Previous

N00236.002042
ALAMEDA POINT
SSIC NO. 5090.3

Final

OU-2B Remedial Investigation Report
Sites 3, 4, 11, and 21
Volume III of IV
Appendices A – E and H – L

Alameda Point
Alameda, California

August 5, 2005

(Appendix L added on September 28, 2005)

Prepared for:
Base Realignment and Closure
Program Management Office West
San Diego, California

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APPENDIX A
GEOLOGICAL AND CONE PENETROMETER TESTING LOGS

SITE 3

Site 3 Boring Log Table of Contents

Boring ID	Date Drilled	Investigation
MW97-1	7/26/1990	Phase 1 & 2A
MW97-2	7/26/1990	Phase 1 & 2A
MW97-3	7/26/1990	Phase 1 & 2A
CPT-S03-01	8/5/1994	Follow On 1994
CPT-S03-02	7/15/1994	Follow On 1994
CPT-S03-03	7/16/1994	Follow On 1994
CPT-S3-04	7/16/1994	Follow On 1994
M03-04	11/6/1994	Follow On 1994
M03-05	11/20/1994	Follow On 1994
M03-06	11/19/1994	Follow On 1994
M03-07	11/20/1994	Follow On 1994
M03-08	11/6/1994	Follow On 1994
M03-08A	11/20/1994	Follow On 1994
D03-01	11/15/1994	Follow On 1994
398-MW3	1/25/1995	Underground Storage Tank Investigation
398-MW4	1/26/1995	Underground Storage Tank Investigation
FP-CA03-DG1-01	4/26/2000	Corrective Action Area Investigation
HP-CA03-DG3-01	4/26/2000	Corrective Action Area Investigation
S03-DGS-DP01	7/23/2001	Data Gap Sampling 2001
S03-DGS-DP02	7/23/2001	Data Gap Sampling 2001
S03-DGS-DP03	8/9/2001	Data Gap Sampling 2001
S03-DGS-DP04	7/23/2001	Data Gap Sampling 2001
S03-DGS-DP05	7/23/2001	Data Gap Sampling 2001
S03-DGS-DP06	6/18/2001	Data Gap Sampling 2001
S03-DGS-DP07	6/18/2001	Data Gap Sampling 2001
S03-DGS-DP08	6/18/2001	Data Gap Sampling 2001
S03-DGS-DP09	6/18/2001	Data Gap Sampling 2001
S03-DGS-DP10	6/18/2001	Data Gap Sampling 2001
S03-DGS-DP11	6/19/2001	Data Gap Sampling 2001
S03-DGS-DP12	6/19/2001	Data Gap Sampling 2001
S03-DGS-DP13	6/19/2001	Data Gap Sampling 2001

Boring ID	Date Drilled	Investigation
S03-DGS-DP14	8/2/2001	Data Gap Sampling 2001
S03-DGS-DP15	8/2/2001	Data Gap Sampling 2001
S03-DGS-DP16	8/1/2001	Data Gap Sampling 2001
S03-DGS-DP17	8/1/2001	Data Gap Sampling 2001
S03-DGS-DP18	8/1/2001	Data Gap Sampling 2001
S03-DGS-DP19	8/2/2001	Data Gap Sampling 2001
S03-DGS-DP27	8/31/2001	Data Gap Sampling 2001
S03-DGS-DP31	9/24/2001	Data Gap Sampling 2001
S03-DGS-DP32	9/24/2001	Data Gap Sampling 2001
S03-DGS-DP33	9/24/2001	Data Gap Sampling 2001
S03-DGS-DP34	9/24/2001	Data Gap Sampling 2001
S03-DGS-DP35	9/24/2001	Data Gap Sampling 2001
S03-DGS-DP36	11/6/2001	Data Gap Sampling 2001
S03-DGS-DP37	11/6/2001	Data Gap Sampling 2001
S03-DGS-DP38	2/8/2002	Data Gap Sampling 2001
S03-DGS-SG01	7/5/2001	Data Gap Sampling 2001
S03-DGS-SG02	7/5/2001	Data Gap Sampling 2001
S03-DGS-SG04	7/5/2001	Data Gap Sampling 2001
S03-DGS-SG05	7/5/2001	Data Gap Sampling 2001
S03-DGS-SG07	7/5/2001	Data Gap Sampling 2001
S03-DGS-SG08	7/5/2001	Data Gap Sampling 2001
S03-DGS-SG10	7/3/2001	Data Gap Sampling 2001
S03-DGS-SG11	7/3/2001	Data Gap Sampling 2001
S03-DGS-SG13	9/6/2001	Data Gap Sampling 2001
S03-DGS-SG15	9/6/2001	Data Gap Sampling 2001
S03-DGS-DP39	2/8/2002	Data Gap Sampling 2001
S03-DGS-DP40	2/8/2002	Data Gap Sampling 2001
M03-09	8/14/2002	Basewide Groundwater Monitoring
M03-10	8/14/2002	Basewide Groundwater Monitoring
M03-11	8/14/2002	Basewide Groundwater Monitoring
M03-12	8/12/2003	Basewide Groundwater Monitoring
M03-13	8/14/2002	Basewide Groundwater Monitoring.

PROJECT No. 86-018-1804
BORING No. MW97-1
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: West of McDonald's Restaurant SURFACE ELEV. 113.61 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/26/90 FINISH 7/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
														Asphalt. (Fill)	
	1	CS	0.5	2.0	30	30	20	10	SM			0.5		Dense, light brown, silty fine sand, moist with shells. (Fill)	
	2	CS	2.0	3.5	9	20	12	13	SM					becomes medium dense at 2.0 feet.	
											Fill				
5	3	CS	3.5	5.0	8	3	2	10	SM-CL			4.5		Soft, greenish gray, silty clay, moist.	
	4	CS	5.0	6.5	8	3	2	18	SM		BS	5.5		Loose, black, silty medium sand, saturated, with white shells and lenses of black clay.	X
	5	CS	6.5	8.0	1	1	2	16	CL			6.5			X
	6	CS	8.0	9.5	1	1	4	18	CL			8.0		Soft, gray to black, sandy clay, saturated, with shells.	X
10															X
	7	CS	9.5	11.0	1	1	5	18	CL					Soft to medium stiff, dark gray, silty clay, saturated. (Bay Mud)	X
	8	CS	11.0	12.5	2	4	6	17	SC			11.5		some organic plant matter at 10.5 feet.	X
															X
	9	CS	12.5	14.0	5	10	18	18	SC					Loose, dark gray to brown, silty clayey fine sand, saturated, with shells.	X
15	10	CS	14.0	15.5	12	8	11	16	SC		MS at 13'				X
												15.5		becomes medium dense and more silty at 13.0 feet.	
20														Bottom of Boring at 15.5 feet.	
25															
30															
35															
40															

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings:
   a) 50 ppm at 6.0 feet.
   b) 25 ppm at 7.0 feet
   c) 30 ppm at 8.5 feet.
   d) 30 ppm at 10.5 feet.

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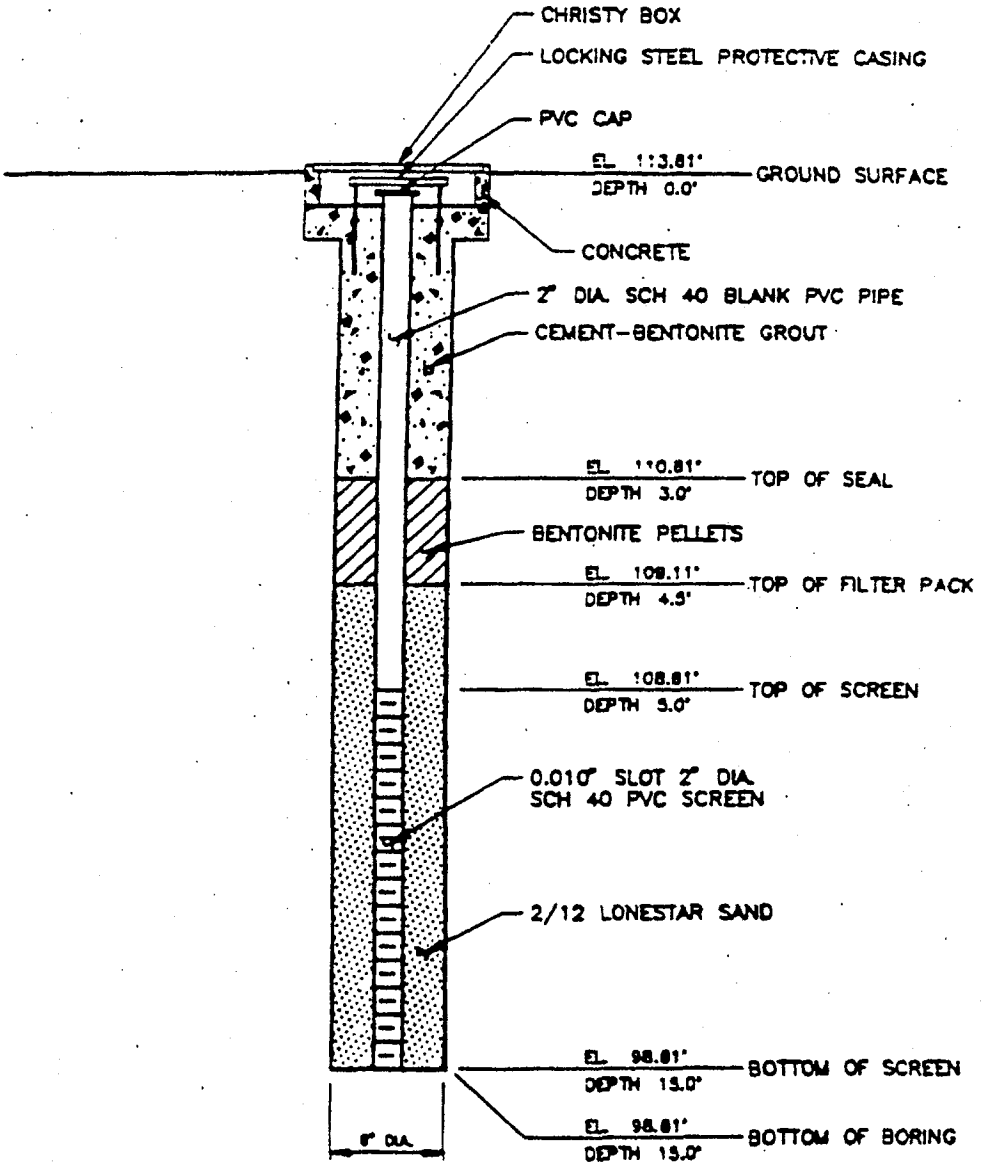
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW97-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION McDONALDS, NORTHWEST CORNER DATE 7-26-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE.
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

PROJECT No. 86-018-1804
BORING No. MW97-2
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: East of Credit Union Building SURFACE ELEV. 112.68 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/26/90 FINISH 7/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	14	14	9	9	SM			0.3	Asphalt. (Fill)	
													Medium dense, light brown, silty fine sand.	
	2	CS	1.5	3.0	4	3	2	13	SM-CL			2.5	moist. (Fill)	
	3	CS	3.0	4.5	2	1	2	18	CL				Medium stiff, gray, silty clay, moist, with	
5													interbedded silty sand. (Fill)	
	4	CS	4.5	6.0	1	1	1	18	CL					X
	5	CS	6.0	7.5	1	1	2	18	CL			6.3	Soft, dark reddish brown, sandy clay,	X
													sulfur type odor, moist. (Fill)	X
	6	CS	7.5	9.0	1	2	3	18	CL-SM			8.5	Loose, black to dark brown, silty medium	X
10	7	CS	9.0	10.5	3	2	2	18	SM				sand, moist, with white shells. (Fill)	X
													saturated below 9.3 feet.	X
	8	CS	10.5	12.0	3	2	6	16	SM		Fill		color change to gray at 11.5 feet.	X
	9	CS	12.0	13.5	10	13	15	18	SC			12.0	Medium dense, orange brown mottled	X
											MS		with gray, clayey fine sand, saturated,	X
15	10	CS	13.5	15.0	15	15	10	17	SC				abundant iron oxide stains.	X
												15.0	(Merritt Sand)	
													Bottom of Boring at 15.0 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 9.3 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings:
   a) 10 ppm at 10.0 feet.
   b) 10 ppm at 11.5 feet.
   c) 5 ppm at 13.0 feet.

