Wet, fine gray sand / no refuse	
14							-6
15							
16	0912	Installed PVC at 16 feet - UXO cleared to 20 feet					-8
17						Boring terminated by field geologist at 16 feet No refuse encountered in entire borehole - UXO cleared Groundwater encountered at approximately 6 feet bgs Boring backfilled with bentonite grout	
18							-10
19							-12

Notes: Boring Log Reviewed By: V. Richards 7/26/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum
SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-1

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 471,714.16 Feet (CCS27 Zone 3)
Date Started: February 15, 2002	Easting: 1,472,726.31 Feet (CCS27 Zone 3)
Date Completed: February 15, 2002	Ground Surface Elevation: 16.55 Feet MSL, NGVD 29
Total Depth: 26.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1, 2, 3, 4, 5, 6, 7, 8	0731	Boring located approximately 10 feet above grade on berm, began UXO clearance at 10 feet		SM		Artificial Fill Sandy Silt / Silty Sand: olive brown	16, 14, 12, 10, 8
9, 10, 11, 12, 13, 14, 15, 16, 17, 18	0754 0826	Encountered refuse at 9 feet, dark gray sandy silt with wire and decomposing wood Installed PVC at 10 feet - UXO cleared to 14 feet Installed PVC at 14 feet - UXO cleared to 18 feet	▼	R		Silty Sand: dark gray, refuse is present consisting of cloth, plastic, no free water Groundwater encountered at approximately 10 feet bgs	6, 4, 2, 0
19, 20, 21, 22, 23, 24, 25, 26	0836 0856 0920	Installed PVC at 18 feet - UXO cleared to 22 feet Installed PVC at 22 - UXO cleared to 26 feet Installed PVC - UXO cleared to 30 feet		SP		Poorly graded wet sand	-2, -4, -6, -8
27, 28, 29						Boring terminated by field geologist at 26 feet No refuse encountered at total depth Groundwater encountered at approximately 10 feet Boring backfilled with bentonite grout	-10, -12

Notes: Boring Log Reviewed By: V. Richards 7/26/02

bgs = below ground surface

MSL = mean sea level

CCS27 = California Coordinate System 27

NGVD = National Geodetic Vertical Datum

SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-2

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 471,724.17 Feet (CCS27 Zone 3)
Date Started: February 15, 2002	Easting: 1,472,551.35 Feet (CCS27 Zone 3)
Date Completed: February 15, 2002	Ground Surface Elevation: 16.98 Feet MSL, NGVD 29
Total Depth: 20.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1	1005	Boring located approximately 8 feet above grade on berm, began UXO clearance at 8 feet		SM		Artifical Fill Silty Sand / Sandy Silt: dark olive brown to dark grey, fine grained, slight moisture	16
2							
3							14
4							
5							12
6							
7							10
8	1015	Installed PVC at 8 feet - UXO cleared to 12 feet					
9	1048	Refuse, encountered a large concrete obstruction at a depth of 12 feet, moved off, relocated and drilled to 12 feet bgs		R		Refuse, black soil matrix	8
10							
11							6
12	1102	Installed PVC at 12 feet - UXO cleared to 16 feet	▼			Encountered groundwater at 12 feet bgs	
13							4
14							
15				SP		Poorly Graded Sand: fine grain sand, wet	2
16	115	Installed PVC at 16 feet - UXO cleared to 20 feet					
17							0
18							
19							-2
20	1130	Installed PVC to 20 feet - UXO cleared to 24 feet					
21						Boring terminated by field geologist at 20 feet No refuse encountered at total depth - UXO cleared Groundwater encountered at approximatly 12 feet bgs Boring backfilled with bentonite grout	-4
22							
23							-6
24							

Notes: Boring Log Reviewed By: V. Richards 7/26/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum
SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-3

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 471,779.58 Feet (CCS27 Zone 3)
Date Started: February 12, 2002	Easting: 1,471,948.14 Feet (CCS27 Zone 3)
Date Completed: February 12, 2002	Ground Surface Elevation: 16.12 Feet MSL, NGVD 29
Total Depth: 22.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	1330	Boring located approximately 10 feet above grade on berm, began UXO clearance at 10 feet		GP		~~Surface soil consists of rock, gravel, and asphalt debris~~	
1–4				SM		Artifical Fill Silty Sand: Olive brown, slightly moist, fine grian sand	14, 12
5	1333						
6–7							10
8–9				ML		Artifical Fill Silt: dark brown, plastic	8
10	1350	Install PVC at 10 feet, UXO cleared to 14 feet					6
11–12							4
13				SM		Artifical Fill Silty Sand / Sandy Silty	
14	1421	Install PVC at 14 feet, UXO cleared to 18 feet, rig down for repair					2
15	1442	Resumed Drilling	▼			Wet soil conditions, groundwater encountered at approximately 15 feet below ground surface	
16–17							0
18	1449	Installed PVC at 18 feet - UXO cleared to 22 feet					-2
19–20							-4
21				SP		Clean Sand: dark olive brown	
22	1510	Installed PVC at 22 feet - UXO cleared to 26 feet, no refuse encountered at depth					-6
23–24						Boring terminated by field geologist at 22 feet No refuse encountered in entire borehole - UXO cleared Groundwater encountered at approximately 15 feet bgs Boring backfilled with bentonite grout	-8

Notes: Boring Log Reviewed By: V. Richards 7/26/02

bgs = below ground surface

MSL = mean sea level

CCS27 = California Coordinate System 27

NGVD = National Geodetic Vertical Datum

SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-5

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 471,825.97 Feet (CCS27 Zone 3)
Date Started: February 12, 2002	Easting: 1,471,353.29 Feet (CCS27 Zone 3)
Date Completed: February 12, 2002	Ground Surface Elevation: 15.84 Feet MSL, NGVD 29
Total Depth: 26.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1–9		Boring located approximately 10 feet above grade on berm, began UXO clearance at 10 feet		SP SM		Artifical Fill Poorly graded sand with silt, fine grain, olive brown, trace medium coarse gravel. Silty sand, fine grain, olive brown, clean	14, 12, 10, 8
10	1023	Installed PVC at 10 feet - UXO cleared to 14 feet					6
11–12			▼	SP		Poorly graded sand, olive brown, wet, clean Groundwater encountered at approximately 12 feet bgs	4
13–14	1041	Installed PVC at 14 feet - UXO cleared to 18 feet					2
15–16							0
17–18	1107	Installed PVC at 18 feet - UXO cleared to 22 feet					-2
19–20							-4
21–22	1120	Installed PVC at 22 feet - suspected metal anomaly, drilled to 26 feet to verify					-6
23–24							-8
25–26	1206	No debris observed in soil cuttings, UXO cleared to 30 feet					-10
27–29						Boring terminated by field geologist at 26 feet No refuse encountered in entire borehole - UXO cleared Groundwater encountered at approximately 12 feet bgs Boring backfilled with bentonite grout	-12

Notes: Boring Log Reviewed By: V. Richards 7/26/02

bgs = below ground surface

MSL = mean sea level

CCS27 = California Coordinate System 27

NGVD = National Geodetic Vertical Datum

SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-8

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 472,313.73 Feet (CCS27 Zone 3)
Date Started: February 12, 2002	Easting: 1,470,918.73 Feet (CCS27 Zone 3)
Date Completed: February 12, 2002	Ground Surface Elevation: 16.14 Feet MSL, NGVD 29
Total Depth: 24.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1–29		Boring located approximately 12 feet above grade on dike, began UXO clearance at 12 feet		SP ML		Artifical Fill Poorly Graded Sand with Silt, fine grain, olive brown, trace medium coarse gravel. Silt/Sandy Silt with shell fragments, dark olive brown	14, 12, 10, 8
12	1559	Installed PVC at 12 feet - UXO cleared to 16 feet		ML		Silt/Sandy Silt with shell fragments, dark olive brown	6, 4
16	1618	Installed PVC at 16 feet - UXO cleared to 20 feet	▼	SP		Poorly Graded Sand, olive brown, fine grain, clean, saturated at 18 feet bgs silty sand	2, 0, -2
20	1633	Installed PVC at 20 feet - UXO cleared to 24 feet					-4, -6
24	1650	Installed PVC at 24 feet - UXO cleared to 28 feet				Boring terminated by field geologist at 24 feet No refuse encountered in entire borehole - UXO cleared Groundwater encountered at approximately 18 feet bgs Boring backfilled with bentonite grout	-8, -10, -12

Notes: Boring Log Reviewed By: V. Richards 7/26/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum
SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-12A On Berm redo

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 473,912.00 Feet (CCS27 Zone 3)
Date Started: February 14, 2002	Easting: 1,471,133.00 Feet (CCS27 Zone 3)
Date Completed: February 14, 2002	Ground Surface Elevation: 16.34 Feet MSL, NGVD 29
Total Depth: 22.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1	1115	Boring located approximately 10 feet above grade on berm, began UXO clearance at 10 feet		SM		Artifical Fill Silty Sand / Sandy Silt: dark olive brown to dark grey, fine grained, slight moisture	16
2							
3							14
4							
5							12
6							
7							10
8							
9							8
10	1135	Installed PVC at 10 feet - UXO cleared to 14 feet					
11							6
12			▼			Groundwater encountered at approximately 12 feet bgs	
13				R		Refuse, consists of cloth and wood in a dark brown matrix of silt and sand	4
14	1150	Installed PVC at 14 feet - UXO cleared to 18 feet					
15				SM		Silty Sand / Poorly Graded Sand	2
16							
17							0
18	1210	Installed PVC at 18 feet - UXO cleared to 22 feet					
19							-2
20							
21						Silty Sand	-4
22	1236	Installed PVC at 22 feet - UXO cleared to 26 feet					-6
23							
24						Boring terminated by field geologist at 22 feet No refuse encountered at total depth - UXO cleared Groundwater encountered at approximally 12 feet bgs Boring backfilled with bentonite grout	-8
25							
26							-10
27							
28							-12
29							

Notes: Boring Log Reviewed By: V. Richards 7/26/02

bgs = below ground surface

MSL = mean sea level

CCS27 = California Coordinate System 27

NGVD = National Geodetic Vertical Datum

SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-13

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 474,177.97 Feet (CCS27 Zone 3)
Date Started: February 14, 2002	Easting: 1,471,234.19 Feet (CCS27 Zone 3)
Date Completed: February 14, 2002	Ground Surface Elevation: 6.41 Feet MSL, NGVD 29
Total Depth: 16.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1	0945			SM		Artifical Fill Fine sand with silt, topsoil	6
2–6	1007	Installed PVC at 4 feet - UXO cleared to 8 feet	▼	R		Refuse, consisting of bolts, plasic, wood in an oxidized reddish brown silty sand matrix	4, 2, 0
8	1014	Installed PVC at 8 feet - UXO cleared to 12 feet		SM		Silty Sand: grey, fine grained	-2
12	1029	Installed PCV at 12 feet, UXO cleared to 16 feet.					-4, -6
16	1045	Installed PCV at 16 feet, UXO cleared to 20 feet.					-8
17–19						Boring terminated by field geologist at 16 feet bgs No refuse encountered at total depth - UXO cleared Groundwater encountered at approximately 6 feet bgs Soil boring backfilled with bentonite grout	-10, -12

Notes: Boring Log Reviewed By: V. Richards 7/26/02

bgs = below ground surface

MSL = mean sea level

CCS27 = California Coordinate System 27

NGVD = National Geodetic Vertical Datum

SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-2-15A

(Sheet 1 of 1)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter:
Geologist/Engineer: V. Richards	Northing: 474,512.54 Feet (CCS27 Zone 3)
Date Started: February 14, 2002	Easting: 1,471,266.68 Feet (CCS27 Zone 3)
Date Completed: February 14, 2002	Ground Surface Elevation: 6.84 Feet MSL, NGVD 29
Total Depth: 16.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1–2				GP		Artifical Fill Base road	6
3–6	1511	Installed PVC at 4 feet - UXO cleared to 8 feet	▼	R		Refuse, consisting of bolts, plasic, wood in an oxidized reddish brown silty sand matrix	4, 2
7–15	1522 1541	Installed PVC at 8 feet - UXO cleared to 12 feet Installed PVC at 12 feet - UXO cleared to 16 feet		SP		SAND: Fine grey sand, minor cuttings due to high water table	0, -2, -4, -6, -8
16–19	1606	Installed PVC at 16 feet - UXO cleared to 20 feet				Boring terminated by field geologist at 16 feet bgs No refuse encountered at total depth - UXO cleared Groundwater encountered at approximately 4 feet bgs Soil boring backfilled with bentonite grout	-10, -12

Notes: Boring Log Reviewed By: V. Richards 7/26/02

bgs = below ground surface

MSL = mean sea level

CCS27 = California Coordinate System 27

NGVD = National Geodetic Vertical Datum

SWDIV = Southwest Division Naval Facilities Engineering Command

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF UXO BORING C-682 On Berm redo

(Sheet 1 of 2)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Hollow-Stem Auger
Project Number: 1990.054D	Sampling Method: Not applicable (see log)
Location: Installation Restoration Site 2	Borehole Diameter: 8 in.
Geologist/Engineer: V. Richards	Northing: 473,351.39 Feet (CCS27 Zone 3)
Date Started: February 13, 2002	Easting: 1,471,036.27 Feet (CCS27 Zone 3)
Date Completed: February 13, 2002	Ground Surface Elevation: 4.90 Feet MSL, NGVD 29
Total Depth: 20.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Comments	Water Level	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1	1440	Boring located approximately 12 feet above grade on dike, began UXO clearance at 12 feet		SM		Artifical Fill Fine sand with silt / silty sand, dark olive brown	4
2							
3							2
4							
5							0
6				ML		SILT: dark black, moderate plasticity, moderately moist	
7							-2
8							
9							-4
10				SM		Silty Sand grey, native soil	
11							-6
12	1503	Installed PVC at 12 feet - UXO cleared to 16 feet					
13							-8
14							
15			▼			Groundwater encountered at approximately 15 feet	-10
16	1520	Installed PVC at 16 feet, UXO detects hit but no evidence of debris in soil cuttings and no difficulty in drilling; therefor decided to continue cautiously, UXO cleared to 20 feet					
17							-12
18							
19							-14

Notes: Boring Log Reviewed By: V. Richards 7/26/02

bgs = below ground surface

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SWDIV = Southwest Division Naval Facilities Engineering Command

APPENDIX C – BORING LOGS/ METAL AVOIDANCE CLEARANCE LOGS

LOG OF UXO BORING C-682 ON BERM REDO SHEET 2 OF 2

FINAL ORDNANCE AND EXPLOSIVES WASTE/ GEOTECHNICAL CHARACTERIZATION REPORT

THE ABOVE IDENTIFIED SHEET IS NOT AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY NAVFAC SOUTHWEST TO LOCATE THIS SHEET. THIS PAGE HAS BEEN INSERTED AS A PLACEHOLDER AND WILL BE REPLACED SHOULD THE MISSING ITEM BE LOCATED.

QUESTIONS MAY BE DIRECTED TO:

DIANE C. SILVA
RECORDS MANAGEMENT SPECIALIST
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 532-3676

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-1

(Sheet 1 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,492.67 Feet (CCS27 Zone 3)
Date Started: December 17, 2001	Easting: 1,472,681.90 Feet (CCS27 Zone 3)
Date Completed: December 17, 2001	Ground Surface Elevation: -17.40 Feet MSL, NGVD 29
Total Depth: 51.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
				Mudline 17.4 feet below waterline			**UNNAMED SAND/ FILL UNIT 0 to 51.5 feet:**	-18
1							SANDY SILT: Low to medium plastic fines with fine sand, grey/black	
2								
3								-20
4								
5	1250		095-02-001 3"x30" ss sleeve	ST sample 100% recovery easy push	ML			-22
6								
7							SANDY SILT: Low to medium plastic fines with fine sand, grey/black	-24
8								
9								-26
10	1305	7 11 12	095-02-002 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine to medium sand with low plastic fines, brown, loose to medium dense	-28
11								
12								-30
13								
14								-32
15	1340	6 4 4	095-02-003 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		Sand: Same as above, loose	
16								-34
17								
18								-36
19								

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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NGVD = National Geodetic Vertical Datum

SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

2384-SOIL LOG DO95.GPJ FSTRW_SA.GDT 8/6/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-1

(Sheet 2 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,492.67 Feet (CCS27 Zone 3)
Date Started: December 17, 2001	Easting: 1,472,681.90 Feet (CCS27 Zone 3)
Date Completed: December 17, 2001	Ground Surface Elevation: -17.40 Feet MSL, NGVD 29
Total Depth: 51.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	1400	11 14 14	095-02-004 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine to medium sand with low plastic fines, brown, loose, appears silt % decreasing	-38
22								
23								-40
24								
25	1405	10 27 35	095-02-005 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			Sand: Same as above, loose	-42
26								
27								-44
28								
29								-46
30	1420	9 16 23	095-02-006 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine to medium sand with low plastic fines, brown, loose to medium dense, contains feldsic clast	-48
31								
32								-50
33								
34								-52
35	1440	22 43 27	095-02-007	MC sample slid from sleeve and disturbed placed in bag				
36					ML		SANDY SILT: Low to medium plastic fines with fine to medium sand, brown, dense	-54
37								
38								-56
39								

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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NGVD = National Geodetic Vertical Datum

SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-1

(Sheet 3 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,492.67 Feet (CCS27 Zone 3)
Date Started: December 17, 2001	Easting: 1,472,681.90 Feet (CCS27 Zone 3)
Date Completed: December 17, 2001	Ground Surface Elevation: -17.40 Feet MSL, NGVD 29
Total Depth: 51.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41	1450	6 13 18	095-02-008 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine to medium sand with low plastic fines, brown, loose to medium dense, contains feldsic clast	-58
42								
43								-60
44								
45	1505	11 15 16	095-02-009 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			Sand: Same as above	-62
46								
47								-64
48								
49								-66
50	1525	8 13 22	095-02-008 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine to medium sand with low plastic fines, brown, loose to medium dense, contains feldsic clast	-68
51								
52							Terminate borehole at 50 feet below mudline, sample to 51.5 feet below mudline	-70
53								
54								-72
55								
56								-74
57								
58								-76
59								

Notes: Boring Log Reviewed By: V. Richards 7/16/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum

SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

2384-SOIL LOG DO95.GPJ FSTRW_SA.GDT 8/8/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-2

(Sheet 1 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,580.26 Feet (CCS27 Zone 3)
Date Started: December 21, 2001	Easting: 1,471,885.60 Feet (CCS27 Zone 3)
Date Completed: December 21, 2001	Ground Surface Elevation: -20.25 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1				Mudline 20.25 feet below waterline			**UNNAMED SAND/ FILL UNIT 0 to 61.5 feet:**	
2							SANDY SILT/ SILTY SAND: High plastic fines with fine sand, grey/black	-22
3								
4								-24
5	1630		095-02-041 3"x30" ss sleeve	ST sample 100% recovery easy push	SM/ML		SILTY SAND/SANDY SILT	-26
6								
7								-28
8								
9								-30
10	1640	3 6 10	095-02-042 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		SAND: Fine sand with low plastic fines, grey/black, medium dense	-32
11								
12								-34
13								
14								
15	1655	6 3 5	095-02-043 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SM		SILTY SAND: Fine sand with medium plastic fines, grey/brown, some oxidation staining	-36
16								
17								-38
18								
19								-40

Notes: Boring Log Reviewed By: V. Richards 7/16/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum

SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-2

(Sheet 2 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,580.26 Feet (CCS27 Zone 3)
Date Started: December 21, 2001	Easting: 1,471,885.60 Feet (CCS27 Zone 3)
Date Completed: December 21, 2001	Ground Surface Elevation: -20.25 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	1700	6 8 11	095-02-044 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, brown	
22								-42
23								
24								-44
25	1710	7 9 14	095-02-045 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand with trace low plastic fines, brown	
26								-46
27								
28								-48
29								
30								-50
31							SAND: Fine sand with trace low plastic fines, brown	
32								-52
33								
34								-54
35	1725	6 12 12	095-02-046 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand with trace low plastic fines, brown, moderately dense	
36								-56
37								
38								-58
39								
								-60

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum

SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-2

(Sheet 3 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,580.26 Feet (CCS27 Zone 3)
Date Started: December 21, 2001	Easting: 1,471,885.60 Feet (CCS27 Zone 3)
Date Completed: December 21, 2001	Ground Surface Elevation: -20.25 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41	1745	12 18 21	095-02-047 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand with trace low plastic fines, brown, moderately dense	
42								-62
43								
44								-64
45								
46								-66
47								
48								-68
49								
50	1755	13 20 23	095-02-048 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, grey brown, moderately dense	-70
51								
52								-72
53								
54								-74
55								
56								-76
57								
58								-78
59								
								-80

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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NGVD = National Geodetic Vertical Datum

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MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-2

(Sheet 4 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,580.26 Feet (CCS27 Zone 3)
Date Started: December 21, 2001	Easting: 1,471,885.60 Feet (CCS27 Zone 3)
Date Completed: December 21, 2001	Ground Surface Elevation: -20.25 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61	1815	18 36 50	095-02-049 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, grey brown, moderately dense	
62							Terminate borehole at 60 feet below mudline, sample to 61.5 feet below mudline	-82
63								
64								-84
65								
66								-86
67								
68								-88
69								
70								-90
71								
72								-92
73								
74								-94
75								
76								-96
77								
78								-98
79								
								-100

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-3

(Sheet 1 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,781.44 Feet (CCS27 Zone 3)
Date Started: December 21, 2001	Easting: 1,470,839.30 Feet (CCS27 Zone 3)
Date Completed: December 21, 2001	Ground Surface Elevation: -35.30 Feet MSL, NGVD 29
Total Depth: 56.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
				Mudline 35.30 feet below waterline			**UNNAMED SAND/ FILL UNIT 0 to 65.5 feet:** SAND: Fine sand with <10% low plastic fines, grey, loose	-36
1								
2								-38
3								
4								-40
5	1345	4 6 9	095-02-034 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		SAND: Fine sand with <10% low plastic fines, grey, loose	
6								-42
7								
8								-44
9								
10	1400	13 10 17	095-02-035 2.5"x6" br. sleeve	MC sample 100% recovery on total drive				-46
11								
12							SANDY SILT: High plastic fines with fine sand, brown with oxidation lenses, dense	
13					ML			-48
14								
15	1420	6 10 18	095-02-036 grab plastic bag	SPT sample 100% recovery on total drive				-50
16							SAND: Fine sand with trace low plastic fines, brown, medium dense	
17					SP			-52
18								
19								-54

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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SPT = Standard Penetration Test
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ss = stainless steel
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-3

(Sheet 2 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,781.44 Feet (CCS27 Zone 3)
Date Started: December 21, 2001	Easting: 1,470,839.30 Feet (CCS27 Zone 3)
Date Completed: December 21, 2001	Ground Surface Elevation: -35.30 Feet MSL, NGVD 29
Total Depth: 56.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21								-56
22								
23								-58
24								
25	1440	12 15 15	095-02-037 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, grey, medium dense	-60
26								
27								-62
28								
29								-64
30								
31								-66
32								
33								-68
34								
35	1455	14 15 20	095-02-038 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand with trace low plastic fines, grey/brown, medium dense	-70
36								
37								-72
38								
39								-74

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-3

(Sheet 3 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 471,781.44 Feet (CCS27 Zone 3)
Date Started: December 21, 2001	Easting: 1,470,839.30 Feet (CCS27 Zone 3)
Date Completed: December 21, 2001	Ground Surface Elevation: -35.30 Feet MSL, NGVD 29
Total Depth: 56.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41								-76
42								
43								-78
44								
45	1515	14 20 18	095-02-039 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, grey, medium dense	-80
46								
47								-82
48								
49								-84
50								
51								-86
52								
53								-88
54								
55	1540	23 50 50	095-02-040 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand with trace low plastic fines, grey/black , medium dense	-90
56								
57							Terminate borehole at 60 feet below mudline, sample to 61.5 feet below mudline	-92
58								
59								-94

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-4

(Sheet 1 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 472,622.24 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,677.30 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -17.50 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1				Mudline 35.30 feet below waterline			**YOUNG ?? BAY MUD 0 to 31 feet:**	-18
2							SILT: High plastic fines, grey black, trace fine sand, soft, non-cohesive	
3								-20
4								
5	0710		095-02-011 3"x30" ss sleeve	ST sample 100% recovery easy push				-22
6							SILT: High plastic fines, grey black, trace fine sand, soft, non-cohesive	
7								-24
8								
9								-26
10					ML			
11								-28
12								
13								-30
14								
15	0720		095-02-012 3"x30" ss sleeve	ST sample 100% recovery easy push				-32
16							SILT: High plastic fines, grey black, soft, non-cohesive	
17								-34
18								
19								-36

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-4

(Sheet 2 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 472,622.24 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,677.30 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -17.50 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21, 22, 23, 24					ML			-38, -40, -42
25, 26	0740	0, 0, 0	095-02-013 2.5"x6" br. sleeve	MC sample 100% recovery on total drive easy push	CL		CLAY: High plastic fines, trace fine sand, grey black, abundant shell fragments	-44, -46, -48
31, 32	0750	1/18, 0, 0	095-02-014 2.5"x6" br. sleeve	MC sample 100% recovery on total drive easy push	SM		**MERRITT SAND UNIT ??? 31 to 61.5 feet:** SILTY SAND: Fine sand with high plastic fines, grey black, sand % increasing with depth	-50
35, 36	0805	3, 6, 10	095-02-015 grab plastic bag	SPT sample 100% recovery on total drive easy push			SILTY SAND: Fine sand with high plastic fines, grey black, sand % increasing with depth	-52, -54, -56
37, 38, 39								

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-4

(Sheet 3 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 472,622.24 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,677.30 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -17.50 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41	0820	1/18 0 0	NA	No recovery borehole has caving	SM			-58
42								
43								-60
44								
45								-62
46	0835	5 6 7	095-02-016 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine to medium sand with trace low plastic fines, grey, medium dense	-64
47								
48								-66
49								
50	0850	12 13 24	095-02-017 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine to medium sand with trace low plastic fines, greenish grey, medium dense	-68
51								
52								-70
53								
54								-72
55								
56								-74
57								
58								-76
59								

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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ST = Shelby Tube
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SWDIV = Southwest Division Naval Engineering Command

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br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-4

(Sheet 4 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 472,622.24 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,677.30 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -17.50 Feet MSL, NGVD 29
Total Depth: 61.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61	0910	15 24 25	095-02-018 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine to medium sand with trace low plastic fines, grey/black, medium dense	-78
62							Terminate borehole at 60 feet below mudline, sample to 61.5 feet below mudline	
63								-80
64								
65								-82
66								
67								-84
68								
69								-86
70								
71								-88
72								
73								-90
74								
75								-92
76								
77								-94
78								
79								-96

Notes: Boring Log Reviewed By: V. Richards 7/16/02
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br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-5

(Sheet 1 of 5)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method:
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter:
Geologist/Engineer: D. Seaver	Northing: 473,552.55 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,910.90 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -9.50 Feet MSL, NGVD 29
Total Depth: 81.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1				Mudline 9.50 feet below waterline			**YOUNG ?? BAY MUD 0 to 75.5 feet:**	-10
2							SILT: Medium plastic fines, black, trace fine sand, soft, non-cohesive	
3								-12
4								
5	1020		095-02-019 3"x30" ss sleeve	ST sample 100% recovery easy push				-14
6							SILT: Medium plastic fines, black, trace fine sand, soft, non-cohesive	
7								-16
8					ML			
9								-18
10								
11								-20
12								
13								-22
14								
15	1035		095-02-020 3"x30" ss sleeve	ST sample 100% recovery easy push				-24
16								-26
17							SANDY SILT: Medium plastic fines with fine sand, black, sand % increasing with depth	
18					ML			-28
19								

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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br = brass
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-5

(Sheet 2 of 5)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method:
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter:
Geologist/Engineer: D. Seaver	Northing: 473,552.55 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,910.90 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -9.50 Feet MSL, NGVD 29
Total Depth: 81.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	1040	0 0 0	095-02-021 2.5"x6" br. sleeve	MC sample 100% recovery on total drive easy push			SILT: Medium to high plastic fines, grey black, moderately cohesive, shell fragments	-30
22								
23								-32
24								
25								-34
26								
27								-36
28								
29								-38
30	1100	0 0 0	095-02-022 2.5"x6" br. sleeve	MC sample 100% recovery on total drive easy push	ML		SILT: Low to medium plastic fines, trace fine sand, grey, shell fragments	-40
31								
32								-42
33								
34								-44
35								
36								-46
37								
38								-48
39								

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-5

(Sheet 3 of 5)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method:
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter:
Geologist/Engineer: D. Seaver	Northing: 473,552.55 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,910.90 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -9.50 Feet MSL, NGVD 29
Total Depth: 81.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41							SILT: Same as above, based on drilling observations	-50
42								
43								-52
44								
45								-54
46								
47								-56
48								
49								-58
50	1110	0	095-02-023 2.5"x6" br. sleeve	MC sample 100% recovery on total drive easy push	ML		SILT: Low to medium plastic fines, trace fine sand, grey, shell fragments	-60
51		0						
52		0						-62
53								
54								-64
55								
56								-66
57								
58								-68
59								

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-5

(Sheet 4 of 5)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method:
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter:
Geologist/Engineer: D. Seaver	Northing: 473,552.55 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,910.90 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -9.50 Feet MSL, NGVD 29
Total Depth: 81.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61					ML		SILT: Same as above based on drill ing operations	-70
62								
63								-72
64								
65								-74
66								
67								-76
68								
69								-78
70	1130	0 0 0	095-02-024 2.5"x6" br. sleeve	MC sample 100% recovery on total drive easy push			SILT: Low to medium plastic fines, trace fine sand, grey, shell fragments	-80
71								
72								-82
73								
74								
75	1200	9 14 12	095-02-025 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			SILT: Same as above	-84
76					SP		**MERRITT SAND UNIT ??? 75.5 to 81.5 feet:**	-86
77							SAND: Fine to medium sand, black	
78								-88
79								

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-5

(Sheet 5 of 5)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method:
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter:
Geologist/Engineer: D. Seaver	Northing: 473,552.55 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,470,910.90 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -9.50 Feet MSL, NGVD 29
Total Depth: 81.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
81	1220	6 6 7	095-02-026 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		SAND: Fine to medium sand, black	-90
82							Terminate borehole at 80 feet below mudline, sample to 81.5 feet below mudline	-92
83								
84								-94
85								
86								-96
87								
88								-98
89								
90								-100
91								
92								-102
93								
94								-104
95								
96								-106
97								
98								-108
99								

Notes: Boring Log Reviewed By: V. Richards 7/17/02
bgs = below ground surface
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SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-6

(Sheet 1 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 474,556.76 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,471,014.80 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -13.20 Feet MSL, NGVD 29
Total Depth: 66.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
				Mudline 13.20 feet below waterline			**YOUNG ?? BAY MUD 0 to 75.5 feet:**	
1							SILT: Medium plastic fines	-14
2								
3								-16
4								
5			NA	At 5' ST 0% recovery Re-push 7'-9'				-18
6								
7	1420		095-02-027 3"x30" ss sleeve	ST sample 100% recovery easy push				-20
8							SILT: Medium plastic fines, light grey, trace fine sand, soft	
9								-22
10					ML			
11								-24
12								
13								-26
14								
15	1430		095-02-028 3"x30" ss sleeve	ST sample 100% recovery easy push				-28
16							SILT: Medium plastic fines, light grey/black, trace fine sand, soft, shell fragments	
17								-30
18								
19								-32

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-6

(Sheet 2 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 474,556.76 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,471,014.80 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -13.20 Feet MSL, NGVD 29
Total Depth: 66.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21				Too soft for sampling rig is pushing through formation			SILT: Same as above based on drilling operations, very soft, unable to collect samples	-34
22								
23								-36
24								
25								-38
26								
27								-40
28								
29								-42
30				Drilling conditions the same no resistance	ML			
31							SILT: Same as above based on drilling operations, very soft, unable to collect samples	-44
32								
33								-46
34								
35								-48
36								
37								-50
38								
39							SILT: Medium plastic fines, light grey/black, trace fine sand, soft	-52