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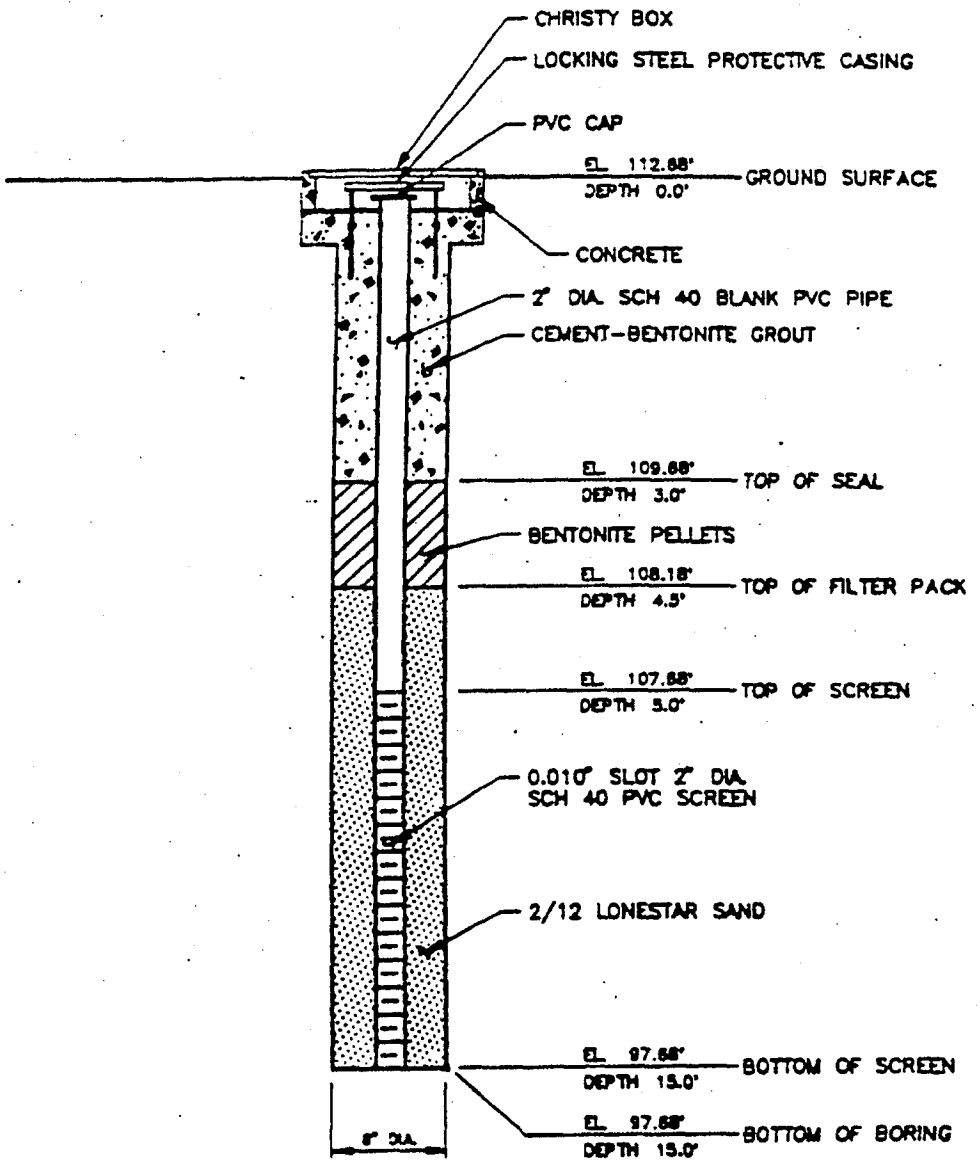
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW97-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION CREDIT UNION, SOUTHEAST CORNER DATE 7-26-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW97-3
LOGGED BY RMD

PROJECT NAME: NAS Alameda - Phase 2A Site Investigations
BORING LOCATION: South side of island adjacent to east gate SURFACE ELEV. 113.90 feet
DRILLER: Spectrum Exploration - Garry Buss DATE: START 7/26/90 FINISH 7/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
	1	CS	0.0	1.5	9	16	11	12	SM				Grass and Topsoil.	
												0.5	Medium dense, light brown, silty fine sand, moist. (Fill)	
	2	CS	1.5	3.0	15	12	10	16	SM					
	3	CS	3.0	4.5	3	6	5	16	SM					
5													saturated below 4.5 feet.	
	4	CS	4.5	6.0	3	6	8	16	SM					X
	5	CS	6.0	7.5	2	2	5	18	SM				Loose, gray, silty fine sand, saturated.	X
												6.5	Very soft, gray, silty clay, saturated.	X
	6	CS	7.5	9.0	1	1	1	16	SM-CL		Fill BS	8.5	(Bay Mud)	X
10	7	CS	9.0	10.5	1	2	3	15	SM			9.0	Loose, dark gray, silty fine sand,	X
												10.0	saturated, with small white shells.	X
	8	CS	10.5	12.0	3	4	8	18	SC		MS	10.5	Loose, light brown, silty fine sand,	X
	9	CS	12.0	13.5	14	20	25	18	SC				saturated.	X
													Medium dense, orange brown mottled	X
15	10	CS	13.5	15.0	15	23	30	16	SC				gray, clayey fine sand, saturated,	X
												15.0	some silt. (Merritt Sand)	
													becomes dense at 12.5 feet.	
													Bottom of Boring at 15.0 feet.	
20														
													Notes:	
													1. Boring was advanced using 8-inch-diameter hollow stem augers.	
25														
													2. Groundwater was encountered at 4.5 feet during drilling.	
													3. Sampler type: California Sampler (CS) O.D.: 2.5 inches I.D.: 2.0 inches	
30														
													4. Boring was converted to a monitoring well upon completion of drilling.	
35														
													5. OVA readings: a) 10 ppm at 7.0 feet. b) 30 ppm at 8.0 feet. c) 10 ppm at 10.0 feet.	
40														

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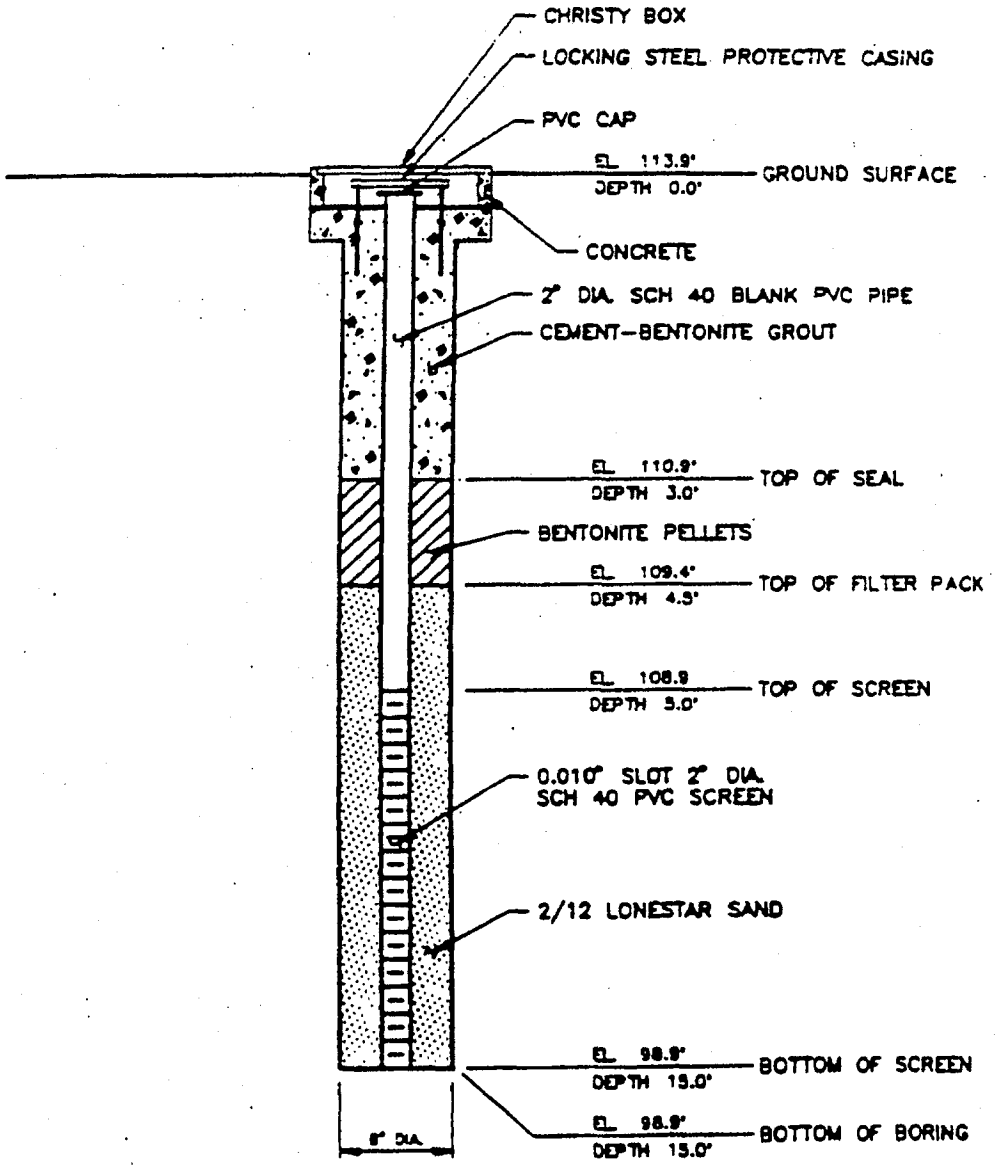
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW97-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION SOUTHWEST OF AIRPLANE ON DISPLAY DATE 7-26-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING CPT-SØ3-Ø1

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	28Ø-SØ3-Ø24	NA	NA	☒		SW	FILL Silty gravelly sand (SW), dark brown, medium sand, dense, damp
							SP	Sand (SP), gray-brown, fine sand, dense, damp
	CHEMICAL	28Ø-SØ3-Ø25			☒		CL	Clay (CL), gray, plastic, damp, mild hydrocarbon odor BAY SEDIMENTS
							SP	Sand (SP), gray-brown, fine sand, dense, damp
5	CHEMICAL	28Ø-SØ3-Ø26			☒			Same as above
								TD = 6 Feet bgs Borehole abandoned as follows: 6.Ø to Ø.Ø feet bgs: Unknown
10								MERRITT SAND
15								
20								

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-Ø28Ø
LOGGED BY JEV
DATE DRILLED 8-31-94
DRILLER Montgomery Watson
DRILL METHOD Hand Auger