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-6

(Sheet 3 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 474,556.76 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,471,014.80 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -13.20 Feet MSL, NGVD 29
Total Depth: 66.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
					ML			
41	1450	2 1 0	095-02-029 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			**MERRITT SAND UNIT ??? 75.5 to 81.5 feet:** SAND: Fine to medium sand, black, soft	-54
42								
43								-56
44								
45								-58
46							SAND: Same as above based on drilling operation, soft and unable to collect sample	
47								-60
48								
49								-62
50	1510	3 4 4	095-02-030 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		SAND: Fine sand with <10% silt, grey/black, soft	
51								-64
52								
53								-66
54								
55	1520	10 12 12	095-02-031 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			SAND: Fine to medium sand with trace silt, grey/black, soft	-68
56								
57								-70
58								
59								-72

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-6

(Sheet 4 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: D. Seaver	Northing: 474,556.76 Feet (CCS27 Zone 3)
Date Started: December 19, 2001	Easting: 1,471,014.80 Feet (CCS27 Zone 3)
Date Completed: December 19, 2001	Ground Surface Elevation: -13.20 Feet MSL, NGVD 29
Total Depth: 66.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61	1540	8 13 11	095-02-032 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		SAND: Fine to medium sand with trace silt, grey/black, soft	-74
62								
63								-76
64								
65								-78
66	1600	12 13 13	095-02-033 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			SAND: Fine to medium sand with trace silt, grey/black, soft	
67							Terminate borehole at 65 feet below mudline, sample to 66.5 feet below mudline	-80
68								
69								-82
70								
71								-84
72								
73								-86
74								
75								-88
76								
77								-90
78								
79								-92

Notes: Boring Log Reviewed By: V. Richards 7/17/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-7

(Sheet 1 of 2)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 471,881.36 Feet (CCS27 Zone 3)
Date Started: March 9, 2002	Easting: 1,472,780.20 Feet (CCS27 Zone 3)
Date Completed: March 9, 2002	Ground Surface Elevation: 16.85 Feet MSL, NGVD 29
Total Depth: 25.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
				Borehole is approximately 10 feet above surrounding grade on an artificial berm. Top of berm is dirt road with light vegetation			**ARTIFICIAL FILL 0 to 15 feet:** SILTY SAND: Fine sand with high plastic fines, very dark grey brown (10YR 3/2), slight moistiure	16
1								
2								14
3								
4								12
5	0832	7 11 12	095-02-062 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	ML		SANDY SILT: High plastic fines with fine sand, very dark grey (2.5Y N3/)	
6								10
7								
8								8
9								
10	0847	4 10 8	095-02-063 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SM SM		SILTY SAND: Fine sand with high plastic fines, very dark grey (2.5Y N3/)	6
11								
12								4
13								
14								2

Notes: Boring Log Reviewed By: V. Richards 7/12/02
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NGVD = National Geodetic Vertical Datum

SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
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br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-7

(Sheet 2 of 2)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 471,881.36 Feet (CCS27 Zone 3)
Date Started: March 9, 2002	Easting: 1,472,780.20 Feet (CCS27 Zone 3)
Date Completed: March 9, 2002	Ground Surface Elevation: 16.85 Feet MSL, NGVD 29
Total Depth: 25.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
16	1027		095-02-064 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SM		SILTY SAND: Fine sand with high plastic fines, very dark grey (2.5Y N3/)	
17								0
18								
19								-2
20				Lose circulation	SM		**ARTIFICIAL FILL/RIP-RAP 19 to 25 feet:** High chatter unable to sample	
21								-4
22								
23								-6
24								
25				Terminate drilling when casing pulled bit was broken off				-8
26							Drilling terminated at 25' bgs due to loss circulation and difficulty penetrating. When casing removed, bit broken off in borehole and determination made that area underlain by rip-rap.	
27								-10
28								
29								-12

Notes: Boring Log Reviewed By: V. Richards 7/12/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-7A

(Sheet 1 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T.Lai	Northing: 471,897.59 Feet (CCS27 Zone 3)
Date Started: March 15, 2002	Easting: 1,472,721.18 Feet (CCS27 Zone 3)
Date Completed: March 15, 2002	Ground Surface Elevation: 8.53 Feet MSL, NGVD 29
Total Depth: 51.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
				Grass surface				
1					SP		**ARTIFICIAL FILL 0 to 25 feet:**	8
2							SAND: Fine sand with shell fragments, olive brown (2.5y 4/3), slight moisture, non-cemented	
3								6
4								
5	0738	31		SPT sample 0% recovery				4
6		11 11					REFUSE: Telephone wire, decomposed wood, rags in a sandy silt soil matrix. Refuse zone approximately 2 to 10 feet bgs.	
7								2
8								
9								0
10	0745	6 8						
11		9	095-02-129 Grab plastic bag	SPT sample 55% recovery on total drive			SAND: Fine sand, dark greenish grey (5BG 4/1)	-2
12								-4
13								
14								-6
15	0802	3			SP			
16		3 2	095-02-130 Grab plastic bag	SPT sample 72% recovery on total drive			SAND: Same as above	-8
17								
18								-10
19								

Notes: Boring Log Reviewed By: V. Richards 6/5/02
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2384-SOIL LOG DO95.GPJ FSTRW_SA.GDT 8/6/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-7A

(Sheet 2 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T.Lai	Northing: 471,897.59 Feet (CCS27 Zone 3)
Date Started: March 15, 2002	Easting: 1,472,721.18 Feet (CCS27 Zone 3)
Date Completed: March 15, 2002	Ground Surface Elevation: 8.53 Feet MSL, NGVD 29
Total Depth: 51.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21, 22, 23, 24	0835			ST sample 0% recovery easy push	SP		SAND: Same as above	-12, -14, -16
25, 26, 27	0855		095-02-131 3"x30" ss sleeve	ST sample 80% recovery easy push	CH		**BAY MUD 25 to 40 feet:** CLAY: High plastic fines, dark greenish grey (5BG 4/1), with shell fragments, trace sand	-18
28, 29, 30, 31	0915	3, 4, 5	095-02-132 2.5"x6" br. sleeve	MC sample 44% recovery on total drive	CL		SILTY CLAY: Medium plastic fines, very dark grey (N3/), with shell fragments, trace fine sand	-20, -22
32, 33, 34					CL		SILTY CLAY: Medium plastic fines, dark greenish grey (5BG 4/1), with shell fragments, trace fine sand	-24, -26
35, 36, 37	0928		095-02-133 3"x30" ss sleeve	ST sample 83% recovery easy push	CL		SILTY CLAY: Same as above	-28
38, 39					SP		**MERRIT SAND 40 to 51.5 feet** SAND: Fine sand, dark greenish grey (5bg 4/1), well consolidated, non-cemented	-30

Notes: Boring Log Reviewed By: V. Richards 6/5/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-7A

(Sheet 3 of 3)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T.Lai	Northing: 471,897.59 Feet (CCS27 Zone 3)
Date Started: March 15, 2002	Easting: 1,472,721.18 Feet (CCS27 Zone 3)
Date Completed: March 15, 2002	Ground Surface Elevation: 8.53 Feet MSL, NGVD 29
Total Depth: 51.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41	0945	4 7 10	095-02-134 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		SAND: Fine sand, dark greenish grey (5bg 4/1), well consolidated, non-cemented	-32
42								
43								-34
44								
45	1000	8 12 15	095-02-135 Grab plastic bag	SPT sample 100% recovery on total drive			SAND: Same as above	-36
46								
47								-38
48								
49								-40
50	1012	9 17 21	095-02-135 Grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand, dark greenish grey (5bg 4/1), well consolidated, non-cemented	-42
51								
52								-44
53							Sample collection terminated at 51.5 feet bgs	
54							Borehole backfill in accordance with work plan	-46
55								
56								-48
57								
58								-50
59								

Notes: Boring Log Reviewed By: V. Richards 6/5/02
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br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-8

(Sheet 1 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,793.07 Feet (CCS27 Zone 3)
Date Started: March 11, 2002	Easting: 1,471,774.97 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.77 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1, 2, 3, 4				Borehole is approximately 10 feet above surrounding grade on an artificial berm. Top of berm is dirt road with light vegetation			**ARTIFICIAL FILL 0 to 10 feet:** SAND: Fine sand with shell fragments, olive brown (2.5y 4/3), slight moisture, non-cemented	16, 14
5, 6	1640	4, 10, 12	095-02-169 2.5"x6" br. sleeve	MC sample 78% recovery on total drive	SP		SAND: Same as above	12
7, 8, 9								10, 8
10, 11	1655	4, 6, 11	095-02-170 2.5"x6" br. sleeve	MC sample 50% recovery on total drive			**UNNAMED SAND/FILL UNIT 10 to 35 feet:** SAND: Fine sand with shell fragments, olive brown (2.5y 4/3), slight moisture, non-cemented, soil exhibits some reddish brown (oxidation) discolorations	6
12, 13, 14								4
15, 16	1715	6, 7, 12	095-02-171 2.5"x6" br. sleeve	MC sample 50% recovery on total drive	SP		SAND: Same as above, fully saturated	2
17, 18, 19								0, -2

Notes: Boring Log Reviewed By: V. Richards 6/6/02
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ST = Shelby Tube
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br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-8

(Sheet 2 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,793.07 Feet (CCS27 Zone 3)
Date Started: March 11, 2002	Easting: 1,471,774.97 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.77 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	1725	6 8 8	095-02-172 2.5"x6" br. sleeve	MC sample w/61% recovery on total drive	SP		SAND: Fine sand with shell fragments, olive brown (2.5y 4/3), saturated, non-cemented	-4
22								
23								-6
24								
25	1735	6 8 9	095-02-173 2.5"x6" br. sleeve	MC sample 61% recovery on total drive			SAND: Same as above	-8
26								
27				Complete work 3/11/02 Resume work 3/12/02				-10
28								
29								-12
30	0745	4 6 8	095-02-174 2.5"x6" br. sleeve	MC sample 77% recovery on total drive			SAND: Fine sand with shell fragments, olive brown (2.5y 4/3), saturated, non-cemented	-14
31								
32								
33								-16
34								
35	0805		095-02-175 3"x30" ss sleeve	ST sample 100% recovery easy push	CH		**BAY MUD 35 to 45 feet:** CLAY: High plastic fines, trace fine sand or silt, dark bluish grey (5B 4/1)	-18
36								
37								-20
38								
39								-22

Notes: Boring Log Reviewed By: V. Richards 6/6/02
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T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-8

(Sheet 3 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,793.07 Feet (CCS27 Zone 3)
Date Started: March 11, 2002	Easting: 1,471,774.97 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.77 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41		1		MC sample 0% recovery too soft	CH		CLAY: High plastic fines, trace fine sand or silt, dark bluish grey (5B 4/1)	-24
42								
43								-26
44				Contact with Merrit Sand approximate				
45		6						-28
46	0835	12 16	095-02-176 grab plastic bag	SPT sample 66% recovery on total drive	SP		**MERRIT SAND 45 to 71.5 feet** SAND: Fine sand, dark bluish grey (5B 4/1), well consolidated, non-cemented	
47								-30
48								
49								-32
50		5						
51	0850	10 10	095-02-177 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand, olive brown (2.5y 4/3), well consolidated, non-cemented	-34
52								
53								-36
54								
55		7						-38
56	0912	14 18	095-02-178 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand, olive brown (2.5y 4/3), well consolidated, non-cemented	
57								-40
58								
59								-42

Notes: Boring Log Reviewed By: V. Richards 6/6/02
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SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-8

(Sheet 4 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,793.07 Feet (CCS27 Zone 3)
Date Started: March 11, 2002	Easting: 1,471,774.97 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.77 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61	0920	31 50/5	095-02-179 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SM		SILTY SAND: Fine sand with silt, olive brown (2.5y 4/3), well consolidated, non-cemented	-44
62								
63								-46
64								
65	0945	20 25 21	095-02-180 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			Same as above	-48
66								
67								-50
68								
69								-52
70	1003	17 34 33	095-02-181 2.5"x6" br. sleeve	MC sample 77% recovery on total drive			SILTY SAND: Fine sand with silt, olive brown (2.5y 4/3), well consolidated, non-cemented	-54
71								
72								
73							Sample collection terminated at 71.5 feet bgs	-56
74							Borehole backfill in accordance with work plan	
75								-58
76								
77								-60
78								
79								-62

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-9

(Sheet 1 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,842.92 Feet (CCS27 Zone 3)
Date Started: March 12, 2002	Easting: 1,471,188.74 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.23 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1, 2, 3, 4				Borehole is approximately 12 feet above surrounding grade on an artificial berm. Top of berm is dirt road with light vegetation			**ARTIFICIAL FILL 0 to 12 feet:** SILTY SAND: Fine sand with low to medium fines, dark greyish brown (2.5Y 4/2), slight moisture, non-cemented	16, 14, 12
5, 6, 7	1345		095-02-08 23"x30" ss sleeve	ST sample 100% recovery easy push	SM		SILTY SAND: Same as above	10
8, 9								8
10, 11	1355	6, 8, 11	095-02-083 2.5"x6" br. sleeve	MC sample 72% recovery on total drive			SILTY SAND: Fine sand with low to medium plastic fines, dark greyish brown (2.5Y 4/2), minor clay	6
12, 13, 14				No distinct contact between the berm and hydraulic filled material.			**UNDIFFERENTIATED FILL 12 to 30 feet:** SILTY SAND: Fine sand with low to medium fines, dark greyish brown (2.5Y 4/2), slight moisture, non-cemented	4, 2
15, 16	1403	3, 6, 6	095-02-084 2.5"x6" br. sleeve	MC sample 50% recovery on total drive	SM		SILTY SAND: Same as above, saturated	0
17, 18, 19								-2

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-9

(Sheet 2 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,842.92 Feet (CCS27 Zone 3)
Date Started: March 12, 2002	Easting: 1,471,188.74 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.23 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	1411		095-02-085 3"x30" ss sleeve	ST sample 50% recovery easy push			SILTY SAND: Fine sand with low to medium plastic fines, dark greyish brown (2.5Y 4/2), minor clay, saturated	-4
22								-6
23								
24								-8
25	1422		095-02-086 3"x30" ss sleeve	ST sample 58% recovery easy push	SM		SILTY SAND: Same as above	
26								-10
27								
28								-12
29								
30	1435		095-02-087 3"x30" ss sleeve	ST sample 50% recovery easy push				-14
31							**MERRIT SAND 30 FEET TO 70 FEET :**	
32				Merritt Sand contact is approximate			SAND: Fine sand, dark greenish grey (5GY 4/1)	-16
33								
34								-18
35	1448	6 13 13	095-02-088 2.5"x6" br. sleeve	MC sample 50% recovery on total drive	SP		SAND: Same as Above	
36								-20
37								
38				No contact with Bay Mud unit observed appears undifferentiated fill unit continues				-22
39								

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2384-SOIL LOG D095.GPJ FSTRW_SA.GDT 8/8/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-9

(Sheet 3 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,842.92 Feet (CCS27 Zone 3)
Date Started: March 12, 2002	Easting: 1,471,188.74 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.23 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41, 42, 43, 44	1500		095-02-089 3"x30" ss sleeve	ST sample 58% recovery easy push	SP		SAND: Fine sand, very dark grey (2.5Y N3/)	-24, -26, -28
45, 46	1515	2, 3, 3	095-02-090 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SM		SILTY SAND: Fine sand with low to medium plastic fines, very dark grey (2.5Y N3/)	-30, -32
50, 51	1526	10, 13, 23	095-02-091 2.5"x6" br. sleeve	MC sample 50% recovery on total drive	SM		SILTY SAND: Fine sand with low to medium plastic fines, very dark grey (2.5Y N3/)	-34, -36, -38
55, 56	1543	3, 9, 14	095-02-092 grab plastic bag	SPT sample 100% recovery on total drive	SM		SILTY SAND: Fine sand with low to medium plastic fines, olive brown (2.5Y 4/3)	-40, -42

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2384-SOIL LOG DO95.GPJ FSTRW_SA.GDT 8/6/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-9