SAMPLING METHOD Sleeves
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER Not Available
TOTAL DEPTH OF HOLE 6 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY
On Site Loc:CPT-S03-01
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :08/05/94 12:33
Cone Used :492
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.30	0.01	1.93	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	8.36	0.12	1.42	0.07	clayey silt to silty clay	UNDFND	UNDFD	4	.8
0.75	2.46	5.00	0.12	2.42	0.12	clay	UNDFND	UNDFD	5	.4
1.00	3.28	4.96	0.05	1.02	0.17	sensitive fine grained	UNDFND	UNDFD	2	.4
1.25	4.10	65.66	0.63	0.96	0.21	sand to silty sand	70-80	44-46	16	UNDEFINED
1.50	4.92	118.94	1.27	1.07	0.26	sand to silty sand	>90	46-48	28	UNDEFINED
1.75	5.74	102.48	1.00	0.98	0.31	sand to silty sand	80-90	46-48	25	UNDEFINED
2.00	6.56	63.02	0.57	0.91	0.35	sand to silty sand	60-70	42-44	15	UNDEFINED
2.25	7.38	23.88	0.19	0.80	0.40	silty sand to sandy silt	<40	38-40	8	UNDEFINED
2.50	8.20	9.84	0.21	2.10	0.45	clayey silt to silty clay	UNDFND	UNDFD	5	.9
2.75	9.02	4.42	0.06	1.37	0.50	sensitive fine grained	UNDFND	UNDFD	2	.3
3.00	9.84	3.36	0.06	1.75	0.54	sensitive fine grained	UNDFND	UNDFD	2	.2
3.25	10.66	3.16	0.05	1.65	0.58	sensitive fine grained	UNDFND	UNDFD	2	.2
3.50	11.48	8.38	0.13	1.56	0.60	clayey silt to silty clay	UNDFND	UNDFD	4	.7
3.75	12.30	31.18	0.21	0.69	0.62	silty sand to sandy silt	40-50	36-38	10	UNDEFINED
4.00	13.12	18.20	0.08	0.44	0.64	sandy silt to clayey silt	UNDFND	UNDFD	7	1.7
4.25	13.94	34.86	0.11	0.32	0.66	silty sand to sandy silt	40-50	36-38	11	UNDEFINED
4.50	14.76	33.54	0.08	0.23	0.68	silty sand to sandy silt	40-50	36-38	11	UNDEFINED
4.75	15.58	22.32	0.35	1.55	0.71	sandy silt to clayey silt	UNDFND	UNDFD	9	2.1
5.00	16.40	43.28	1.65	3.81	0.73	clayey silt to silty clay	UNDFND	UNDFD	21	4.[illegible]
5.25	17.22	53.90	1.48	2.75	0.75	sandy silt to clayey silt	UNDFND	UNDFD	21	5.[illegible]
5.50	18.04	121.82	3.48	2.86	0.77	sandy silt to clayey silt	UNDFND	UNDFD	47	12.0
5.75	18.86	132.34	3.64	2.75	0.79	silty sand to sandy silt	70-80	42-44	42	UNDEFINED
6.00	19.69	76.12	2.84	3.73	0.81	clayey silt to silty clay	UNDFND	UNDFD	36	7.5
6.25	20.51	77.76	3.06	3.94	0.84	clayey silt to silty clay	UNDFND	UNDFD	37	7.6
6.50	21.33	126.98	3.84	3.02	0.86	sandy silt to clayey silt	UNDFND	UNDFD	49	12.5
6.75	22.15	100.04	4.11	4.10	0.88	clayey silt to silty clay	UNDFND	UNDFD	48	9.8
7.00	22.97	137.34	5.99	4.36	0.90	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
7.25	23.79	189.52	4.69	2.47	0.92	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
7.50	24.61	212.56	2.61	1.23	0.94	sand	80-90	44-46	41	UNDEFINED
7.75	25.43	236.10	3.17	1.34	0.96	sand	>90	44-46	45	UNDEFINED
8.00	26.25	226.36	2.58	1.14	0.99	sand	>90	44-46	43	UNDEFINED
8.25	27.07	249.08	4.40	1.77	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	202.96	2.81	1.38	1.03	sand to silty sand	80-90	44-46	49	UNDEFINED
8.75	28.71	201.42	1.70	0.85	1.05	sand	80-90	42-44	39	UNDEFINED
9.00	29.53	162.74	2.62	1.61	1.07	sand to silty sand	70-80	42-44	39	UNDEFINED
9.25	30.35	193.36	2.54	1.31	1.09	sand to silty sand	80-90	42-44	46	UNDEFINED
9.50	31.17	270.26	4.00	1.48	1.12	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY On Site Loc:CPT-503-01 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	248.32	3.75	1.51	1.14	sand to silty sand	>90	44-46	>50	UNDEFINED
10.00	32.81	284.52	3.70	1.30	1.16	sand	>90	44-46	>50	UNDEFINED
10.25	33.63	247.22	3.66	1.48	1.18	sand to silty sand	>90	44-46	>50	UNDEFINED
10.50	34.45	332.62	6.81	2.05	1.20	sand to silty sand	>90	44-46	>50	UNDEFINED
10.75	35.27	350.56	6.53	1.86	1.22	sand to silty sand	>90	44-46	>50	UNDEFINED
11.00	36.09	235.24	4.88	2.07	1.24	sand to silty sand	80-90	42-44	>50	UNDEFINED
11.25	36.91	103.90	1.25	1.20	1.27	sand to silty sand	60-70	40-42	25	UNDEFINED
11.50	37.73	106.14	1.20	1.13	1.29	sand to silty sand	60-70	40-42	25	UNDEFINED
11.75	38.55	132.38	5.83	4.40	1.31	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
12.00	39.37	190.90	5.87	3.08	1.33	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
12.25	40.19	168.52	3.86	2.29	1.35	silty sand to sandy silt	70-80	40-42	>50	UNDEFINED
12.50	41.01	221.14	4.70	2.13	1.37	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
12.75	41.83	310.32	5.85	1.89	1.40	sand to silty sand	>90	44-46	>50	UNDEFINED
13.00	42.65	97.84	3.10	3.17	1.42	sandy silt to clayey silt	UNDFND	UNDFD	37	9.5
13.25	43.47	309.10	6.08	1.97	1.44	sand to silty sand	>90	44-46	>50	UNDEFINED
13.50	44.29	394.06	6.18	1.57	1.46	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

* Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO
On Site Loc:CPT-S03-02
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/15/94 2:55
Cone Used :407
Water table (meters) : 3

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.58	0.00	0.62	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	0.64	0.00	0.34	0.07	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.75	2.46	1.84	0.00	0.12	0.12	sensitive fine grained	UNDFND	UNDFD	1	.1
1.00	3.28	2.16	0.00	0.17	0.17	sensitive fine grained	UNDFND	UNDFD	1	.1
1.25	4.10	2.50	0.00	0.19	0.21	sensitive fine grained	UNDFND	UNDFD	1	.2
1.50	4.92	5.14	0.01	0.22	0.26	sensitive fine grained	UNDFND	UNDFD	2	.4
1.75	5.74	4.30	0.01	0.17	0.31	sensitive fine grained	UNDFND	UNDFD	2	.3
2.00	6.56	4.78	0.01	0.27	0.35	sensitive fine grained	UNDFND	UNDFD	2	.4
2.25	7.38	26.60	0.23	0.85	0.40	silty sand to sandy silt	40-50	38-40	8	UNDEFINED
2.50	8.20	4.82	0.05	1.10	0.45	sensitive fine grained	UNDFND	UNDFD	2	.4
2.75	9.02	2.56	0.00	0.13	0.50	sensitive fine grained	UNDFND	UNDFD	1	.2
3.00	9.84	8.94	0.00	0.05	0.54	sensitive fine grained	UNDFND	UNDFD	4	.8
3.25	10.66	13.68	0.01	0.05	0.58	sandy silt to clayey silt	UNDFND	UNDFD	5	1.3
3.50	11.48	7.60	0.00	0.03	0.60	sensitive fine grained	UNDFND	UNDFD	4	.6
3.75	12.30	19.68	0.00	0.02	0.62	silty sand to sandy silt	<40	34-36	6	UNDEFINED
4.00	13.12	42.00	0.11	0.27	0.64	sand to silty sand	40-50	38-40	10	UNDEFINED
4.25	13.94	36.02	0.08	0.22	0.66	sand to silty sand	40-50	38-40	9	UNDEFINED
4.50	14.76	14.62	0.03	0.17	0.68	sandy silt to clayey silt	UNDFND	UNDFD	6	1.3
4.75	15.58	76.86	2.23	2.90	0.71	sandy silt to clayey silt	UNDFND	UNDFD	29	7
5.00	16.40	153.28	4.73	3.09	0.73	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.[illegible]
5.25	17.22	180.14	5.27	2.93	0.75	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.50	18.04	174.32	5.44	3.12	0.77	sandy silt to clayey silt	UNDFND	UNDFD	>50	17.3
5.75	18.86	125.80	4.61	3.66	0.79	sandy silt to clayey silt	UNDFND	UNDFD	48	12.4
6.00	19.69	67.46	3.50	5.19	0.81	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
6.25	20.51	85.98	4.03	4.68	0.84	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
6.50	21.33	84.40	3.45	4.09	0.86	clayey silt to silty clay	UNDFND	UNDFD	40	8.3
6.75	22.15	90.56	3.70	4.08	0.88	clayey silt to silty clay	UNDFND	UNDFD	43	8.9
7.00	22.97	107.78	5.36	4.97	0.90	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
7.25	23.79	182.78	5.12	2.80	0.92	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
7.50	24.61	241.84	4.94	2.04	0.94	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	255.20	4.48	1.76	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	251.56	5.05	2.01	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	254.08	4.73	1.86	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	238.28	5.05	2.12	1.03	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
8.75	28.71	273.98	4.95	1.81	1.05	sand to silty sand	>90	44-46	>50	UNDEFINED
9.00	29.53	272.76	5.78	2.12	1.07	sand to silty sand	>90	44-46	>50	UNDEFINED
9.25	30.35	223.48	3.76	1.68	1.09	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.50	31.17	252.08	3.99	1.58	1.12	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04)

TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO On Site Loc:CPT-S03-02 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	302.96	5.28	1.74	1.14	sand to silty sand	>90	44-46	>50	UNDEFINED
10.00	32.81	261.90	6.22	2.38	1.16	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
10.25	33.63	208.10	5.30	2.55	1.18	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.50	34.45	139.20	2.44	1.75	1.20	silty sand to sandy silt	70-80	40-42	44	UNDEFINED
10.75	35.27	97.68	4.29	4.39	1.22	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
11.00	36.09	148.82	5.65	3.79	1.24	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
11.25	36.91	203.16	4.64	2.28	1.27	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
11.50	37.73	229.36	4.79	2.09	1.29	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
11.75	38.55	314.50	5.43	1.73	1.31	sand to silty sand	>90	44-46	>50	UNDEFINED
12.00	39.37	113.38	1.06	0.93	1.33	sand to silty sand	60-70	40-42	27	UNDEFINED
12.25	40.19	35.08	0.19	0.53	1.35	silty sand to sandy silt	<40	32-34	11	UNDEFINED
12.50	41.01	54.34	2.02	3.71	1.37	clayey silt to silty clay	UNDFND	UNDFD	26	5.2
12.75	41.83	92.44	4.10	4.44	1.40	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.00	42.65	154.22	4.83	3.13	1.42	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.1

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

E TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO
On Site Loc:CPT-S03-03
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/16/94 12:33
Cone Used :407
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	1.64	0.05	2.84	0.02	clay	UNDFND	UNDFD	2	.1
0.50	1.64	0.22	0.01	4.82	0.07	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.75	2.46	0.54	0.01	1.41	0.12	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.00	3.28	1.34	0.02	1.54	0.17	sensitive fine grained	UNDFND	UNDFD	1	.1
1.25	4.10	2.14	0.04	1.67	0.21	sensitive fine grained	UNDFND	UNDFD	1	.1
1.50	4.92	3.18	0.05	1.67	0.26	sensitive fine grained	UNDFND	UNDFD	2	.2
1.75	5.74	4.12	0.07	1.67	0.31	sensitive fine grained	UNDFND	UNDFD	2	.3
2.00	6.56	3.34	0.08	2.34	0.35	clay	UNDFND	UNDFD	3	.2
2.25	7.38	4.52	0.09	2.00	0.40	silty clay to clay	UNDFND	UNDFD	3	.4
2.50	8.20	9.20	0.07	0.79	0.45	clayey silt to silty clay	UNDFND	UNDFD	4	.8
2.75	9.02	24.38	0.09	0.36	0.50	silty sand to sandy silt	<40	36-38	8	UNDEFINED
3.00	9.84	26.38	0.11	0.40	0.54	silty sand to sandy silt	<40	36-38	8	UNDEFINED
3.25	10.66	43.72	0.31	0.71	0.58	silty sand to sandy silt	50-60	38-40	14	UNDEFINED
3.50	11.48	27.42	0.49	1.80	0.60	sandy silt to clayey silt	UNDFND	UNDFD	11	2.6
3.75	12.30	92.20	3.87	4.20	0.62	clayey silt to silty clay	UNDFND	UNDFD	44	9.1
4.00	13.12	227.28	6.59	2.90	0.64	silty sand to sandy silt	>90	46-48	>50	UNDEFINED
4.25	13.94	209.94	7.68	3.66	0.66	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
4.50	14.76	149.24	4.59	3.07	0.68	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.[illegible]
4.75	15.58	160.16	6.88	4.30	0.71	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFIN[illegible]
5.00	16.40	172.58	4.87	2.82	0.73	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.25	17.22	167.20	3.88	2.32	0.75	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.50	18.04	146.02	3.54	2.42	0.77	silty sand to sandy silt	80-90	42-44	47	UNDEFINED
5.75	18.86	143.46	3.28	2.29	0.79	silty sand to sandy silt	80-90	42-44	46	UNDEFINED
6.00	19.69	148.48	4.91	3.31	0.81	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.7
6.25	20.51	150.58	4.81	3.19	0.84	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.9
6.50	21.33	242.48	5.00	2.06	0.86	sand to silty sand	>90	44-46	>50	UNDEFINED
6.75	22.15	276.44	5.11	1.85	0.88	sand to silty sand	>90	44-46	>50	UNDEFINED
7.00	22.97	277.96	5.93	2.13	0.90	sand to silty sand	>90	44-46	>50	UNDEFINED
7.25	23.79	298.92	5.08	1.70	0.92	sand to silty sand	>90	46-48	>50	UNDEFINED
7.50	24.61	264.92	4.40	1.66	0.94	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	304.40	5.46	1.79	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	231.64	4.47	1.93	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	233.88	5.94	2.54	1.01	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
8.50	27.89	256.18	4.86	1.90	1.03	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	218.04	3.71	1.70	1.05	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.00	29.53	217.36	3.71	1.71	1.07	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.25	30.35	270.66	4.69	1.73	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
9.50	31.17	253.20	5.37	2.12	1.12	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04)

E TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO On Site Loc:CPT-S03-03 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	253.30	4.52	1.78	1.14	sand to silty sand	>90	44-46	>50	UNDEFINED
10.00	32.81	161.62	5.66	3.50	1.16	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.9
10.25	33.63	159.62	4.76	2.98	1.18	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.7
10.50	34.45	144.18	4.45	3.08	1.20	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.2
10.75	35.27	68.96	2.26	3.28	1.22	sandy silt to clayey silt	UNDFND	UNDFD	26	6.6
11.00	36.09	63.38	1.62	2.55	1.24	sandy silt to clayey silt	UNDFND	UNDFD	24	6.1
11.25	36.91	102.48	2.36	2.30	1.27	silty sand to sandy silt	60-70	40-42	33	UNDEFINED
11.50	37.73	177.76	3.17	1.78	1.29	sand to silty sand	70-80	42-44	43	UNDEFINED
11.75	38.55	128.02	3.63	2.83	1.31	sandy silt to clayey silt	UNDFND	UNDFD	49	12.5
12.00	39.37	106.56	4.04	3.79	1.33	clayey silt to silty clay	UNDFND	UNDFD	>50	10.4
12.25	40.19	100.84	3.34	3.31	1.35	sandy silt to clayey silt	UNDFND	UNDFD	39	9.8

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

E TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO
On Site Loc:CPT-S3-04
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/16/94 4:15
Cone Used :407
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.30	0.00	0.47	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	1.26	0.01	0.49	0.07	sensitive fine grained	UNDFND	UNDFD	1	.1
0.75	2.46	1.80	0.01	0.33	0.12	sensitive fine grained	UNDFND	UNDFD	1	.1
1.00	3.28	1.62	0.01	0.74	0.17	sensitive fine grained	UNDFND	UNDFD	1	.1
1.25	4.10	4.74	0.09	1.92	0.21	silty clay to clay	UNDFND	UNDFD	3	.4
1.50	4.92	20.76	0.46	2.22	0.26	clayey silt to silty clay	UNDFND	UNDFD	10	2.0
1.75	5.74	47.00	0.58	1.23	0.31	silty sand to sandy silt	60-70	42-44	15	UNDEFINED
2.00	6.56	30.50	0.34	1.11	0.35	silty sand to sandy silt	40-50	40-42	10	UNDEFINED
2.25	7.38	6.26	0.17	2.65	0.40	clay	UNDFND	UNDFD	6	.5
2.50	8.20	5.86	0.10	1.65	0.45	sensitive fine grained	UNDFND	UNDFD	3	.5
2.75	9.02	15.50	0.04	0.29	0.50	sandy silt to clayey silt	UNDFND	UNDFD	6	1.5
3.00	9.84	25.36	0.11	0.45	0.54	silty sand to sandy silt	<40	36-38	8	UNDEFINED
3.25	10.66	27.72	0.09	0.32	0.58	silty sand to sandy silt	<40	36-38	9	UNDEFINED
3.50	11.48	29.20	0.09	0.32	0.60	silty sand to sandy silt	<40	36-38	9	UNDEFINED
3.75	12.30	26.58	0.07	0.27	0.62	silty sand to sandy silt	<40	36-38	8	UNDEFINED
4.00	13.12	19.90	0.03	0.17	0.64	silty sand to sandy silt	<40	34-36	6	UNDEFINED
4.25	13.94	61.36	2.48	4.05	0.66	clayey silt to silty clay	UNDFND	UNDFD	29	6.0
4.50	14.76	99.36	3.90	3.93	0.68	clayey silt to silty clay	UNDFND	UNDFD	48	9
4.75	15.58	190.60	6.33	3.32	0.71	sandy silt to clayey silt	UNDFND	UNDFD	>50	18
5.00	16.40	131.72	4.47	3.40	0.73	sandy silt to clayey silt	UNDFND	UNDFD	>50	13.0
5.25	17.22	135.94	5.04	3.70	0.75	sandy silt to clayey silt	UNDFND	UNDFD	>50	13.4
5.50	18.04	175.32	4.69	2.68	0.77	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.75	18.86	181.92	3.58	1.97	0.79	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
6.00	19.69	169.84	3.74	2.20	0.81	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
6.25	20.51	172.46	3.15	1.83	0.84	sand to silty sand	80-90	44-46	41	UNDEFINED
6.50	21.33	144.22	3.74	2.59	0.86	silty sand to sandy silt	70-80	42-44	46	UNDEFINED
6.75	22.15	152.68	4.32	2.83	0.88	silty sand to sandy silt	80-90	42-44	49	UNDEFINED
7.00	22.97	168.74	5.53	3.28	0.90	sandy silt to clayey silt	UNDFND	UNDFD	>50	16.7
7.25	23.79	167.26	3.83	2.29	0.92	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
7.50	24.61	197.56	4.16	2.11	0.94	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
7.75	25.43	233.54	4.17	1.78	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	228.88	3.66	1.60	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	240.78	4.07	1.69	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	289.78	5.37	1.85	1.03	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	256.62	4.31	1.68	1.05	sand to silty sand	>90	44-46	>50	UNDEFINED
9.00	29.53	265.10	5.69	2.15	1.07	sand to silty sand	>90	44-46	>50	UNDEFINED
9.25	30.35	250.26	5.08	2.03	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
9.50	31.17	289.48	4.63	1.60	1.12	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04)

E TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO On Site Loc:CPT-S3-04 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M03-04

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								3 inches asphalt over sand and gravel base
	CHEMICAL	280-S03-027		21			SW	FILL Gravelly sand (SW), olive gray (5Y 4/2), moist
							SP	Sand (SP), light olive gray (5Y 6/2), fine sand, medium dense, moist
	CHEMICAL	280-S03-028		7				
5	CHEMICAL	280-S03-030	25	16				Same as above, but light olive gray (5Y 6/2) and olive gray (5Y 4/2) mottled, wet
								Same as above, but greenish gray (5GY 5/1), loose, odor, trace shells, trace gravel
10	CHEMICAL	280-S03-094	93 28	2			CL	Silty clay (CL), dark gray (5Y 4/1), very soft, moist, trace sand, organic matter, shells
								TD = 11 Feet bgs
								BAY SEDIMENTS
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 11-6-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.94 Feet
TOC ELEVATION 13.72 Feet
BORING DIAMETER 8 Inches
TOTAL DEPTH OF HOLE 11 Feet bgs
WATER LEVEL 5.5 Feet bgs
WELL INSTALLED? (Y/N) Y

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M03-05

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			NA					6 inches asphalt over sand and gravel base FILL
	CHEMICAL	280-S03-031		83			SP	Sand (SP), pale brown (10YR6/3), very fine to fine sand, medium dense to very dense, moist
	CHEMICAL	280-S03-032		22				
5	CHEMICAL	280-S03-033		18				Same as above, but medium dense, very moist, wet at 5.5 Feet bgs
								BAY SEDIMENTS
10				8			CL	Silty clay (CL), dark greenish gray (5GY4/1), very soft, very moist to wet
				13			SP	Sand (SP), black (N2/), very fine to fine sand, loose, wet, trace shells, trace silt
								Same as above, but greenish gray (5GY5/1), fine sand, loose, wet, trace silt, trace roots
								TD = 13 Feet bgs
15								
20								

Water Level

Split Spoon

Sample Collected

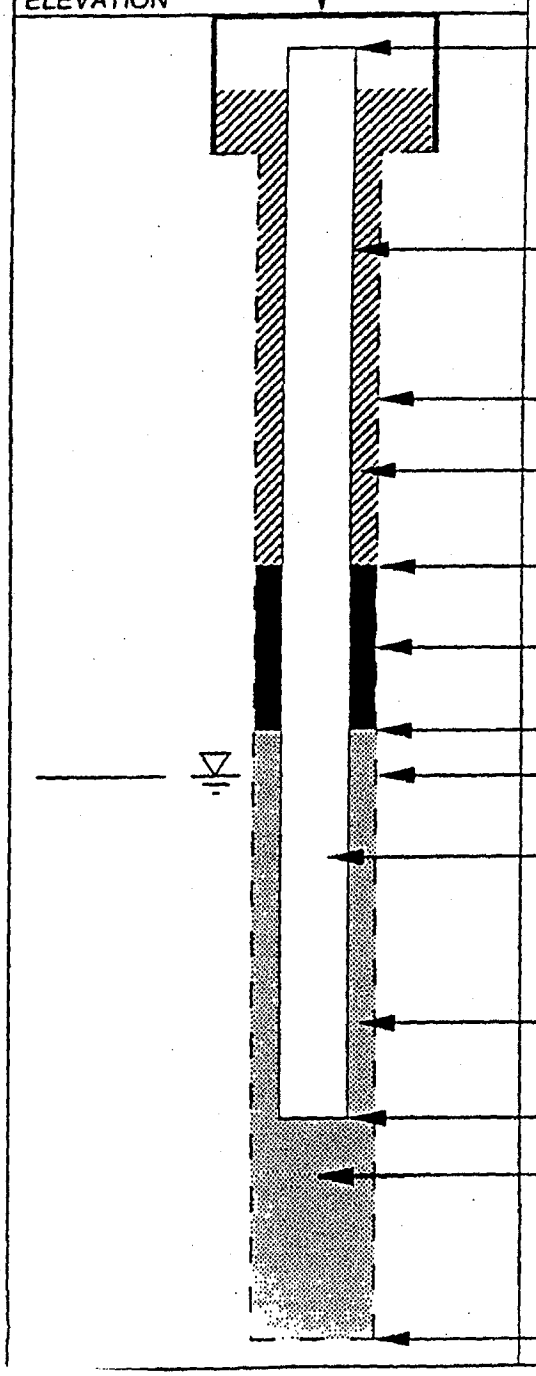
PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 11-20-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION 13.33 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 13 Feet bgs
WATER LEVEL 5.5 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. MØ3-Ø4

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. Ø44 Ø28Ø	BORING MØ3-Ø4	DRILLING METHOD Hollow Stem Auger
SITE 3 ~~ELEVATION~~	DATE 11-6-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 13.94

ELEVATION OF TOP OF WELL CASING: 13.72

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 1.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 2.5

DEPTH TOP OF SCREEN 3.0

TYPE OF SCREEN: Schedule 4Ø PVC

SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 11.0

DEPTH BOTTOM OF SAND PACK 11.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE (feet bgs) 11.0

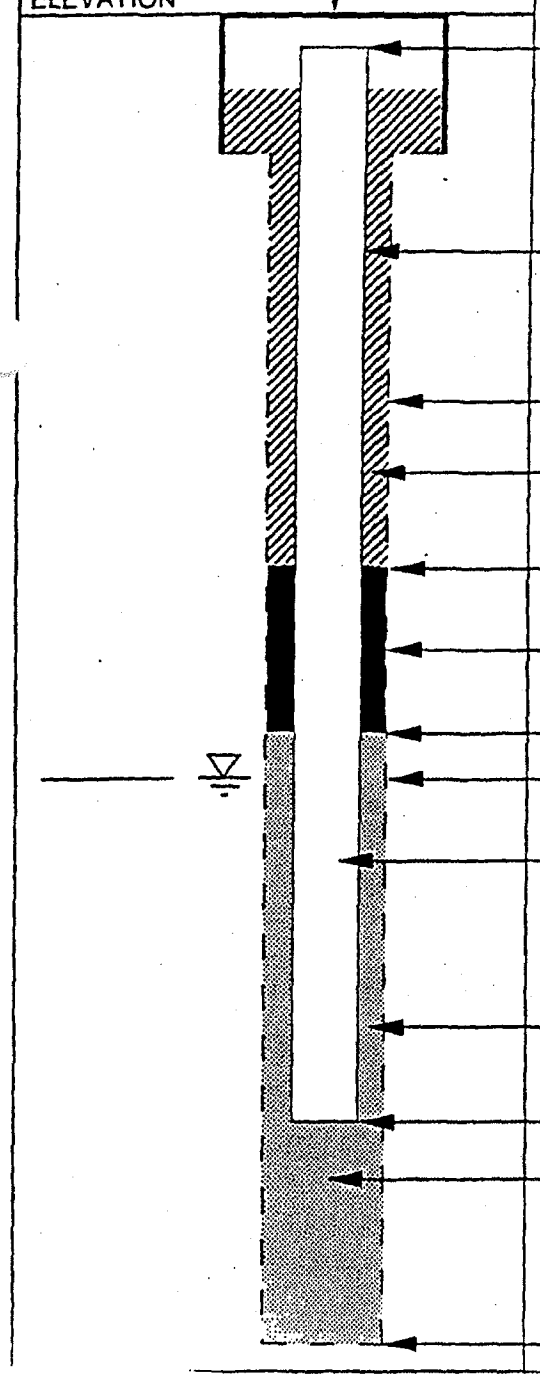
MF

WELL ~~BORING~~ NO. MØ3-Ø5

MONITORING WELL SHEET

PROJECT NAS Alameda RI
LOCATION Alameda, California
PROJECT NO. Ø44 Ø28Ø
BORING MØ3-Ø5
SITE ~~ELEVATION~~
DATE 11-2Ø-94
FIELD GEOLOGIST WPW

DRILLER Woodward Drilling Co.
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: ?