(Sheet 4 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 471,842.92 Feet (CCS27 Zone 3)
Date Started: March 12, 2002	Easting: 1,471,188.74 Feet (CCS27 Zone 3)
Date Completed: March 12, 2002	Ground Surface Elevation: 16.23 Feet MSL, NGVD 29
Total Depth: 71.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61	1554	19, 28, 34	095-02-093 grab plastic bag	SPT sample 88% recovery on total drive	SM		SILTY SAND: Fine sand with low to medium plastic fines, olive brown (2.5Y 4/3)	-44
62								
63								-46
64								
65								-48
66	1612	9, 14, 19	095-02-094 grab plastic bag	SPT sample 100% recovery on total drive			SILTY SAND: Fine sand with low to medium plastic fines, olive brown (2.5Y 4/3)	-50
67								
68								-52
69								
70								-54
71	1628	8, 18, 20	095-02-095 grab plastic bag	SPT sample 100% recovery on total drive			SILTY SAND: Fine sand with low to medium plastic fines, olive brown (2.5Y 4/3)	
72							T.D. borehole @ 70' bgs and sample depth is 71.5' bgs. Contact between upper fill and Merritt Sand is approximate. Appears that Young Bay Mud unit is indistinguishable at this location.	-56
73								
74								-58
75								
76								-60
77								
78								-62
79								

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-10

(Sheet 1 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T.Lai	Northing: 472,570.08 Feet (CCS27 Zone 3)
Date Started: March 13, 2002	Easting: 1,470,959.53 Feet (CCS27 Zone 3)
Date Completed: March 13, 2002	Ground Surface Elevation: 16.78 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1, 2, 3, 4				Borehole is approximately 10 feet above surrounding grade on an artificial berm. Top of berm is dirt road with light vegetation			**ARTIFICIAL FILL 0 to 12 feet:** SILTY SAND: Fine sand with low to medium fines, dark greyish brown (2.5Y 4/3), slight moisture, non-cemented	16, 14
5, 6	1233	8, 16, 15	095-02-096 2.5"x6" br. sleeve	MC sample 88% recovery on total drive	SM		SILTY SAND: Fine sand with low to medium fines, dark greyish brown (2.5Y 4/3), slight moisture, non-cemented	12, 10
10, 11	1238	3, 5, 8	095-02-097 2.5"x6" br. sleeve	MC sample 72% recovery on total drive			SILTY CLAY: High plastic fines, very dark grey (2.5Y N3/), refuse (decomposing wood encountered)	8, 6
13, 14					CH		**UNNAMED SAND/ FILL UNIT 12 to 45 feet:** SILTY CLAY: High plastic fines, very dark grey (2.5Y N3/), refuse (decomposing wood encountered)	4
15, 16, 17	1258		095-02-098 3"x30" ss sleeve	ST sample 100% recovery easy push			SILTY CLAY: High plastic fines, very dark grey (2.5Y N3/), no debris	2, 0, -2

Notes: Boring Log Reviewed By: V. Richards 7/8/02
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br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-10

(Sheet 2 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T.Lai	Northing: 472,570.08 Feet (CCS27 Zone 3)
Date Started: March 13, 2002	Easting: 1,470,959.53 Feet (CCS27 Zone 3)
Date Completed: March 13, 2002	Ground Surface Elevation: 16.78 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	1325	11 14 15	095-02-099 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	SP		SAND: Fine sand, trace fines, dark greenish grey (5GY 4/1)	-4
22								
23								-6
24								
25	1342	4 2 2	095-02-100 2.5"x6" br. sleeve	MC sample 55% recovery on total drive			Sand: Same as above	-8
26								
27								-10
28								
29								-12
30	1400	6 12 10	095-02-101 2.5"x6" br. sleeve	MC sample 66% recovery on total drive			SAND: Fine sand, trace fines, dark greenish grey (5GY 4/1)	-14
31								
32								-16
33								
34								-18
35	1411		095-02-102 3"x30" ss sleeve	ST sample 66% recovery easy push			Sand: Same as above	
36								-20
37								
38								-22
39								

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-10

(Sheet 3 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T.Lai	Northing: 472,570.08 Feet (CCS27 Zone 3)
Date Started: March 13, 2002	Easting: 1,470,959.53 Feet (CCS27 Zone 3)
Date Completed: March 13, 2002	Ground Surface Elevation: 16.78 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41, 42, 43, 44	1440		095-02-103 3"x30" ss sleeve	ST sample 75% recovery easy push	SP		SAND: Fine sand, trace fines, dark greenish grey (5GY 4/1)	-24, -26
45, 46, 47, 48, 49	1500		095-02-104 3"x30" ss sleeve	ST sample 83% recovery easy push	CH		**YOUNG ?? BAY MUD 45 to 56 feet:** CLAY: High plastic fines, dark greenish grey (5GY 4/1)	-28, -30, -32
50, 51, 52, 53, 54	1517	1 1 2	095-02-105 2.5"x6" br. sleeve	MC sample 100% recovery on total drive	CH		CLAY: High plastic fines, dark greenish grey (5GY 4/1)	-34, -36
55, 56	1540		095-02-106 3"x30" ss sleeve	ST sample 100% recovery easy push	CH			-38
57, 58, 59					SM		**MERRITT SAND 56 to 76.5 feet:** SILTY SAND: Medium plastic fines with fine sand, dark greenish grey (5GY 4/1)	-40, -42

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-10

(Sheet 4 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T.Lai	Northing: 472,570.08 Feet (CCS27 Zone 3)
Date Started: March 13, 2002	Easting: 1,470,959.53 Feet (CCS27 Zone 3)
Date Completed: March 13, 2002	Ground Surface Elevation: 16.78 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61	1602	8, 21, 22	095-02-107 grab plastic bag	SPT sample 100% recovery on total drive	SM		SILTY SAND: Medium plastic fines with fine sand, dark greenish grey (5GY 4/1)	-44
62								
63								-46
64								
65	1618	8, 19, 21	095-02-108 grab plastic bag	SPT sample 83% recovery on total drive			SILTY SAND: Same as above	-48
66								
67								-50
68								
69								-52
70		9, 10, 11	NA	MC sample 0% recovery on total drive			SILTY SAND: Medium plastic fines with fine sand, dark greenish grey (5GY 4/1)	-54
71								
72								
73								-56
74								
75	1658	21, 34, 36	095-02-109 2.5"x6" br. sleeve	MC sample 100% recovery on total drive			SILTY SAND: Medium plastic fines with fine sand, dark greenish grey (5GY 4/1)	-58
76								
77							T.D. Borehole at 75 feet bgs and sample to 76.5 feet bgs.	-60
78								
79								-62

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-11

(Sheet 1 of 7)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: March 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: March 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 132.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1				Borehole north of berm			**ARTIFICIAL FILL 0 to 16 feet:**	
2								6
3								
4								4
5	0753	3 4 11	095-02-110 2.5"x6" br. sleeve	MC sample 88% recovery on total drive	SM		SILTY SAND: Fine sand with low to medium plastic fines, dark greenish grey (5GY 4/1), abundant decomposed wood	2
6								
7								0
8								
9								
10	0800		095-02-111 3"x30" ss sleeve	ST sample 38% recovery gravel encountered at bottom	SM		SILTY SAND: Fine sand with low to medium plastic fines, dark greenish grey (5GY 4/1), abundant decomposed wood	-2
11								
12					GP		GRAVEL: Abundant coarse gravel	-4
13								
14								-6
15	0819	5 14 15	095-02-112 2.5"x6" br. sleeve	MC sample 61% recovery on total drive gravel at top of sleeve	GP		GRAVEL: Same as above	-8
16								
17					SP		SAND: Fine sand with trace low plastic fines, dark greenish grey (5GY 4/1), loose non-cemented	
18								-10
19								
								-12

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-11

(Sheet 2 of 7)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: March 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: March 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 132.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	0831	3 4 8	095-02-113 grab plastic bag	SPT sample 50% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, dark greenish grey (5GY 4/1), loose non-cemented	-14
22								
23								
24								-16
25	0840	9 14 16	095-02-114 2.5"x6" br. sleeve	MC sample 66% recovery on total drive			SAND: Fine sand with trace low plastic fines, dark greenish grey (5GY 4/1), loose non-cemented	-18
26								
27								-20
28								
29								-22
30	0857		095-02-115 3"x30" ss sleeve	ST sample 63% recovery easy push			**YOUNG ?? BAY MUD 45 to 56 feet:**	
31							CLAY WITH SAND/SILT: Medium to high plastic fines with < 15% sand/silt, dark greenish grey (5GY 4/1), gritty feel	-24
32								
33								-26
34								
35	0912		095-02-116 3"x30" ss sleeve	ST sample 83% recovery easy push	CL		CLAY WITH SAND/SILT: Medium to high plastic fines with < 15% sand/silt, dark greenish grey (5GY 4/1), gritty feel	-28
36								
37								-30
38								
39								-32

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SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

ss = stainless steel
br = brass
T.D. = Total Depth

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-11

(Sheet 3 of 7)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: March 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: March 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 132.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41	0923		095-02-117 3"x30" ss sleeve	ST sample 100% recovery easy push	CL		CLAY WITH SAND/SILT: Medium to high plastic fines with < 15% sand/silt, dark greenish grey (5GY 4/1), gritty feel	
42								-34
43								
44								-36
45	0940		095-02-118 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: Same as above	
46								-38
47								
48								-40
49								
50								-42
51							CLAY WITH SAND/SILT: Medium to high plastic fines with < 15% sand/silt, dark greenish grey (5GY 4/1), gritty feel	
52								-44
53								
54								-46
55	1005		095-02-119 3"x30" ss sleeve	ST sample 100% recovery easy push				-48
56					SP		**UNNAMED SAND UNIT 55.5 to 90 feet:**	
57							SAND: Fine sand with trace low plastic fines, dark greenish grey (5GY 4/1), loose non-cemented	
58								-50
59								
								-52

Notes: Boring Log Reviewed By: V. Richards 7/9/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-11

(Sheet 4 of 7)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: March 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: March 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 132.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
61	1032	3 4 4	NA	MC sample 0% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, dark greenish grey (5GY 4/1), loose non-cemented	-54
62								
63								-56
64								
65							SAND: Same as above	-58
66								
67								-60
68								
69								-62
70	1057		095-02-120 3"x30" ss sleeve	ST sample 92% recovery easy push	SM		SILTY SAND: Fine sand with high plastic fines, dark greenish grey (5GY 4/1)	-64
71								
72								-66
73								
74								
75	1122	5 6 12	095-02-121 grab plastic bag	SPT sample 66% recovery on total drive			SILTY SAND: Fine sand with high plastic fines, dark greenish grey (5GY 4/1)	-68
76								
77								-70
78								
79								-72

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-11

(Sheet 5 of 7)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: March 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: March 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 132.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
81	1148	8 9 10	095-02-122 grab plastic bag	SPT sample 66% recovery on total drive	SP		SAND: Fine sand with trace low plastic fines, dark greenish grey (5GY 4/1), loose, non-cemented	
82								-74
83								
84								-76
85	1258	2 3 7	NA	SPT sample 0% recovery on total drive			SAND: Same as above	-78
86								
87								-80
88								
89								-82
90	1230	6 23 24	095-02-123 2.5"x6" br. sleeve	MC sample 66% recovery on total drive	CH		**OLD ?? BAY MUD 90 to 132 feet:** CLAY: High plastic fines, dark greenish grey (5GY 4/1)	
91								-84
92								
93								-86
94								
95	1258	4 11 12	NA	MC sample 0% recovery on total drive			CLAY: High plastic fines, dark greenish grey (5GY 4/1)	-88
96								
97								-90
98								
99								-92

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-11

(Sheet 6 of 7)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: March 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: March 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 132.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
101							CLAY: High plastic fines, dark greenish grey (5GY 4/1)	
102								-94
103								
104								-96
105	1328	4 6 8	095-02-124 grab plastic bag	SPT sample 100% recovery on total drive			CLAY: High plastic fines, dark greenish grey (5GY 4/1), stiff	-98
106								
107								-100
108								
109								-102
110	1355		095-02-125 3"x30" ss sleeve	ST sample 100% recovery easy push	CH		CLAY: High plastic fines, dark greenish grey (5GY 4/1), decomposing wood observed in sample	
111								-104
112								
113								-106
114								
115							CLAY: High plastic fines, dark greenish grey (5GY 4/1), stiff	-108
116								
117								-110
118								
119								-112

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-11

(Sheet 7 of 7)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 474,454.47 Feet (CCS27 Zone 3)
Date Started: March 14, 2002	Easting: 1,471,417.73 Feet (CCS27 Zone 3)
Date Completed: March 14, 2002	Ground Surface Elevation: 7.66 Feet MSL, NGVD 29
Total Depth: 132.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	1414		095-02-126 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: High plastic fines, dark greenish grey (5GY 4/1)	
121								
122								-114
123								
124								-116
125								
126					CH		CLAY: High plastic fines, dark greenish grey (5GY 4/1)	-118
127								
128								-120
129								
130	1520		095-02-127 3"x30" ss sleeve	ST sample 8% recovery easy push			CLAY: High plastic fines, dark greenish grey (5GY 4/1)	-122
131								
132								-124
133							T.D. Borehole at 130 feet bgs and sample to 132 feet bgs.	
134								-126
135								
136								-128
137								
138								-130
139								
								-132

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-12

(Sheet 1 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 473,453.12 Feet (CCS27 Zone 3)
Date Started: March 8, 2002	Easting: 1,471,403.97 Feet (CCS27 Zone 3)
Date Completed: March 11, 2002	Ground Surface Elevation: 4.57 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1, 2, 3, 4				Borehole within landfill area.			**ARTIFICIAL FILL AND REFUSE 0 to 19 feet:** REFUSE: Wood, concrete, wire and other construction debris in matrix of silty sand, soil dark blueish grey (5B 4/1), saturated at 3 feet bgs.	4, 2
5	1050		NA	No recovery and Shelby Tube bent			Abundant gravel	0
6, 7, 8, 9					SM			-2, -4
10, 11	1130	1 0 0	NA	MC sleeves pushed 18" with no recovery			REFUSE: Wood, concrete, wire and other construction debris in matrix of silty sand, soil dark blueish grey (5B 4/1)	-6
12, 13, 14								-8
15	1200		095-02-057 3"x30" ss sleeve	ST sample 25% recovery fill encountered at bottom			**UNNAMED SAND UNIT 15 to 45.5 feet:**	-10
16, 17					SM		SILTY SAND: Fine sand with high plastic fines, dark blueish grey (5B 4/1)	-12
18, 19								-14

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2384-SOIL LOG DO95.GPJ FSTRW_SA.GDT 8/6/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-12

(Sheet 2 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 473,453.12 Feet (CCS27 Zone 3)
Date Started: March 8, 2002	Easting: 1,471,403.97 Feet (CCS27 Zone 3)
Date Completed: March 11, 2002	Ground Surface Elevation: 4.57 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21	1225	3 1 1	NA	MC sample 0% recovery on total drive	SM		No recovery	-16
22								
23								-18
24								
25	1300		095-02-058 3"x30" ss sleeve	ST sample 100% recovery easy push	SP		SAND: Fine sand, very dak grey (2.5 Y N3/)	-20
26								
27								-22
28								
29								-24
30	1450	3 4 10	095-02-059 2.5"x6" br. sleeve	MC sample 11% recovery on total drive	CH		**YOUNG ?? BAY MUD UNIT 30 to 76.5 feet:** Approximate contact based on CPT data	-26
31								
32							CLAY: High plastic fines, dark greenish grey (5GY 4/1)	-28
33								
34								-30
35	1513	2 3 3	NA	MC sample 0% recovery on total drive			CLAY: No recovery, classification based on CPT	
36								-32
37								
38								-34
39								

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-12

(Sheet 3 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 473,453.12 Feet (CCS27 Zone 3)
Date Started: March 8, 2002	Easting: 1,471,403.97 Feet (CCS27 Zone 3)
Date Completed: March 11, 2002	Ground Surface Elevation: 4.57 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
41, 42, 43, 44	1550		095-02-060 3"x30" ss sleeve	ST sample 100% recovery easy push	SM		SILTY SAND: Fine sand with medium to high plastic fines, dark grey (5Y XXX), shell fragments	-36, -38
45, 46	1615	3 3 5	095-02-061 2.5"x6" br. sleeve	MC sample 100% recovery on total drive				-40
47				Completed drilling on 3/08/02 @ 46.5'	CH		CLAY: High plastic fines, dark greenish grey (5B 4/1)	-42
48, 49				Resume drilling on 3/11/02 @ 46.5'				-44
50, 51, 52	0755		095-02-065 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: Same as above	-46
53, 54								-48
55, 56, 57	0900	0 0 0	095-02-066 2.5"x6" br. sleeve	MC sample 100% recovery on total drive easy push			CLAY: Same as above, very soft	-50, -52
58, 59								-54

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-12

(Sheet 4 of 4)

Client: SWDIV	Drilling Company: Gregg Drilling and Testing, Inc.
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Installation Restoration Site 2	Borehole Diameter: 4 in.
Geologist/Engineer: T. Lai	Northing: 473,453.12 Feet (CCS27 Zone 3)
Date Started: March 8, 2002	Easting: 1,471,403.97 Feet (CCS27 Zone 3)
Date Completed: March 11, 2002	Ground Surface Elevation: 4.57 Feet MSL, NGVD 29
Total Depth: 76.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	0935		NA	ST sample <2" recovery no sample			CLAY: High plastic fines, dark greenish grey (5B 4/1)	
61								-56
62								
63								-58
64								
65								-60
66							CLAY: Same as above, very soft	
67								-62
68					CH			
69								-64
70								
71	1035		NA	MC sample 0% recovery on total drive				-66
72	1105		095-02-067 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: High plastic fines, dark greenish grey (5B 4/1)	-68
73								
74								
75								-70
76	1140		095-02-068 2.5"x6" br. sleeve	MC sample 100% recovery on total drive				
77							T.D. Borehole at 75 feet bgs and sample to 76.5 feet bgs.	-72
78								
79								-74

Notes: Boring Log Reviewed By: V. Richards 7/9/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-13

(Sheet 1 of 6)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,730.95 Feet (CCS27 Zone 3)
Date Started: June 28, 2002	Easting: 1,471,273.93 Feet (CCS27 Zone 3)
Date Completed: June 29, 2002	Ground Surface Elevation: 4.97 Feet MSL, NGVD 29
Total Depth: 102.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	1400			Asphalt surface			RIP-RAP: Drilling with chatter, very rough, suspect on edge of rip-rap structure, from 0 to 10 feet bgs	
1								4
2								
3								2
4								
5	1410			Unable to sample due to debris				0
6								
7								-2
8								
9								-4
10		7						
	1435	19	NA	Sleeve contains			REFUSE: Glass, metal, in silty sand matrix with gravel, could be on very edge of rip-rap struture and debris accumulated at edge	
11		21	brass sleeve	glass metal and soil no sample collected				-6
12								
13								-8
14								
15		19			R			-10
	1507	44		Sleeve contains				
16		35		glass metal and soil no sample collected				
17								-12
18								
19								-14

Notes: Boring Log Reviewed By: V. Richards 7/30/02

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-13

(Sheet 2 of 6)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,730.95 Feet (CCS27 Zone 3)
Date Started: June 28, 2002	Easting: 1,471,273.93 Feet (CCS27 Zone 3)
Date Completed: June 29, 2002	Ground Surface Elevation: 4.97 Feet MSL, NGVD 29
Total Depth: 102.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
21				Unable to sample due to stability problems losing circulation	R			-16
22								
23					SP			-18
24								
25		8						-20
26	1620	2 2	095-02-166 2"x6" br.sleeve	MC sample 100% recovery on total drive			**YOUNG BAY MUD UNIT 25 to 54 feet**	
27							CLAY: High plastic fines with trace fines, dark grey (5Y 4/1), gritty feel, moderately dense	-22
28								
29								-24
30								
31							Easy drilling, very soft for drilling rig	-26
32								
33					CL			-28
34								
35								-30
36								
37								-32
38								
39								-34

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-13

(Sheet 3 of 6)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,730.95 Feet (CCS27 Zone 3)
Date Started: June 28, 2002	Easting: 1,471,273.93 Feet (CCS27 Zone 3)
Date Completed: June 29, 2002	Ground Surface Elevation: 4.97 Feet MSL, NGVD 29
Total Depth: 102.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	1728		095-02-167 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: High plastic fines with trace fines, dark grey (5Y 4/1), gritty feel, moderately dense, abundant shells at bottom of tube	
41								-36
42								
43								-38
44								
45								-40
46								
47					CL			-42
48								
49								-44
50	1831			Unable to sample due to heaving and based on CPT may be near contact with sand sediments			Heaving formation may indicate loose sands	
51								-46
52								
53								-48
54				Approximate contact based on CPT data				
55							**BAY SEDIMENT UNIT 54 TO 70 feet**	-50
56							SAND: Fine sand, based on heaving and CPT interpretation	
57					SP			-52
58								
59								-54

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-13

(Sheet 4 of 6)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,730.95 Feet (CCS27 Zone 3)
Date Started: June 28, 2002	Easting: 1,471,273.93 Feet (CCS27 Zone 3)
Date Completed: June 29, 2002	Ground Surface Elevation: 4.97 Feet MSL, NGVD 29
Total Depth: 102.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	1839			Unable to sample due to heaving sands				
61								-56
62								
63								-58
64								
65	1902			Drill to 65' and sound borehole to 61' and unable to sample due to heaving sand shutdown on 6/28/02.	SP			-60
66								
67								-62
68	0942			Resume drilling on 6/29/02 change mud				
69								-64
70		16			CL			
	1003	37	095-02-168	MC sample			CLAY	
71		29	2"x6" br.sleeve	100% recovery on total drive			SAND with SILT: Fine sand with low plastic fines very dark grey (2.5Y 3N/), borehole stable	-66
72								
73								-68
74								
75					SP-SM			-70
76								
77								-72
78								
79								-74

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-13

(Sheet 5 of 6)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,730.95 Feet (CCS27 Zone 3)
Date Started: June 28, 2002	Easting: 1,471,273.93 Feet (CCS27 Zone 3)
Date Completed: June 29, 2002	Ground Surface Elevation: 4.97 Feet MSL, NGVD 29
Total Depth: 102.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
81	1050	5 5 14	095-02-169 2"x6" br.sleeve	MC sample 100% recovery on total drive	SM		SILTY SAND: Fine sand with low to medium plastic fines, very dark grey (2.5Y 3N/), contains very fine slinters of wood	-76
82								
83								-78
84								
85	1115				CL		**YERBA BUENA MUD UNIT 85 to 102.5 feet**	-80
86								
87							CLAY: High plastic fines, very dark grey (5Y 3/1), stiff	-82
88								
89								-84
90	1237		095-02-170 3"x30" ss sleeve	ST sample 100% recovery easy push				
91								-86
92								
93								-88
94								
95								-90
96								
97								-92
98								
99								-94

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-13

(Sheet 6 of 6)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,730.95 Feet (CCS27 Zone 3)
Date Started: June 28, 2002	Easting: 1,471,273.93 Feet (CCS27 Zone 3)
Date Completed: June 29, 2002	Ground Surface Elevation: 4.97 Feet MSL, NGVD 29
Total Depth: 102.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
101			095-02-171 3"x30" ss sleeve	ST sample 100% recovery easy push	CL		CLAY: High plastic fines, very dark grey (5Y 3/1), stiff	-96
102								
103							T.D. borehole at 100 feet bgs and sample to 102.5 feet bgs	-98
104								
105								-100
106								
107								-102
108								
109								-104
110								
111								-106
112								
113								-108
114								
115								-110
116								
117								-112
118								
119								-114

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-14

(Sheet 1 of 7)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,877.00 Feet (CCS27 Zone 3)
Date Started: June 27, 2002	Easting: 1,471,436.08 Feet (CCS27 Zone 3)
Date Completed: June 28, 2002	Ground Surface Elevation: 7.16 Feet MSL, NGVD 29
Total Depth: 152.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	1108			Asphalt surface				
1					SP		Asphalt **UNNAMED FILL UNIT 0.5 to 29 feet** SAND: Fine sand with trace fines, dark olive grey (2.5Y 3/2), trace shell fragments, well consolidated, non-cemented	6
2								
3								4
4								
5	1123	9 31 50/4	095-02-152 2"x6" br.sleeve	MC sample 100% recovery on total drive				2
6								
7								0
8								
9								-2
10	1148	8 11 12	095-02-153 grab plastic bag	SPT sample 100% recovery on total drive				
11								-4
12								
13								-6
14								
15	1218		095-02-154 3"x30" ss sleeve	ST sample 100% recovery easy push				-8
16								
17								-10
18								
19	1241	13 13 14	095-02-155 2"x6" br.sleeve	MC sample 100% recovery on total drive	SP-SM		SAND with SILT: Fine sand with low plastic fines, very dark grey (2.5Y 3N/), trace shells	-12
20								
21								-14

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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2384-SOIL LOG 1&2_95.GPJ FSTRW_SA.GDT 8/6/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-14

(Sheet 2 of 7)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,877.00 Feet (CCS27 Zone 3)
Date Started: June 27, 2002	Easting: 1,471,436.08 Feet (CCS27 Zone 3)
Date Completed: June 28, 2002	Ground Surface Elevation: 7.16 Feet MSL, NGVD 29
Total Depth: 152.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
23					SP-SM			-16
24								
25								-18
26								
27								-20
28								
29								-22
30	1347		095-02-156 3"x30" ss sleeve	ST sample 100% recovery easy push	CH		**YOUNG BAY MUD UNIT 29 to 49 feet**	
31							CLAY: High plastic fines, trace fine sand or silt, very dark grey (5Y 3/1), abundant shell fragments, slightly gritty, stiff	-24
32								
33								-26
34								
35								-28
36								
37								-30
38								
39								-32
40	1440		095-02-157 3"x30" ss sleeve	ST sample 100% recovery easy push			Drilling conditions indicative of silt/clay	
41								-34
42								
43								-36

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2384-SOIL LOG 1&2_95.GPJ FSTRW_SA.GDT 8/6/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-14

(Sheet 3 of 7)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,877.00 Feet (CCS27 Zone 3)
Date Started: June 27, 2002	Easting: 1,471,436.08 Feet (CCS27 Zone 3)
Date Completed: June 28, 2002	Ground Surface Elevation: 7.16 Feet MSL, NGVD 29
Total Depth: 152.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
45					CH			-38
46								
47								-40
48				Contact based on CPT testing				
49								-42
50	1521	60 50 50/1	095-02-158 2"x6" br.sleeve	MC sample 100% recovery on total drive	SP		**BAY SEDIMENT UNIT 49 to 82 feet**	
51								-44
52							SAND: Fine sand, very dark grey (2.5Y 3N/), minor shells, well consolidated, non-cemented	
53								-46
54								
55								-48
56							SAND: Fine sand, very dark grey (2.5Y 3N/), minor shells, well consolidated, non-cemented	
57								-50
58								
59								-52
60	1545	26 31 38	095-02-159 grab plastic bag	SPT sample 100% recovery on total drive			SAND: Fine sand, very dark grey (2.5Y 3N/), minor shells, well consolidated, non-cemented	
61								-54
62								
63								-56
64								
65								-58

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-14

(Sheet 4 of 7)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,877.00 Feet (CCS27 Zone 3)
Date Started: June 27, 2002	Easting: 1,471,436.08 Feet (CCS27 Zone 3)
Date Completed: June 28, 2002	Ground Surface Elevation: 7.16 Feet MSL, NGVD 29
Total Depth: 152.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82	1630	14 38 50	095-02-160 grab plastic bag	SPT sample 100% recovery on total drive	SP		SAND: Fine sand, very dark grey (2.5Y 3N/), minor shells, well consolidated, non-cemented	-60, -62, -64, -66, -68, -70, -72, -74
	1758	45 50/4	095-02-161 grab plastic bag	SPT sample 100% recovery on total drive				
83, 84, 85, 86, 87					CL		**YERBA BUENA MUD UNIT 82 to 152.5 feet** CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	-76, -78, -80

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-14

(Sheet 5 of 7)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,877.00 Feet (CCS27 Zone 3)
Date Started: June 27, 2002	Easting: 1,471,436.08 Feet (CCS27 Zone 3)
Date Completed: June 28, 2002	Ground Surface Elevation: 7.16 Feet MSL, NGVD 29
Total Depth: 152.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
89								-82
90	1901		095-02-162 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	
91								-84
92								
93								-86
94								
95								-88
96								
97								-90
98								
99					CL			-92
100	1957		095-02-163 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	
101								-94
102								
103				Terminate drilling @ 1957 on 6/27/02				-96
104								
105	0630			Resume drilling on 6/28/02 change mud				-98
106								
107								-100
108								
109								-102

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-14

(Sheet 6 of 7)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,877.00 Feet (CCS27 Zone 3)
Date Started: June 27, 2002	Easting: 1,471,436.08 Feet (CCS27 Zone 3)
Date Completed: June 28, 2002	Ground Surface Elevation: 7.16 Feet MSL, NGVD 29
Total Depth: 152.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
111							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	-104
112								
113								-106
114								
115								-108
116								
117								-110
118								
119								-112
120	0827		095-02-164 3"x30" ss sleeve	ST sample 100% recovery easy push	CL		CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	
121								-114
122								
123								-116
124								
125								-118
126								
127								-120
128								
129								-122
130	0915			Continue drilling in clay no problem				
131							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	-124

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-14

(Sheet 7 of 7)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,877.00 Feet (CCS27 Zone 3)
Date Started: June 27, 2002	Easting: 1,471,436.08 Feet (CCS27 Zone 3)
Date Completed: June 28, 2002	Ground Surface Elevation: 7.16 Feet MSL, NGVD 29
Total Depth: 152.5 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
133								-126
134								
135								-128
136								
137								-130
138								
139								-132
140	0950			Continue drilling in clay no problem				
141							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	-134
142					CL			
143								-136
144								
145								-138
146								
147								-140
148								
149								-142
150	1021		095-02-165 3"x30" ss sleeve	ST sample 100% recovery easy push				
151							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	-144
152								
153							T.D. Borehole at 150 feet bgs and sample to 152.5 feet bgs	-146

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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 1 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
1, 2, 3, 4					SP		**UNNAMED FILL UNIT** SAND: Fine sand with trace fines, olive brown (2.5Y 4/3), trace shell fragments	6, 4
5, 6	0924	9, 11, 14	095-02-137 2"x6" br.sleeve	MC sample 88% recovery on total drive				2
7, 8, 9								0
10, 11	0951	10, 11, 14	095-02-138 grab plastic bag	SPT sample 66% recovery on total drive				-2, -4
12, 13, 14								-6
15, 16, 17	1029		095-02-139 3"x30" ss sleeve	ST sample 100% recovery easy push 18" moderate push last 6"	SP-SM		SAND with SILT: Fine sand with 10% low plastic fines, very dark grey (5Y 3/1), loose, non-cemented	-8
18, 19								-10
20, 21	1107	7, 8, 8	095-02-140 2"x6" br.sleeve	MC sample 66% recovery on total drive				-12, -14

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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2384-SOIL LOG 1&2_95.GPJ FSTRW_SA.GDT 8/6/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 2 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
23					SP-SM		SAND with SILT: Fine sand with 10% low plastic fines, very dark grey (5Y 3/1), loose, non-cemented	-16
24								
25								-18
26								
27								-20
28								
29							**YOUNG BAY MUD UNIT**	-22
30	1205		095-02-141 3"x30" ss sleeve	ST sample 100% recovery easy push			SILT with SAND: Medium to high plastic fines with fine sand, very dark grey (2.5Y N3/)	
31								-24
32								
33								-26
34								
35								-28
36					ML		SILT with SAND: Medium to high plastic fines with fine sand, very dark grey (2.5Y N3/)	
37								-30
38								
39								-32
40	1235		095-02-142 3"x30" ss sleeve	ST sample 100% recovery easy push			SILT with SAND: Medium to high plastic fines, very dark grey (2.5Y N3/), abundant shell fragments	
41								-34
42								
43								-36

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 3 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
45, 46, 47, 48, 49					ML			-38, -40
50, 51, 52, 53, 54, 55, 56, 57, 58, 59	1346	20 50/5	095-02-143 2"x6" br.sleeve	MC sample 100% recovery on total drive	SP		**BAY SEDIMENT UNIT** SAND: Fine sand, very dark grey (2.5Y 3N/), minor shells, well consolidated, non-cemented	-42, -44, -46, -48, -50
60, 61, 62, 63, 64, 65	1610	3 50/10	095-02-144 2"x6" br.sleeve	MC sample 100% recovery on total drive	SP-SM		SAND with SILT: Fine sand with medium to high plastic fines, very dark grey (2.5Y N3/), abundant shell fragments, well consolidated, non-cemented	-52, -54, -56, -58