ELEVATION OF TOP OF WELL CASING: 13.33

RISER PIPE I.D.: 2 inches
TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL: (feet bgs) 2.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 2.5
DEPTH TOP OF SCREEN: 3.0

TYPE OF SCREEN: Schedule 4Ø PVC
SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch
I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 13.0
DEPTH BOTTOM OF SAND PACK: 13.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE: (feet bgs) 13.0

MF

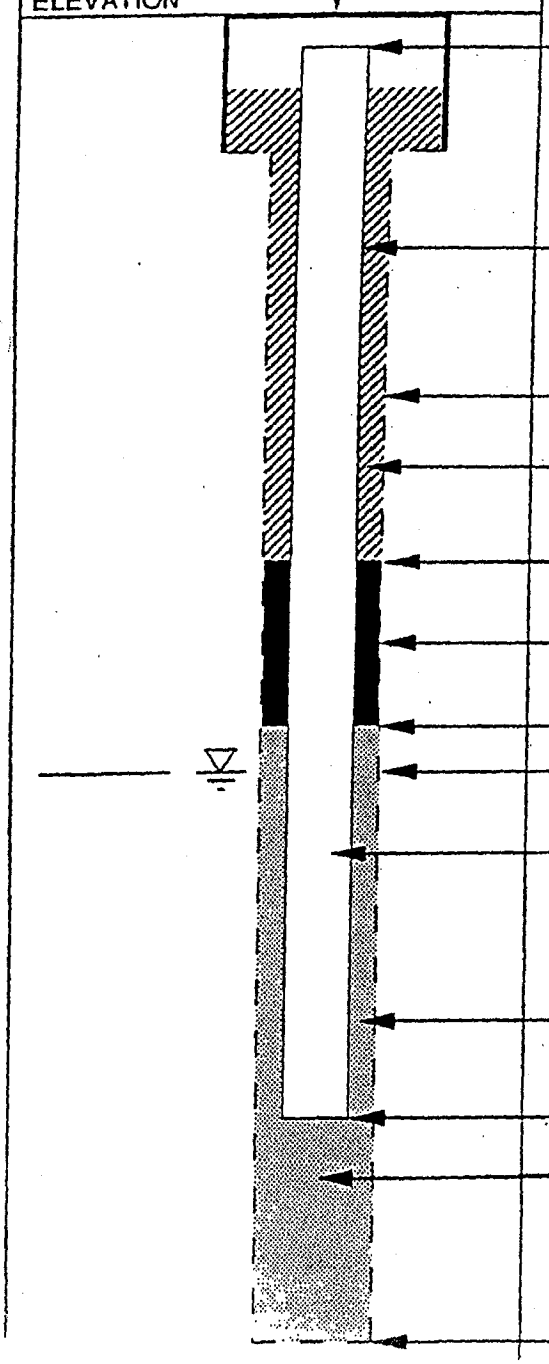
WELL
~~BORING~~ NO. MØ3-Ø6

MONITORING WELL SHEET

PROJECT NAS Alameda RI
PROJECT NO. Ø44 Ø28Ø
~~SITE ELEVATION~~
FIELD GEOLOGIST WPW

LOCATION Alameda, California
BORING MØ3-Ø6
DATE 11-19-94

DRILLER Woodward Drilling Co.
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: 13.92

ELEVATION OF TOP OF WELL CASING: 13.53

RISER PIPE I.D.: 2 inches
TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 1.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 2.5
DEPTH TOP OF SCREEN 3.0

TYPE OF SCREEN: Schedule 4Ø PVC
SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch
I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 12.0

DEPTH BOTTOM OF SAND PACK 12.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE (feet bgs) 12.0

MF

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M03-05

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL
	CHEMICAL	280-S03-034	0	34			SP	3 inches asphalt over sand and gravel base. Sand (SP), light yellowish brown (10YR 6/4), fine sand, dense, moist, trace shells
	CHEMICAL	280-S03-035	0	14				Sand (SP) with gravel, black (N2/), fine sand, medium dense, very moist, gravel appears to be a baked ash and is white, trace silt
5	CHEMICAL	280-S03-036	0.5	13				Same as above, but no gravel, wet at 5.5 feet bgs, trace baked ash
								Same as above, but trace gravel
10			132	23 / 10			SC	Clayey sand (SC), yellowish brown (10YR ... and greenish gray (5G6/1), medium dense, very moist, odor, sheen, roots common
								TD = 12 Feet bgs
								BAY SEDIMENTS — ?
15								roots and odor ?
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 11-19-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.92 Feet
TOC ELEVATION 13.53 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 12 Feet bgs
WATER LEVEL 5.8 Feet bgs
WELL INSTALLED? (Y/N) Y

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING MØ3-Ø6

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								3 inches asphalt over sand and gravel base
								~~BAY SEDIMENTS~~
	CHEMICAL	28Ø-SØ3-1Ø6	Ø	12			CL	Silty clay (CL), dark greenish gray (5GY 4/1), stiff, moist, trace roots
	CHEMICAL	28Ø-SØ3-1Ø7	2	5			SP	Sand (SP), very dark gray (10YR 3/1), fine sand, loose, very moist, wet at 5 Feet bgs, trace silt
5	CHEMICAL	28Ø-SØ3-1Ø8	2	8			PT	Peat (PT), brown (7.5YR 4/4), medium stiff, very moist, trace sand
							SP	
10			2	5				Sand (SP), olive brown (2.5Y 5/4), very fine to fine sand, very loose, wet, trace silt
			Ø.1	5				Same as above, but greenish gray (5GY 6/1) and yellowish gray (10YR 5/6) mottled, fine sand, very moist to wet, trace clay roots common
								TD = 13 Feet bgs
15								
20								

▼ Water Level

☒ Split Spoon

■ Sample Collected

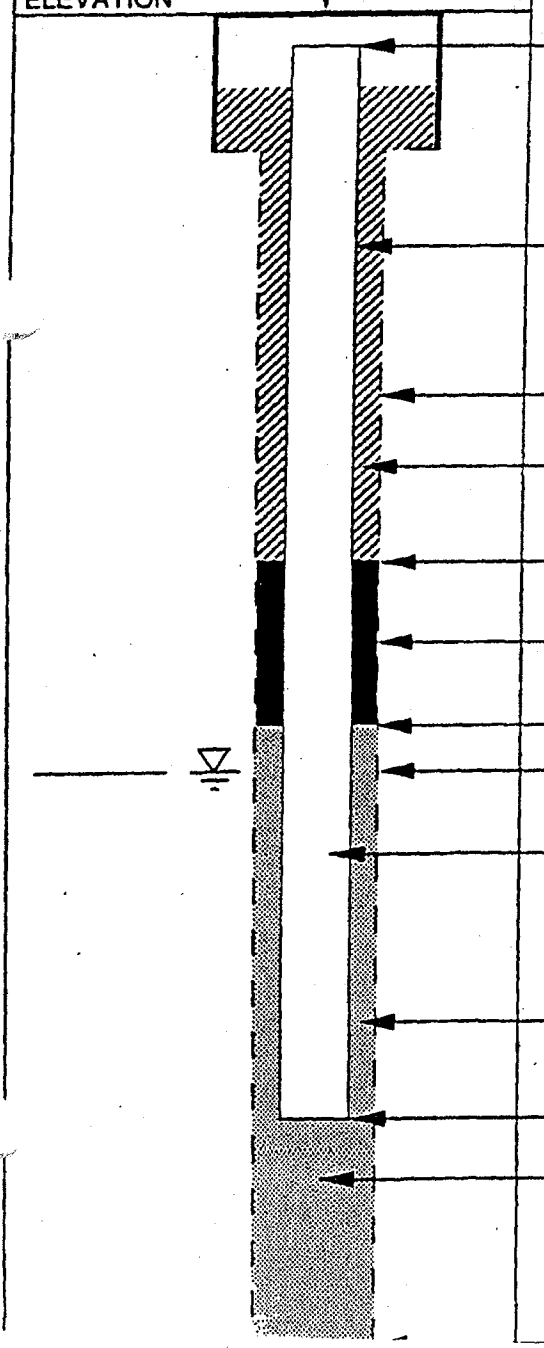
PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-Ø28Ø
LOGGED BY WPW
DATE DRILLED 11-20-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 12.38 Feet
TOC ELEVATION 12.00 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 13 Feet bgs
WATER LEVEL 4.8 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. MØ3-Ø7

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. Ø44 Ø28Ø	BORING MØ3-Ø7	DRILLING METHOD Hollow Stem Auger
~~ELEVATION~~ SITE 3	DATE 11-2Ø-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 12.38

ELEVATION OF TOP OF WELL CASING: 12.00

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL: (feet bgs) 2.Ø

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 2.5

DEPTH TOP OF SCREEN: 3.0

TYPE OF SCREEN: Schedule 4Ø PVC

SLOT SIZE ~~x LENGTH~~: Ø.Ø1 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 13.0

DEPTH BOTTOM OF SAND PACK: 13.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE: (feet bgs) 13.0

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M03-08

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			NA					3 inches asphalt over sand and gravel base FILL
	CHEMICAL	280-S03-109		22			SP	Sand (SP), brown (10YR 5/3), fine sand, medium dense, moist
								BAY SEDIMENTS
	CHEMICAL	280-S03-110		2				Same as above
							CL	Silty clay (CL), dark greenish gray (5GY 4/1), very soft, very moist
				1				Same as above, but dark gray (5Y 4/1), very moist to wet, trace shells
5	CHEMICAL	280-S03-111						
				1				Same as above, but dark greenish gray (5GY 4/1), moist to very moist, trace sand
				2				Same as above with sand, dark gray (5Y 4/1), very moist, trace of roots and organic matter, no shells
10				2				Same as above, but dark greenish gray (5GY 4/1), moist to very moist, trace sand, trace shells
								TD = 12 Feet bgs
								Borehole abandoned as follows:
								12.0 to 0.0 feet bgs: Neat Cement
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 11-6-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.18 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 12 Feet bgs
WATER LEVEL Dry
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M03-08A

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			NA					3 inches of asphalt over sand and gravel base
							FILL SP	Sand (SP), olive gray (5Y5/2), fine sand, moist
				4			CL	Silty clay (CL), olive (5Y5/3) and greenish gray (5GY6/1) mottled, medium stiff, moist to very moist, silty sand pockets
5								BAY SEDIMENTS
				2				Clay (CL), dark greenish gray (5GY4/1), very soft, moist, trace roots
							SP	Sand (SP), greenish gray (5GY5/1), fine sand, wet
								Same as above with 5% silt, very loose, trace clay, trace shells
10				5				Same as above, but dark gray (5Y4/1), fine to very fine sand, wet
				5				Same as above, but gray (5Y5/1)
								TD = 13 Feet bgs
15								
20								

▼ Water Level

☒ Split Spoon

■ Sample Collected

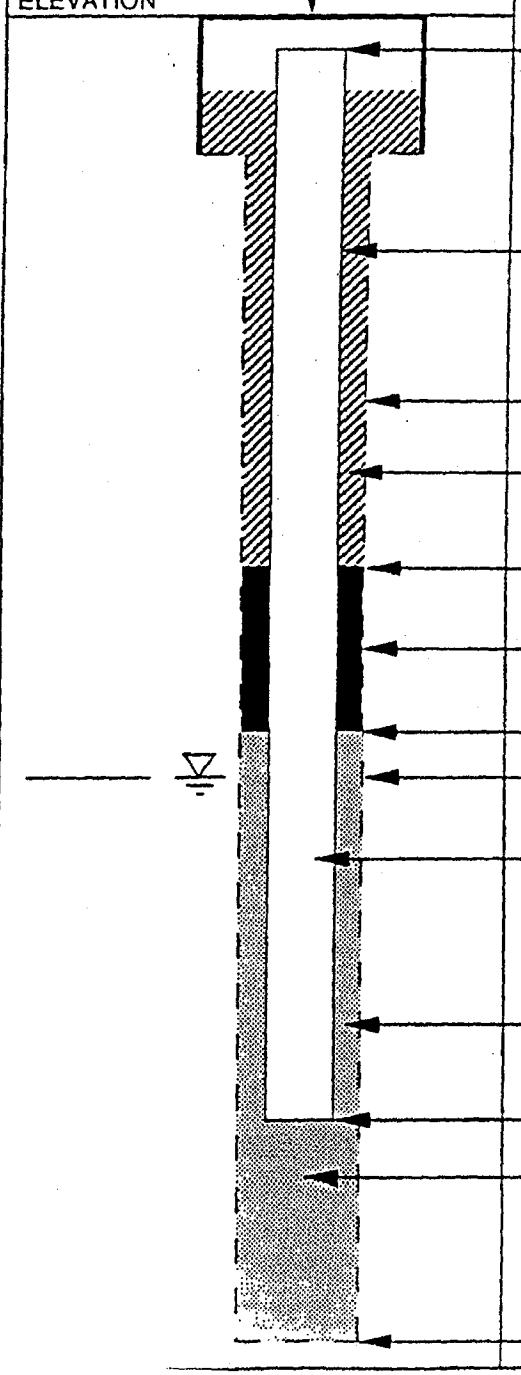
PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-0280
LOGGED BY WPW
DATE DRILLED 11-20-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split Spoon
GROUND ELEVATION
TOC ELEVATION 12.99 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 13 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N)

WELL ~~BORING~~ NO. MØ3-Ø8A

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. Ø44 Ø28Ø	BORING MØ3-Ø8A	DRILLING METHOD Hollow Stem Auger
~~ELEVATION~~ SITE 3	DATE 11-2Ø-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: ?

ELEVATION OF TOP OF WELL CASING: 12.99

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 2.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 2.5

DEPTH TOP OF SCREEN (feet bgs) 3.0

TYPE OF SCREEN: Schedule 4Ø PVC

SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 13.0

DEPTH BOTTOM OF SAND PACK (feet bgs) 13.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE (feet bgs) 13.0

MF

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D03-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								Hand Auger 0 to 5 Feet bgs
								FILL
							SW	Silty, gravelly, sand (SW), grayish olive, 10% gravel (1/4 inch angular), 50% medium sand, 15% fine sand, 25% silt, loose, moist
							CL	Silty clay (CL), grayish olive green, soft, wet, strong hydrocarbon odor
			5					BAY SEDIMENTS
5			5	33	X		SW/SC	Clayey sand (SW/SC), grayish olive green, 60% fine sand, 20% very fine sand, 20% silt, medium dense, wet, very strong hydrocarbon odor
							CL	
10				2	X			Silty clay (CL), grayish olive, very soft, wet, no hydrocarbon odor
							SC	Clayey sand (SC), 60% fine sand, 40% silt/clay
							CL	Silty clay (CL), grayish olive, very soft, wet
								MERRITT SAND
15				45	X		SM	Silty sand (SM), medium yellowish brown, 40% fine sand, 20% very fine sand, 40% silt, medium dense, moist, wet at 16 Feet bgs
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 3
JOB NUMBER 044-0280
LOGGED BY DEK
DATE DRILLED 11-14-94 to 11-15-94
DRILLER Tonto Drilling Services Co.
DRILL METHOD Mud Rotary

SAMPLING METHOD Split Spoon
GROUND ELEVATION 14.01 Feet
TOC ELEVATION 13.78 Feet
BORING DIAMETER 7.25 inches
TOTAL DEPTH OF HOLE 61 Feet bgs
WATER LEVEL 4 Feet bgs and 16 Feet bgs
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D03-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			NA	32	☒		SM	Same as above
25 ~~8~~				28/6 50/4	☒		SP	Sand (SP), dark yellowish brown (10Y 4/6), dense, slightly moist ..
30 ~~10~~				37/6 50/6	☒			Same as above
35 ~~15~~				50/6	☒			Same as above, but yellowish brown (10Y 5/6), fine sand, moist
40 ~~20~~								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____ SAMPLING METHOD _____

LOCATION _____ GROUND ELEVATION _____

JOB NUMBER 044- _____ TOC ELEVATION _____

LOGGED BY . _____ BORING DIAMETER _____

DATE DRILLED _____ TOTAL DEPTH OF HOLE _____

DRILLER _____ WATER LEVEL _____

DRILL METHOD _____ WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D03-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				26/6 50/6	☒		SP	Same as above
45 ~~5~~				50/6	☒			Same as above
50 ~~10~~				42/6 50/6	☒			same as above, but dark grayish brown (10Y 4/2)
55 ~~15~~				50/6	☒			Same as above, but dark brown (10Y 4/3),
60 ~~20~~								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____ SAMPLING METHOD _____

LOCATION _____ GROUND ELEVATION _____

JOB NUMBER 044- _____ TOC ELEVATION _____

LOGGED BY _____ BORING DIAMETER _____

DATE DRILLED _____ TOTAL DEPTH OF HOLE _____

DRILLER _____ WATER LEVEL _____

DRILL METHOD _____ WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D03-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				45/6 50/6			SP	Same as above
								TD = 61 Feet bgs
65								
70								
75								
80								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER 044-

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

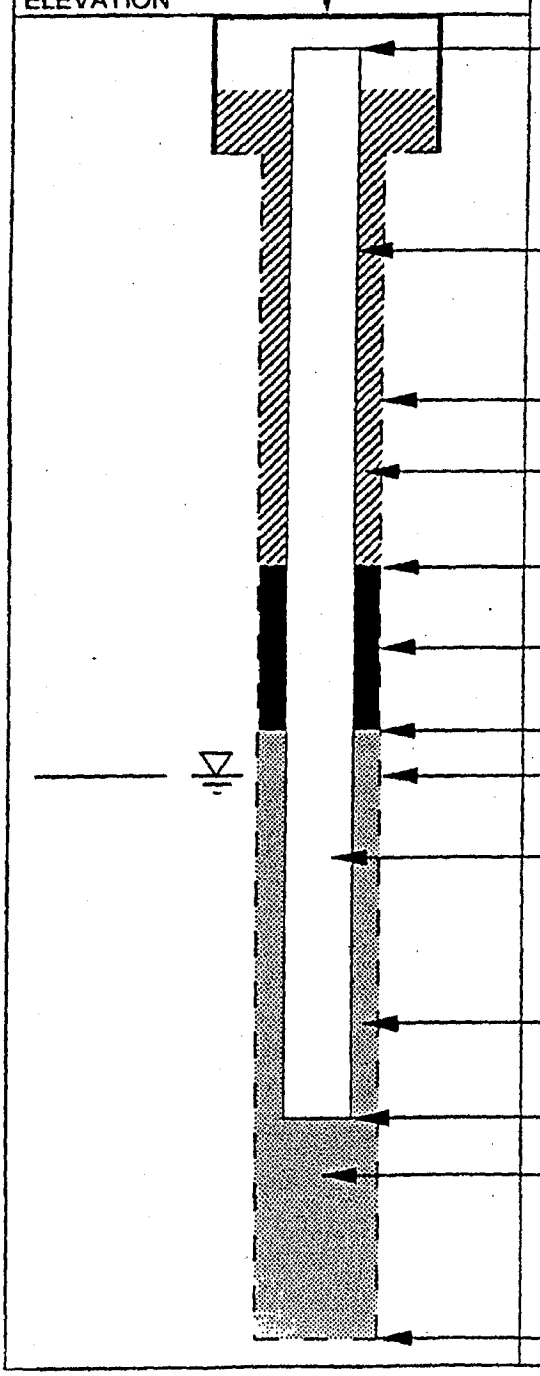
WATER LEVEL

WELL INSTALLED? (Y/N)

WELL ~~BORING~~ NO. DØ3-Ø1

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Tonto Drilling Services, Inc.
PROJECT NO. Ø44 Ø28Ø	BORING DØ3-Ø1	DRILLING METHOD Mud Rotary
~~ELEVATION~~ SITE 3	DATE 11-15-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST JEV		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 14.01

ELEVATION OF TOP OF WELL CASING: 13.78

RISER PIPE I.D.: 3 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 7.25 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL: (feet bgs) 43.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 46.5

DEPTH TOP OF SCREEN: 49.5

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~: Ø.Ø1 inch

I.D. OF SCREEN 3 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 59.5

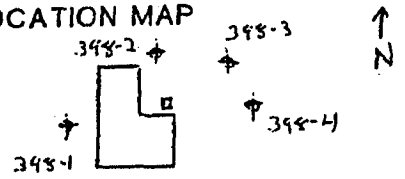
DEPTH BOTTOM OF SAND PACK: 60.5

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2/12 Monterey Sand

DEPTH OF HOLE: (feet bgs) 61.0

MF

LOCATION MAP

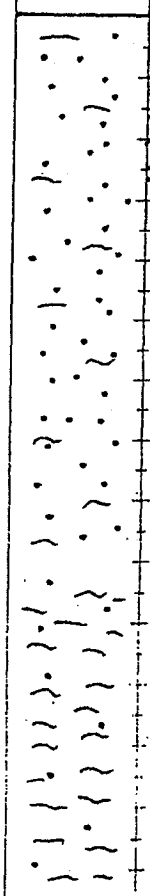


ERM-SOUTH WELL LOG

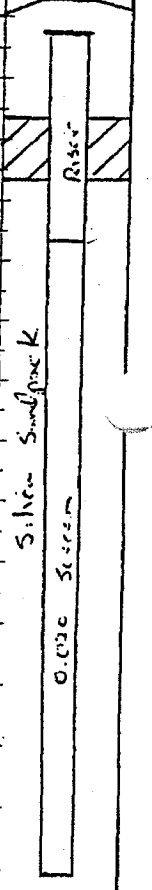
PROJECT ➤	1970.08
WELL NO.	398-MW-3
DATE ➤	1-25-95
LOCATION ➤	Bldg 398, Alameda NAS
LOGGED BY ➤	Greg Mohr
WEATHER ➤	Cloudy - Drizzle
DRILLING METHOD ➤	HSA
DRILLED BY ➤	Wayne Environmental Drlg
SAMPLING METHOD ➤	Brass Tube - Grab
OVA ➤	—
MEASURING POINT ELEVATION ➤	
LAND SURFACE ELEVATION ➤	
FILTER PACK ➤	Lonestar #3 — TOP DEPTH 2.76 — BOTTOM DEPTH 14.5
SEAL ➤	Bentonite — TOP DEPTH 1.76' — BOTTOM DEPTH 2.76'
CASING ➤ TYPE	Sched 40 PVC — DIAMETER 4" — LENGTH 3.76'
WATER LEVEL INITIAL	4' ☑ B.G.S. ☐ B.M.P.
BOREHOLE DIAMETER	8.25"
SCREEN ➤ TYPE	Sched 40 PVC — SLOT 0.020 — DIAMETER 4" — LENGTH 10.0'
WATER LEVEL AT COMPLETION	4.66' ☑ B.G.S. ☐ B.M.P.
BOREHOLE DEPTH	14.5'
DEVELOPMENT ➤ METHOD	
GALLONS PUMPED	
PUMPING RATE	
COMMENTS ➤	

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	OVA (PPM)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS
D						0			Asphalt
D						1			Silty Sands, Moderate Yellowish Brown, 10YR 5/4, Silt-Medium Grained, Angular, (SM)
M				398 MW3 3½-4		2			
W						3			
						4			
						5			
						6			Silty Sands, Olive Gray, 5Y 4/1, Silt-Medium Grained, (SM)
						7			
						8			
						9			
						10			Silty Sands, Greenish Black, 5GY 2/1, Silt-Medium Grained, 50% Fines, (SM)
						11			
						12			
						13			
						14			
						15			