Notes: Boring Log Reviewed By: V. Richards 7/30/02
bgs = below ground surface
MSL = mean sea level
CCS27 = California Coordinate System 27
NGVD = National Geodetic Vertical Datum

SPT = Standard Penetration Test
MC = Modified California
ST = Shelby Tube
TD = Total Depth
NA = Not Applicable
SWDIV = Southwest Division Naval Engineering Command

br = brass
ss = stainless steel
CPT = Cone Penetrometer Test

FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 4 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
67, 68, 69					SP-SM			-60
70, 71	1706	30, 41, 50/5	095-02-145 grab plastic bag	SPT sample 100% recovery on total drive	SM		SILTY SAND: Fine sand with low plastic fines, very dark grey (2.5Y 3N/), minor shells, well consolidated, non-cemented	-62, -64
72, 73, 74, 75, 76, 77, 78, 79								-66, -68, -70
80, 81	1750	12, 12, 9	095-02-146 grab plastic bag	SPT sample 100% recovery on total drive				-72
82					CH		**YERBA BUENA MUD UNIT**	-74
83	1755			Clean mud tank and resume drilling at 1849			CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	-76
84, 85, 86, 87								-78, -80

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 5 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
	1923		095-02-147 3"x30" ss sleeve	ST sample 100% recovery easy push				
89								
90								-82
91								
92				Terminate drilling on 9/25/02 @ 1923				-84
93								
94	0700			Resume drilling on 6/26/02 @ 90.5 feet				-86
95								
96								-88
97								
98								-90
99					CH			
100	0800							-92
101								
102								-94
103								
104								-96
105								
106								-98
107								
108								-100
109								
								-102

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 6 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
111	1046		095-02-148 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff	
112								-104
113								
114								-106
115								
116								-108
117								
118								-110
119								
120	1154			No samples cuttings indicative of CPT	CH		CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff, data interpreted from CPT	-112
121								
122								-114
123								
124								-116
125								
126								-118
127								
128								-120
129								
130	1215			No samples cuttings indicative of CPT				-122
131							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff, data interpreted from CPT	-124

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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MC = Modified California
ST = Shelby Tube
TD = Total Depth
NA = Not Applicable
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ss = stainless steel
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 7 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
133								
134								-126
135								
136								-128
137								
138								-130
139								
140	1246			No samples cuttings indicative of CPT				-132
141							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff, data interpreted from CPT	
142								-134
143					CH			
144								-136
145								
146								-138
147								
148								-140
149								
150	1300			No samples cuttings indicative of CPT				-142
151							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff, data interpreted from CPT	
152								-144
153								
								-146

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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SPT = Standard Penetration Test
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 8 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
155								
156								-148
157								
158								-150
159								
160								-152
161	1341		095-02-149 3"x30" ss sleeve	ST sample 100% recovery easy push			CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff, data interpreted from CPT	-154
162								
163								-156
164								
165					CH			-158
166								
167								-160
168								
169								-162
170								
171							CLAY: High plastic fines, dark grey (2.5Y 4N/), stiff, data interpreted from CPT	-164
172								
173								-166
174								
175								-168

Notes: Boring Log Reviewed By: V. Richards 7/30/02
bgs = below ground surface
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FOSTER WHEELER ENVIRONMENTAL CORPORATION

LOG OF BORING B-2-15

(Sheet 9 of 9)

Client: SWDIV	Drilling Company: Western Strata Exploration
Project: CTO054 Alameda Point	Drilling Method: Mud Rotary.
Project Number: 1990.054D	Sampling Method: See Log
Location: Area Between Installation Restoration Site 1 and 2	Borehole Diameter: 4 in.
Geologist/Engineer: V. Richards	Northing: 474,903.96 Feet (CCS27 Zone 3)
Date Started: June 25, 2002	Easting: 1,471,652.05 Feet (CCS27 Zone 3)
Date Completed: June 26, 2002	Ground Surface Elevation: 7.55 Feet MSL, NGVD 29
Total Depth: 192.0 Feet bgs	Top of Casing Elevation: NA

Depth (ft.)	Time	Blow Counts	Sample ID	Comments	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation (ft.)
177					CH			
178				Contact based on CPT				-170
179							**ALAMEDA FORMATION**	
180	1601	15	095-02-150 grab plastic bag	SPT sample 100% recovery on total drive			SILTY SAND: Fine sand with medium plastic fines, dark grey (2.5Y 4N/)	-172
181		30						
182		42						-174
183								
184								-176
185					SM			
186								-178
187								
188								-180
189								
190								-182
191							SANDY SILT/SILTY SAND	
192								-184
193							T.D. Borehole at 191 feet bgs and sample to 192.5 feet bgs	
194								-186
195								
196								-188
197								
								-190

Notes: Boring Log Reviewed By: V. Richards 7/30/02
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APPENDIX D

SURVEY RECORDS

KISTER, SAVIO & REI INC.
LAND SURVEYORS & CIVIL ENGINEERS

MATTHEW L. REI, PRES.
R.C.E. 39863 - L.S. 7115

PATRICK M. REI, V.P.
PROJECT MANAGER

DONALD E. KISTER (1905-1969)
CHARLES J. SAVIO (Retired)
MICHAEL P. REI (Retired)

3095 RICHMOND PARKWAY
SUITE 214
RICHMOND, CA 94806
PHONE (510) 222 - 4020
FAX (510) 222 - 3718
E-MAIL info@ksrinc.net

Date : 08/01/02
Job No.: 18023
Client : FOSTER WHEELER ENVIRONMENTAL CORP.
Project: ALAMEDA POINT SITE 2 Sample Survey
Date of Survey: March 20,2002 and June 17, 2002

Point	Northing	Easting	Elevation	Description
653	474315.70	1471436.67	8.76	TP-2-11
654	473991.82	1471836.37	5.98	TP-2-9
655	474003.87	1472375.30	5.38	TP-2-10
656	474067.01	1472892.42	6.21	TP-2-12
657	473330.83	1472857.12	11.74	TP-2-7
658	473377.52	1472338.53	8.34	TP-2-6
659	473332.74	1471767.37	6.57	TP-2-5
662	473601.30	1471252.61	4.15	TP-2-8
663	472542.09	1472735.09	9.48	TP-2-3
664	472581.07	1472228.50	13.18	TP-2-4
666	471853.35	1472682.76	9.28	TP-2-1
685	472065.98	1470898.19	16.50	C-2-7
750	475121.98	1471256.92	7.52	C-2-20
751	475110.99	1471446.98	9.18	C-2-21
752	474913.92	1471259.03	6.44	C-2-18
753	474924.97	1471431.99	7.93	C-2-19
754	474877.00	1471436.08	7.16	B-2-14
755	474903.96	1471652.05	7.55	B-2-15
756	474730.95	1471273.90	4.97	B-2-13
757	474710.01	1471282.03	4.92	C-2-16
758	474686.08	1471480.03	4.36	C-2-17
1000	471881.36	1472780.20	16.85	B-2-7
1001	471897.58	1472721.17	8.53	B-2-7A
1002	471714.16	1472726.30	16.55	C-2-1
1003	471724.17	1472551.35	16.98	C-2-2
1004	471779.58	1471948.13	16.12	C-2-3
1005	471851.57	1472332.76	8.39	TP-2-2
1006	471793.07	1471774.96	16.77	B-2-8
1007	471807.01	1471601.91	15.70	C-2-4
1008	471825.97	1471353.29	15.84	C-2-5
1009	471842.91	1471188.73	16.23	B-2-9
1010	471890.48	1471071.98	16.12	C-2-6
1012	472313.72	1470918.73	16.14	C-2-8
1013	472570.08	1470959.52	16.78	B-2-10
1014	472644.14	1470972.15	15.88	C-2-9
1015	473010.43	1471035.28	13.06	C-2-10
1016	473576.93	1471073.24	5.08	C-2-11
1017	473912.53	1471133.24	6.34	C-2-12A
1018	474177.97	1471234.19	6.41	C-2-13
1019	473460.92	1471409.91	4.45	C-2-14
1020	473453.12	1471403.96	4.57	B-2-12

KISTER, SAVIO & REI INC.
LAND SURVEYORS & CIVIL ENGINEERS

MATTHEW L. REI, PRES.
R.C.E. 39863 - L.S. 7115

PATRICK M. REI, V.P.
PROJECT MANAGER

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3095 RICHMOND PARKWAY
SUITE 214
RICHMOND, CA 94806
PHONE (510) 222 - 4020
FAX (510) 222 - 3718
E-MAIL info@ksrinc.net

Point	Northing	Easting	Elevation	Description
1021	474512.54	1471266.68	6.84	C-2-15A
1022	474454.46	1471417.73	7.66	B-2-11

Survey Control is based on the Monument designated "Main/Atl" as described by the National Geodetic Survey. The Monument is located at the northwest corner of Main Street and Atlantic Avenue.

Coordinates are based on the California Coordinate System Zone III North American Datum of 1927. The NAD27 value for "Main/Atl" was derived from the NADCON conversion of the published NAD83 Coordinates. The computed NAD27 coordinates are:

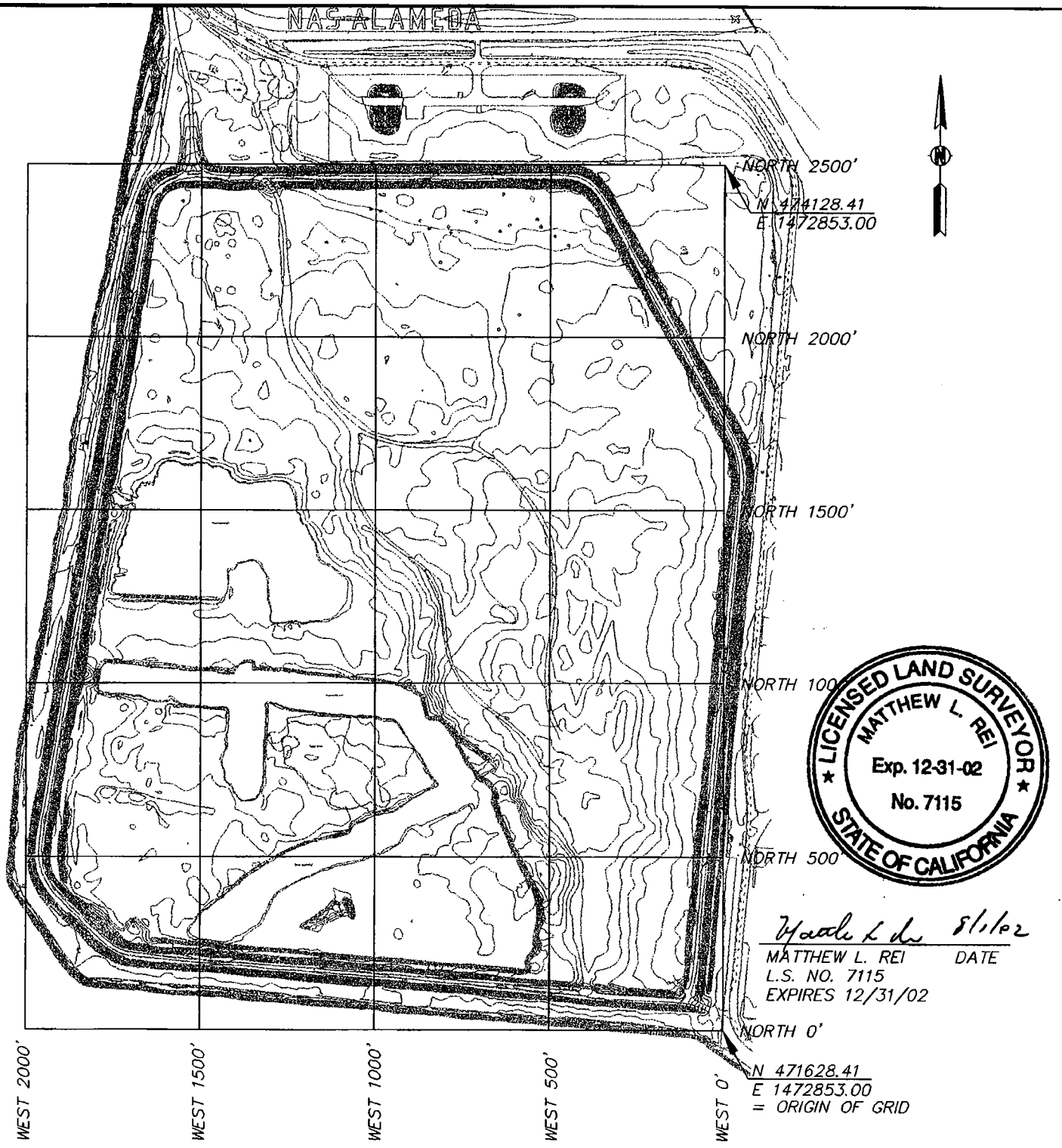
North 471,068.97'
East 1,482,604.56'

Elevations are based the National Geodetic Vertical Datum of 1929.
The published Elevation = 6.69' NGVD29

Coordinates and Elevations were obtained using RTK GPS techniques and conventional ground control survey methods.

LICENSED LAND SURVEYOR
MATTHEW L. REI
Exp. 12-31-02
No. 7115
STATE OF CALIFORNIA

8/1/02
Matthew L. Rei Date
L.S. No. 7115
Registration Expires: 12/31/02



8/1/02

MATTHEW L. REI DATE
L.S. NO. 7115
EXPIRES 12/31/02

REFERENCE	DESCRIPTION	KISTER, SAVIO & REI, INC LAND SURVEYORS – CIVIL ENGINEERS 3095 RICHMOND PARKWAY, SUITE 214 RICHMOND, CA. 94806 PHONE: (510) 222-4020 FAX (510) 222-3718	
	UXO SURFACE SWEEP GRID ALAMEDA POINT, IR SITE 2	FOR: FOSTER WHEELER ENVIRONMENTAL CORP.	
		DATE: 3/20/02	JOB No. 18023
	ALAMEDA CALIFORNIA	SCALE: 1" = 400'	DWG No. X-6133-2

ALAMEDA BATHYMETRIC SURVEY

Introduction

This survey was under contract to FWENC to provide bathymetric data in the vicinity of Alameda to be used for the evaluation of various engineering problems such as the stability of the riprap embankments and if there is any evidence of slumping or scouring. There was an urgency to collect and process the data as quickly as possible to meet FWENC deadlines. The fieldwork was performed on January 4-6 and January 30, 2002.

Methods and Survey Equipment

The survey utilized a 27' Farallon vessel rigged for surveying. The fathometer used was an Odec Bathy-500 MF Multi-Frequency Survey Echo Sounder with a narrow beam (3°) 200 kHZ transducer. The DGPS receivers used were a Leica MX300 with a USCG beacon corrections (January 4-6, 2002) and a Starlink Model 1071 with Omnistar satellite transmitted corrections (January 30, 2002). The hydrographic software package used was HydroPro (ver. 2.1). The contours were generated using Golden Software Surfer (ver. 7.0).

A side scan reconnaissance survey was performed for two purposes: 1) to identify any navigational hazards that we might encounter on the survey and 2) it was felt that a side scan image of the riprap embankment would provide valuable information on the condition of the embankment. A Klein Model 595 with 500 kHz fish was used and recorded digitally using a National Instruments DAQ board with the side scan digital acquisition software package Sea Sone Hunter (ver. 2.08).

A tide gauge (Microtide manufactured by Coastal Leasing) was installed on a "T" pier in the Alameda Inner Harbor Entrance Channel and recorded during the duration of the surveys. The instrument recorded data every minute which is an average of 0.5 sec readings. Readings on a tide staff on the pier were taken to calibrate the system. The data was reduced to water level measurements referenced to NGVD 1929 as leveled in from Bench Mark Site Control #500. The leveling was done using a Sokkia Model SET-5 with a Sokkia SDR-33 electronic field book. The water level measurements were used to tidal correct the bathymetric data and reference the depths to NGVD 1929.

The survey required lines spaced at 50' approximately normal to the shoreline, and 100' tie lines. This was accomplished with the exception of the area just south of the channel entrance which is an area with many navigational hazards (ie., exposed and submerged pilings, rocks, concrete slabs, and what appeared to be a wreck). The survey coverage is shown in Figure 1.