GRAPHIC LOG



WELL COMPLETION



the ERM

ENVIRONMENTAL RESOURCES MANAGEMENT
ERM-WEST

FIELD WELL COMPLETION FORM

Job Name: Alameda NAS Owner: USN

Location: Bldg 398 Job #: 1970.08

Logged By: Greg Mohr Reviewed By: _____ Project Manager: William Spring

Well Number: 398-MW-3 Driller: Wayne Environmental Drlg

Date of Installation: 1-25-95 Hours Drilled: 4

Equipment: 8.25 Inch Hollow Stem Auger _____ Inch Rotary Wash

Gallons of Water Used During Drilling: None Gallons: —

Method of Decontamination Prior to Drilling: Steam Cleaning

Well Permit #: _____ Issuing Agency: _____

DEVELOPMENT

Method of Development: _____

Development Began Date: _____ Time: _____

Depth to Water Before Development: _____ Feet

Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:

Total Water Removed During Development: _____ Gallons

Description of Turbidity at End of Development: ☐ Clear ☐ Mod. Turbid ☐ Slightly cloudy ☐ Very Muddy

Odor of Water: _____

Water Discharged To: ☐ Ground Surface ☐ Storm Sewers ☐ Drums ☐ Tank Truck ☐ Storage Tank ☐ Other

Depth to Water After Development: _____ Feet

Date/Time Well Development Complete: _____

Well Elevation: _____ Feet ..... Measuring Point (i.e. Top of Casing): _____

MATERIALS USED

4 1/2 Sacks of #3 Lonestar RMC Sand

1 Sacks of _____ Cement

4 Gallons of Grout Used

— Sacks of Powdered Bentonite

25 Pounds of Bentonite Pellets

3.76 Feet of 4 Inch PVC Blank Casing

10.0 Feet of 4 Inch PVC Slotted Screen

— Feet of — Inch Steel Conductor Casing

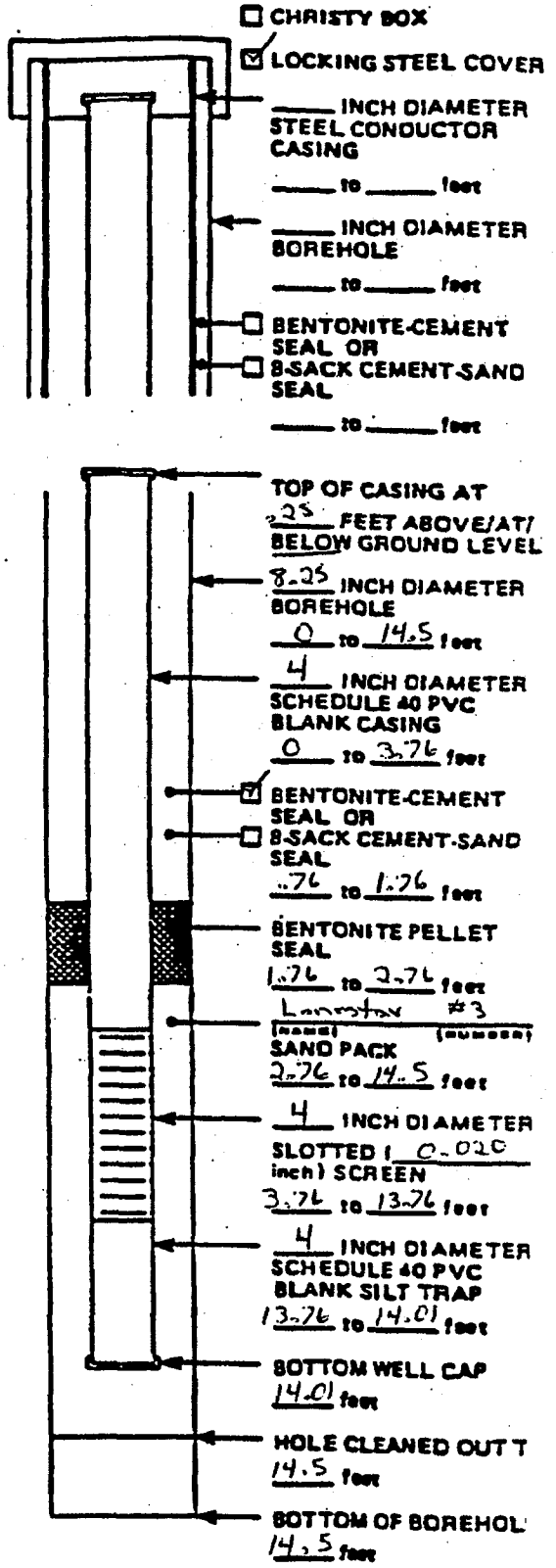
— Yard³ Cement-Sand (Redi-Mix) Ordered

— Yard³ Cement-Sand (Redi-Mix) Used

Concrete Pumper Used? ✓ No _____ Yes

Name _____

Well Cover Used: ✓ Locking Steel Cover
_____ Diversified Well Products Box
_____ Christy Box
_____ Other _____

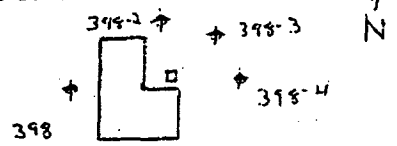


NOT TO SCALE

ADDITIONAL INFORMATION: _____

ERM-SOUTH WELL LOG

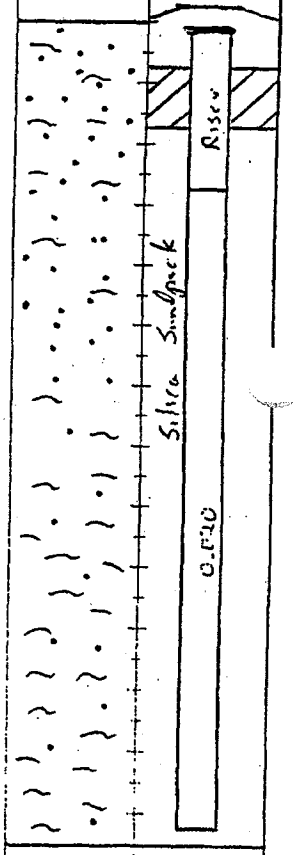
LOCATION MAP



PROJECT ➤ 1970.08		WELL NO. 398 - MW - 4	
DATE ➤ 1-26-95	LOCATION ➤ Bldg 398, Alameda NAS		
LOGGED BY ➤ Greg Mishr	WEATHER ➤ Light Drizzle		
DRILLING METHOD ➤ HSA	DRILLED BY ➤ Wayne Environmental Bldg.		
SAMPLING METHOD ➤ Brass Tube - Grab	OVA ➤ —		
MEASURING POINT ELEVATION ➤	FILTER PACK ➤ Lonestar #3 — TOP DEPTH 1.85' — BOTTOM DEPTH 12.8'	SEAL ➤ Bentonite — TOP DEPTH .8' — BOTTOM DEPTH 1.5'	
LAND SURFACE ELEVATION ➤			
CASING ➤ TYPE Sched 40 PVC — DIAMETER 4" — LENGTH 2.55'	WATER LEVEL INITIAL 4½ ☑ B.G.S. ☐ B.M.P.	BOREHOLE DIAMETER 8.25"	
SCREEN ➤ TYPE Sched 40 PVC — SLOT 0.020 — DIAMETER 4" — LENGTH 10.0'	WATER LEVEL AT COMPLETION — ☐ B.G.S. ☐ B.M.P.	BOREHOLE DEPTH 13.5'	
DEVELOPMENT ➤ METHOD — GALLONS PUMPED — PUMPING RATE	COMMENTS ➤ "Possible Perched Water"		

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	OVA (PPM)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS
						0			Asphalt
D						1			
D				398 MW4 3-4'		2			Silty Sands, Dark Greenish Gray, 5GY 4/1, Silt- Medium Grained, Angular (SM)
M						3			
						4			
W						5			
						6			
						7			Silty Sands, Dark Greenish Gray, 5GY 4/1, Silt- Medium Grained, 50% Fines (SM)
						8			
						9			
						10			
						11			
						12			
						13			
						14			

GRAPHIC LOG / WELL COMPLETION



The ERM

10011.01/WELLLOG/121991-1

ENVIRONMENTAL RESOURCES MANAGEMENT
ERM-WEST

FIELD WELL COMPLETION FORM

Job Name: Alameda NAS Owner: USN

Location: Bldg 398 Job #: 1970.08

Logged By: Greg Mahr Reviewed By: _____ Project Manager: William Spong

Well Number: 398-MW-4 Driller: Wayne Environmental

Date of Installation: 1-26-95 Hours Drilled: 4

Equipment: 8.25 Inch Hollow Stem Auger _____ Inch Rotary Wash

Gallons of Water Used During Drilling: None Gallons: —

Method of Decontamination Prior to Drilling: Steam Cleaning

Well Permit #: _____ Issuing Agency: _____

DEVELOPMENT

Method of Development: _____

Development Began Date: _____ Time: _____

Depth to Water Before Development: _____ Feet

Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:

Total Water Removed During Development: _____ Gallons

Description of Turbidity at End of Development: ☐ Clear ☐ Mod. Turbid ☐ Slightly cloudy ☐ Very Muddy

Odor of Water: _____

Water Discharged To: ☐ Ground Surface ☐ Storm Sewers ☐ Drums ☐ Tank Truck ☐ Storage Tank ☐ Other

Depth to Water After Development: _____ Feet

Date/Time Well Development Complete: _____

Well Elevation: _____ Feet ..... Measuring Point (i.e. Top of Casing): _____

MATERIALS USED

4 Sacks of #3 Lonestar RMC Sand

1 Sacks of _____ Cement

4 Gallons of Grout Used

— Sacks of Powdered Bentonite

25 Pounds of Bentonite Pellets

2.85 Feet of 4 Inch PVC Blank Casing

10.0 Feet of 4 Inch PVC Slotted Screen

— Feet of — Inch Steel Conductor Casing

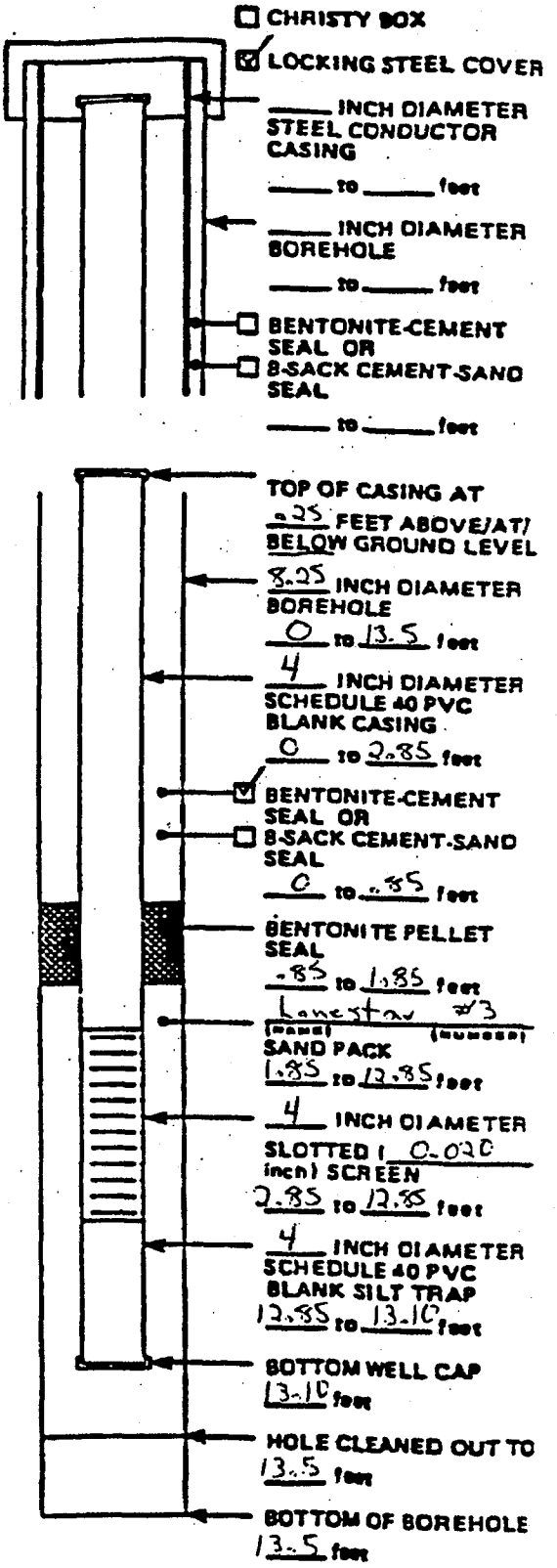
— Yard³ Cement-Sand (Redi-Mix) Ordered

— Yard³ Cement-Sand (Redi-Mix) Used

Concrete Pumper Used? ✓ No _____ Yes

Name _____

Well Cover Used: ✓ Locking Steel Cover
_____ Diversified Well Products Box
_____ Christy Box
_____ Other _____



NOT TO SCALE

ADDITIONAL INFORMATION: _____

Point Name: CA03-01
Sample Identification: 030-CAP-006

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA03-DX01-01	Date Started: 4-26-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B. J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.5' bgs	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	0.0					0.0 to ~~8~~ 10.0' bgs, sand, poorly graded sands, gravelly sand, dry, loose, no contamination, no odor, no visable staining. 10R 4/3, weak red.	SP	0
	1.0							
	2.0							
	3.0							
	4.0					sand, as above, gravelly sand	SP	0.
	5.0							

ENVIRONMENTAL CONSULTING SERVICES
URIBE & ASSOCIATES
LAKESHORE AVENUE, SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233

Sheet _____

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, gravelly sand, wet @ 5.5' bgs	SP	
	5.5							
	6.0							
	7.0							
	8.0							
	9.0					Sand, as above, gravelly sand.	SP	
	10.0					Borehole terminated @ 10.0' bgs.		