Results

The results of the bathymetric survey are shown in Figures 2-4 which show 1' contours over the survey area. An example of the side scan record is shown as a transect along the Inner Harbor Channel (Figure 5) which shows the riprap embankment in good condition with no visible evidence of slumping or scouring along that section.

The edited bathymetry data and the contours were transmitted via email.

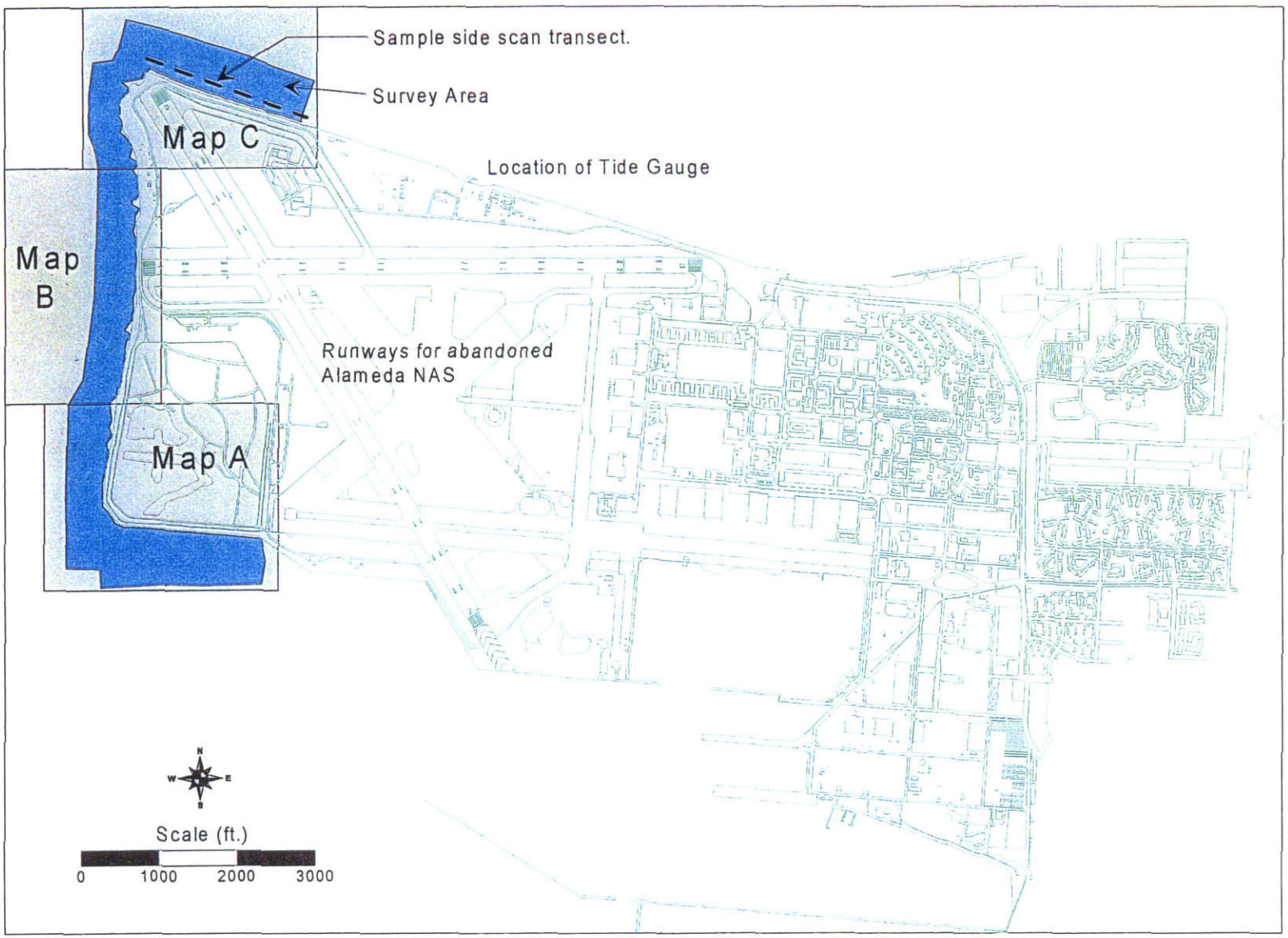


Figure 1. Overview of bathymetric survey coverag

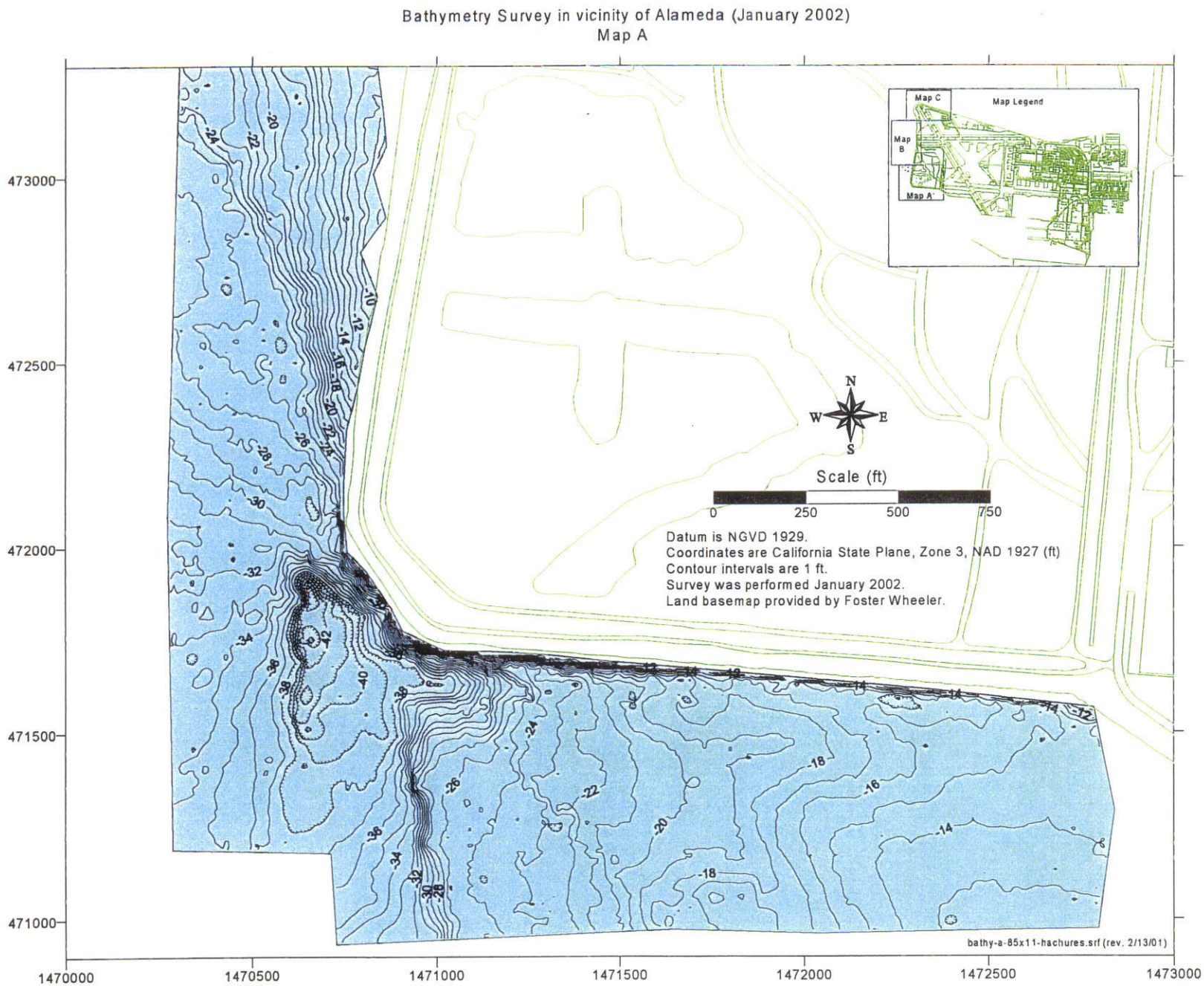


Figure 2. Bathymetry in vicinity of Alameda (Map A).

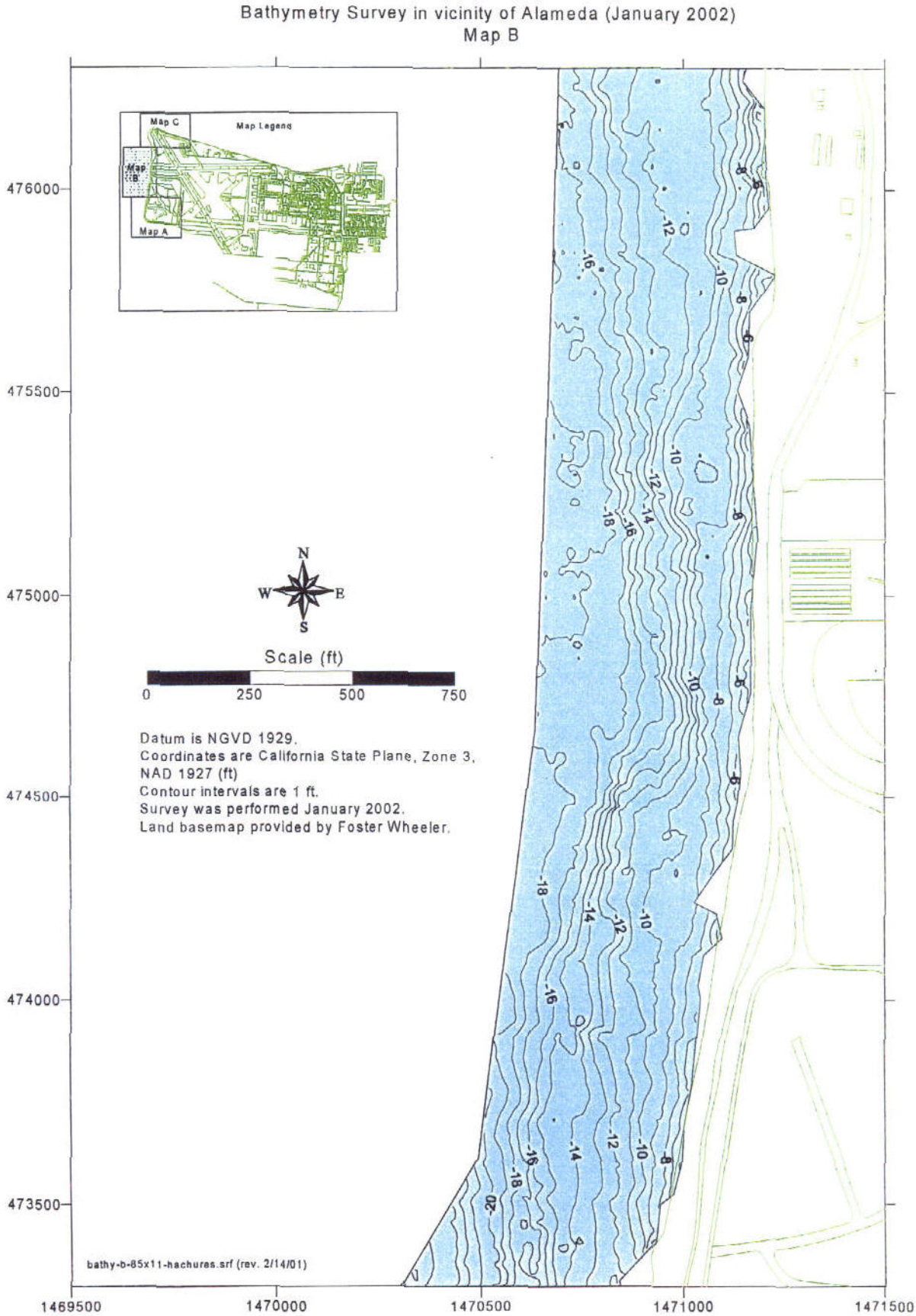


Figure 3. Bathymetry in vicinity of Alameda (Map B).

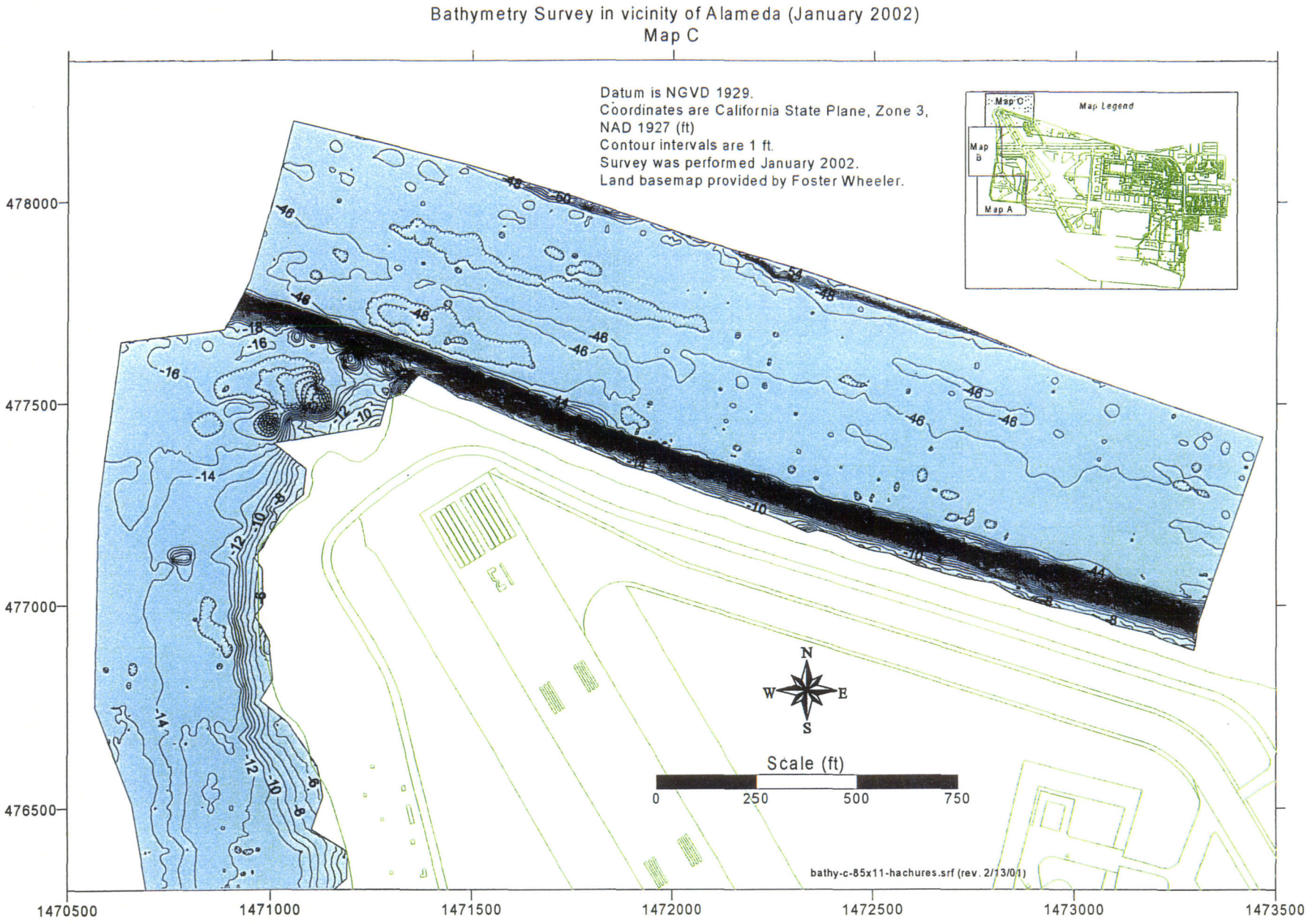


Figure 4. Bathymetry in vicinity of Alameda (Map C).

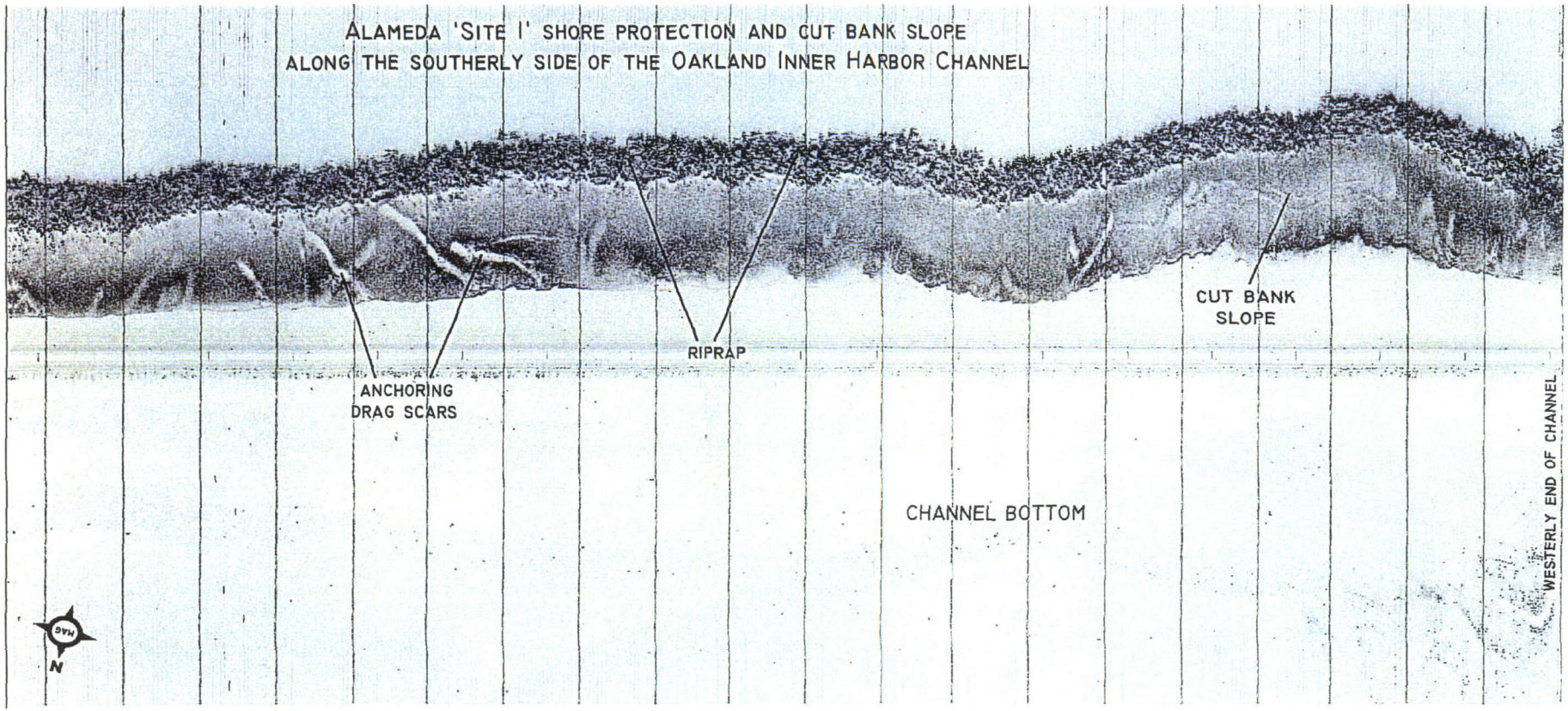


Figure 5. Side scan transect along Inner Harbor Channel showing riprap embankment. (See Figure 1 for location of transect).

APPENDIX E

OVERSIZED DRAWING

Not to be used for navigation purposes.

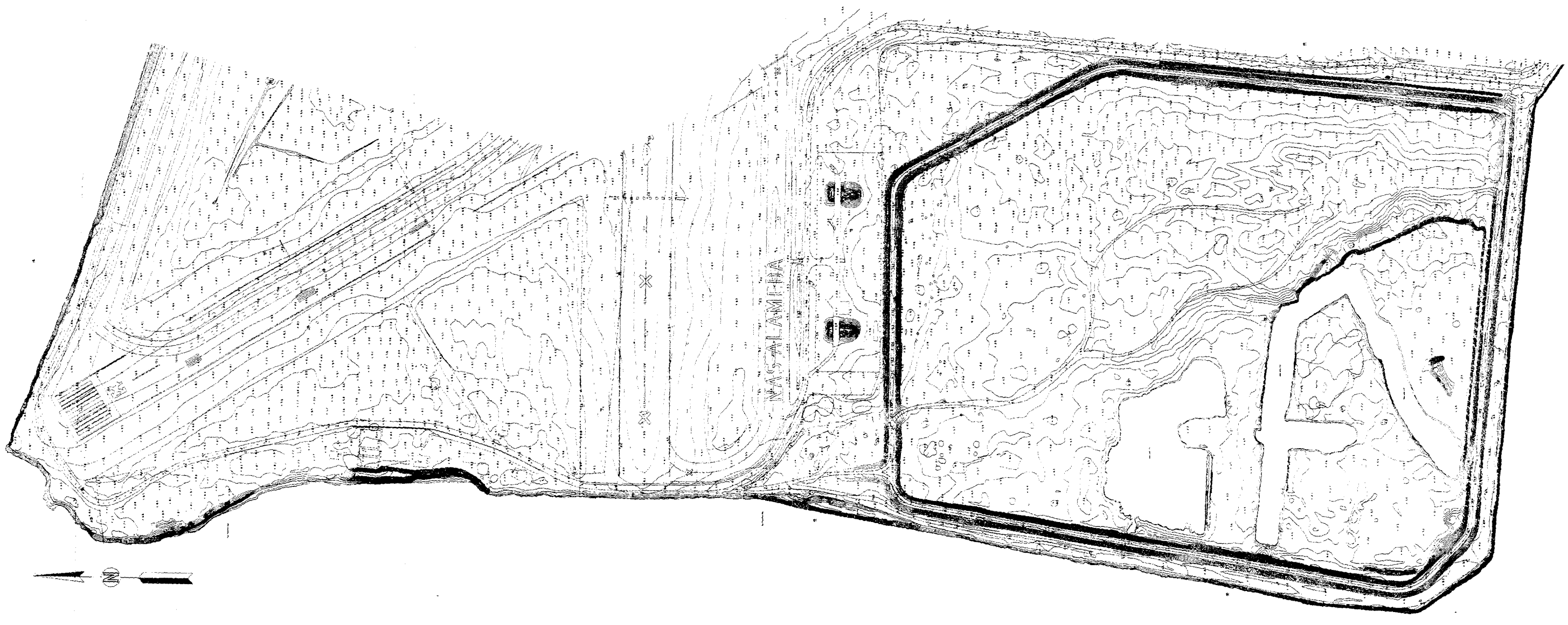
California Coordinate System Zone 3
Coordinate Datum NAD 27
Vertical Datum NGVD 29

400 200 100 0 200 400

Management Associates Inc
2270 Camino Vida Roble Suite J
Carlsbad, CA 92009 (760) 438 3884

SHEET 1 OF 1 DATE: FEB 28 2001
CHECKED BY: DRAWN BY: K.M.

BATHYMETRY SURVEY - ALAMEDA CA.
FOR
FOSTER - WHEELER


MASALAMIHA
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APPENDIX F

UXO ACQUISITION AND ACCOUNTABILITY LOG

N00236.001747
ALAMEDA POINT
SSIC NO. 5090.3

APPENDIX F – UXO ACQUISITION AND ACCOUNTABILITY LOG

FINAL ORDNANCE AND EXPLOSIVES WASTE/ GEOTECHNICAL CHARACTERIZATION REPORT

THE ABOVE IDENTIFIED APPENDIX HAS MISSING PAGES. IT COULD NOT BE DETERMINED WHETHER THESE PAGES ARE MISSING OR THE DOCUMENT WAS ISSUED WITHOUT THESE PAGES.

QUESTIONS MAY BE DIRECTED TO:

DIANE C. SILVA
RECORDS MANAGEMENT SPECIALIST
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 532-3676

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 095 **Report No.:** 9

UXO TEAM: 1 **Date:** 1/23/02

ACQUISITION DATA

Grid Number 138 63'N 15'E	
Ordnance length (inches)	1.5"
Ordnance diameter (inches)	20 mm
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	20mm TP Broken TP
Photo roll number/disk number	
Photo exposure number/digital file number	#131 disk 7
Video marker – Start	
Video marker – Stop	
Ordnance description (1)	20mm TP

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	1/23/02	[illegible]			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cocchiola	7, 8 Feb 02	[illegible] Cocchiola

Comments:

Senior UXO Supervisor [illegible] Cocchiola

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: _____ **Report No.:** 10

UXO TEAM: 1 **Date:** 1/28/02

ACQUISITION DATA

Grid Number	59 175N 32E
Ordnance length (inches) ~~10~~	10"
Ordnance diameter (inches) ~~4.5~~	4.5"
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	Training Land mine AT/AU
Photo roll number/disk number	disk 7
Photo exposure number/digital file number	132, 133
Video marker – Start	
Video marker – Stop	
Ordnance description	Training (Inert) Landmine AT/AU

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	1/28/02	JRC			

DESTROYED BY	DATE	SIGNATURE

Comments: EOD INERT Sticker on mine - number not visible

Senior UXO Supervisor JR Carachuela

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: DO 95 **Report No.:** 11

UXO TEAM: 1 **Date:** 2/20/02

ACQUISITION DATA

Grid Number	OE66
Ordnance length (inches)	
Ordnance diameter (inches)	
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	20mm TP (842 total)
Photo roll number/disk number	
Photo exposure number/digital file number	149 disk 8
Video marker – Start	
Video marker – Stop	
Ordnance description	20mm TP

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	2/20/02	JRC			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cocchiola	6-15 March 02	JR Cocchiola

Comments: Location Grid OE66 17'N 4'E (842 total)

Senior UXO Supervisor JR Cocchiola

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: _____ **Report No.:** 12

UXO TEAM: 1 **Date:** 2/21/02

ACQUISITION DATA

Grid Number OE	OE66 18N/18E
Ordnance length (inches)	
Ordnance diameter (inches)	
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	80mmTP (5021)
Photo roll number/disk number	
Photo exposure number/digital file number	152, 153, 154
Video marker – Start	
Video marker – Stop	
Ordnance description	

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	2/21/02	[illegible]			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cocchiola	6-18 March 02	[illegible]

Comments: OE66 18N 18E

Senior UXO Supervisor [illegible]

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: _____ **Report No.:** 13

UXO TEAM: 1 **Date:** 2/25

ACQUISITION DATA

Grid Number	OE65 15N - 15E
Ordnance length (inches)	20mm
Ordnance diameter (inches)	
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	20mm (96)
Photo roll number/disk number	—
Photo exposure number/digital file number	—
Video marker – Start	—
Video marker – Stop	—
Ordnance description	20mm

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	2/25	JRC			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cocchiola	6-18 March 02	JR Cocchiola

Comments: (96) 20mm grid OE65 15N - 15E

Senior UXO Supervisor JR Cocchiola

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 095 **Report No.:** 14

UXO TEAM: 1 **Date:** 3/5/02

ACQUISITION DATA

Grid Number	Site 1 grid 296
Ordnance length (inches)	—
Ordnance diameter (inches)	—
Weight (lbs/oz)	—
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	20mm Projo
Photo roll number/disk number	
Photo exposure number/digital file number	172
Video marker – Start	
Video marker – Stop	
Ordnance description	20mm TP (10 rds)

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	3/5/02	[illegible]			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cachids	6-8 March 02	[illegible]

Comments: uncovered by erosion

Senior UXO Supervisor [illegible]

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 15

UXO TEAM: 1 **Date:** 3/5/02

ACQUISITION DATA

Grid Number	65 10N 12E
Ordnance length (inches)	—
Ordnance diameter (inches)	20mm
Weight (lbs/oz)	—
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	20 mm projo
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20 mm (1657)

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	3/5/02	[signature]			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cocchiola	6-15 March 02	[signature]

Comments: 1657 20mm TP

Senior UXO Supervisor [signature]

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 16

UXO TEAM: 1 **Date:** 11 MAR02

ACQUISITION DATA

Grid Number	65, 66 ? Trommel
Ordnance length (inches)	
Ordnance diameter (inches)	20mm
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	~~42f~~ (478) 20mm proj
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20mm proj

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	3/11/02	JRC			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cracchiolo	6-15 March 02	JR Cracchiolo

Comments: located in spoils of trommel (478)

Senior UXO Supervisor JR Cracchiolo

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 17

UXO TEAM: 1 **Date:** 16MARCR

ACQUISITION DATA

Grid Number	6566 ? Trommel
Ordnance length (inches)	
Ordnance diameter (inches)	20mm
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	243 ~~20mm~~ 20mm TP
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20 mm prop

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	3/16/02	JRC			

DESTROYED BY	DATE	SIGNATURE
Demilled by Cocchiola	6-15 Mar	JR Cocchiola

Comments: located in trommel spoils (243)

Senior UXO Supervisor JR Cocchiola

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 18

UXO TEAM: 1 **Date:** 18 MAR

ACQUISITION DATA

Grid Number	65, 66 ? Trommel spoils
Ordnance length (inches)	
Ordnance diameter (inches)	20mm
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	327
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20 mm proj o

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
353	3/19/02	JRC			

DESTROYED BY	DATE	SIGNATURE
DEMILLED BY START	22 MAR 02	[signature]

Comments:

Senior UXO Supervisor [signature]

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 19

UXO TEAM: 1 **Date:** 19 MAR

ACQUISITION DATA

Grid Number	TROMMEL SPOILS
Ordnance length (inches)	
Ordnance diameter (inches)	20mm
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	120
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20mm PROJ

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
~~120~~ 353	3/20/02	NPS			

DESTROYED BY	DATE	SIGNATURE
DEMILLED BY RSTOUT	3/22/02	[signature]

Comments:

Senior UXO Supervisor [signature]

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 20

UXO TEAM: 1 **Date:** 20 MAR

ACQUISITION DATA

Grid Number	Trommel Spoils
Ordnance length (inches)	
Ordnance diameter (inches)	20mm
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	37
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20mm PROJ.

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
(4) ~~37~~ 353	3/20/02	RS			

DESTROYED BY	DATE	SIGNATURE
DEMILLED BY R. STOUT	3/22/02	[signature]

Comments:

Senior UXO Supervisor [signature]

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 21

UXO TEAM: 1 **Date:** 21 MAR

ACQUISITION DATA

Grid Number	TROMMEL SPOILS
Ordnance length (inches)	
Ordnance diameter (inches)	20mm
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	23
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20mm PROJ.

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
(P) ~~23~~ 353	3/21/02	RS			

DESTROYED BY	DATE	SIGNATURE
DEMILITARIZED BY R. STOUT	3/22/02	R Stout

Comments:

Senior UXO Supervisor

ATTACHMENT 5

UXO ACQUISITION AND ACCOUNTABILITY LOG

Delivery Order No.: 95 **Report No.:** 22

UXO TEAM: 1 **Date:** 3/21/02

ACQUISITION DATA

Grid Number	TRUMMEL SPOILS
Ordnance length (inches)	
Ordnance diameter (inches)	20mm ~~CASINGS~~
Weight (lbs/oz)	
Ordnance type (bomb, rocket, projectile, hand grenade, mortar, rifle grenade, pyrotechnics, small arms, and so forth)	22
Photo roll number/disk number	
Photo exposure number/digital file number	
Video marker – Start	
Video marker – Stop	
Ordnance description	20mm CASINGS

UXO DISPOSITION

SAFE HOLDING AREA	DATE	INITIAL	TRANSFERRED TO	DATE	SIGNATURE
90 ~~22~~ 353	3/21/02	RS			

DESTROYED BY	DATE	SIGNATURE
DEMILLED BY R. STOUT	3/22/02	[signature]

Comments:

Senior UXO Supervisor [signature]

Continue

"BMCS Michael R Parish" <parishm@eodmu7.navy.mil>

08/07/02 12:41 PM
Please respond to parishm

To: <lhumphrey@fwenc.com>
cc:
Subject: RE: Landmine

On 15 May 2002 the Duty Tech from EOD Det Southwest received (1) Inert , AT/AV M56 Mine Dispersing Submunition US Landmine from Lance Humphrey of Foster Wheeler Environmental Corporation. This item was turned over to EODTEU ONE for a Training Aid.

BMCS(EOD/SW) Michael R. Parish
EOD·Det Southwest
BLDG 41 NAS North Island
San Diego, CA 92135-7092

Ph: (619)545-0480
Fax: (619)545-0489
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