Sheet 1

Point Name: CA03-02
Sample Identification: 030-CAP-008

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA03-DG3-01	Date Started: 4-26-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4-26-00
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B. J. Mulholland
Outer Diameter of Boring: 2" OD.	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: ~	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.5' bgs.	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	0.0					0.0 to 1.0' - no recovery, assumed sand.		
	1.0					1.0 to 4.0', sand, well graded sand, 10YR 4/1, dark greenish gray, dry, loose, no cementation, no odor, no visible staining.	SW	
	2.0							
	3.0							
	4.0					Sand, as above, dry	SW	
	5.0							

U&A
ENVIRONMENTAL CONSULTING SERVICES
URIBE & ASSOCIATES
LAKESHORE AVENUE, SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0							
0815	5.5	030-CAP-008				Sand, as above, wet.	SW	
	6.0							
	7.0							
	8.0					Sand, as above, wet.	SW	
						Borehole terminated @ 8.0' bgs. Borehole grouted on 4-26-00.		

Boring Logs for DGS Site 03

Direct Push Boring	Direct Push Soil Gas Boring	Vacuum Excavation Boring	Hydro Punch Borings
S03-DGS-DP01	S03-DGS-SG01		S03-DGS-DP20
S03-DGS-DP02	S03-DGS-SG02		S03-DGS-DP21
S03-DGS-DP03	S03-DGS-SG04		S03-DGS-DP22
S03-DGS-DP04	S03-DGS-SG05		S03-DGS-DP23
S03-DGS-DP05	S03-DGS-SG07		S03-DGS-DP24
S03-DGS-DP06	S03-DGS-SG08		S03-DGS-DP25
S03-DGS-DP07	S03-DGS-SG10		S03-DGS-DP26
S03-DGS-DP08	S03-DGS-SG11		S03-DGS-DP28
S03-DGS-DP09	S03-DGS-SG13		S03-DGS-DP29
S03-DGS-DP10	S03-DGS-SG15		S03-DGS-DP30
S03-DGS-DP11			
S03-DGS-DP12			
S03-DGS-DP13			
S03-DGS-DP14			
S03-DGS-DP15			
S03-DGS-DP16			
S03-DGS-DP17			
S03-DGS-DP18			
S03-DGS-DP19			
S03-DGS-DP27			
S03-DGS-DP31			
S03-DGS-DP32			
S03-DGS-DP33			
S03-DGS-DP34			
S03-DGS-DP35			
S03-DGS-DP36			
S03-DGS-DP37			
S03-DGS-DP38			
S03-DGS-DP39			
S03-DGS-DP40			

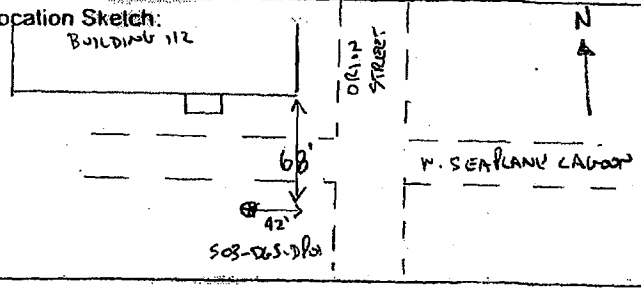
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP01	Date Started: 7/23/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/23/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 7'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						GRAVELY CLAYEY SAND; DK. GREENISH GREY; SLT. MOIST; LOOSE; POORLY SORTED; GRAVEL - 20% ANGULAR, CLAY - 15%, SILT - 5%, SAND (F-M. GRAINED) - 60%	SP		ϕ
	2					SILTY SAND; LT. OLIVE GREY; MOIST; LOOSE; NON-PLASTIC; POORLY SORTED; SILT - 20%, SAND - 80%	SM		
							SC		ϕ
	4				NA	CLAYEY SAND W/SILT; DK. GREENISH GREY; MOIST; LOOSE; NON PLASTIC; SAND - (FINE TO M. GRAINED) 75%; CLAY - 15%, SILT - 10% w 10% GRAVEL FROM 3-3.5'		NA	
0845				385-S03 001			SM		ϕ
	6					SILTY SAND; OLIVE GREY; MOIST; LOOSE; NON PLASTIC; POORLY SORTED; SILT - 20%, SAND (FINE TO M. GRAINED) - 80%, TRACE CLAY.			
1000	8			HYDRO PUNCH 385-S03 002		HYDROPUNCH GROUNDWATER SAMPLE 385-S03-002 FROM 7-9' BGS PH - 6.7 TRB - 1289 NTU ORP - -103.5 mV CND - 25,319 µS/cm DO - 1.38 mg/L TMP - 20.41 °C			
	10								

* DEPTHS MEASURED FROM SOIL SURFACE BELOW N 1.0' OF ASPHALT

TOTAL DEPTH = 9'

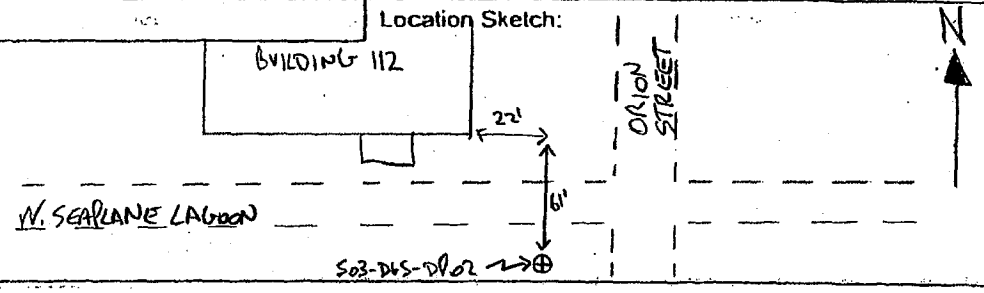
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP02	Date Started: 7/23/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/23/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.)	Location Sketch:



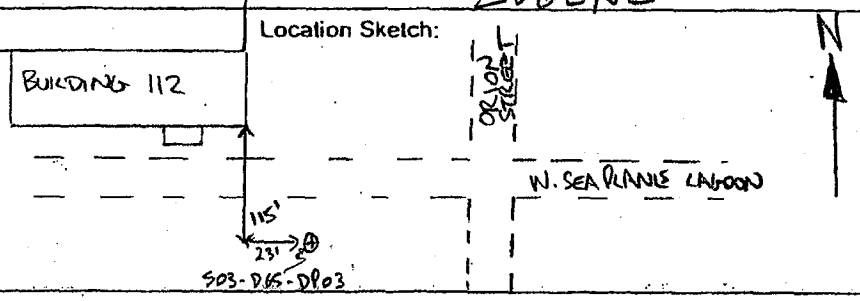
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VOM (ppm)
						ASPHALT			
	2					SANDY GRAVEL; OLIVE GREY; DRY; M.DENSE; POORLY SORTED; NON PLASTIC; GRAVEL- 70%, SAND- 20%, CLAY- 5%, SILT- 5%.	GC		
	4				N/A	SILTY SAND; LT YELLOWISH GREY; MOIST; LOOSE; NON PLASTIC; SAND- 80% (FINE TO M. GRAINED)	SM	N/A	
1240				385-S03-003		COLOR CHANGE @ 5.5'- OLIVE GREEN.			
	6					HYDROPUNCH GROUNDWATER SAMPLE 385-S03-004 FROM 7.0-9.0' BGS			
1310	8			HYDRO PUNCH 385-S03-004		PH- 7.5 DO- 5.1 mg/L CND- 30,327 µS/cm TMP- 20.78 °C TRB 1289.7 NTU ORP- 75.0 mV			
	10					TOTAL DEPTH = 9' BORING BACKFILLED W/ CEMENT GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP03	Date Started: 8/9/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
	2					GRAVELY SAND W CLAY; DARK YELLOWISH BROWN (10YR 4/4); MOIST; M. DENSE; GRAVEL- 25%, CLAY- 15%, SILT- 5% SAND - 55%	SP		
	4				NA	SILTY SAND; DARK GREY (5Y 4/1); MOIST; LOOSE; SILT- 20%, SAND - 80% (F.G.); WET @ 5.5' STRONG ODOR @ 5-6' (PETROL)	SM	NA	
1310	6			HYDRO PUNCH 385-S03-006		HYDROPUNCH GROUNDWATER SAMPLE 385-S03-006 FROM _____ PH- 7.37 DO - 0.23 mg/L CND 17,983 mS/cm ORP - -192.9 mV TRB - 9.6 NTU TMP- 23.91 °C			

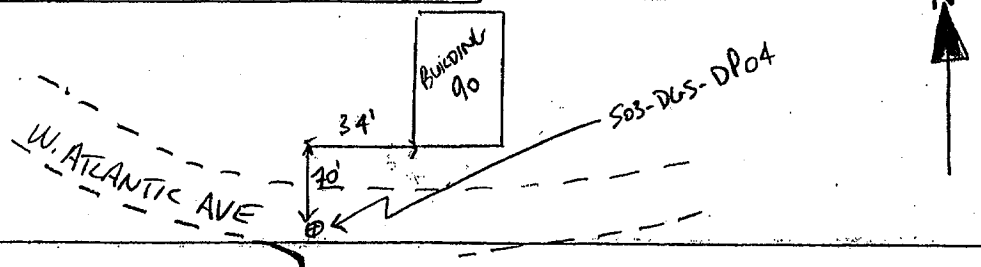
TOTAL DEPTH = 7'
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA ... SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP04	Date Started: 7/23/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/23/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VOC (ppm)
						ASPHALT			
	2					GRAVELY SAND w/ CLAY; DK. GREENISH GREY; SLT. MOIST; LOOSE; NON PLASTIC; GRAVEL-30%, CLAY-10%, SAND-60%	GC		
	4					SILTY SAND; LT. YELLOWISH BROWN; SLT. MOIST; LOOSE; POORLY SORTED; SILT-20%, SAND-80%, SHELL FRAGMENTS-TRACE; 1/2" CEMENTED SECTIONS	SM		
1430				385-S03 008					
1400				385-S03 007					
	6					HYDROPUNCH GROUNDWATER SAMPLE 385-S03-008			
	8					PH - 7.6 CND - 1286 MS/cm TRB - 198.8 NTU ORP - -74.7 mV TMP - 24.74°C DO - 5.07 mg/L			
	10								

TOTAL DEPTH = 6'
BORING BACKFILLED w/ CEMENT GROUT

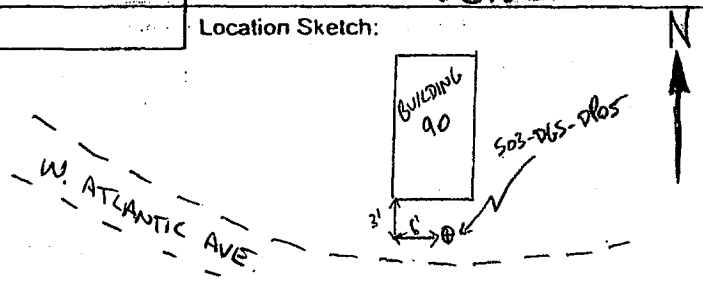
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP05	Date Started: 7/23/01 (SOIL COLLECTED)
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/24/01 (WATER COLLECTED)
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
	2					CLAY; DK GREY; SLT. MOIST; STIFF; PLASTIC; STRATIFIED; VARIOUS COLORS; MOTTLED	CH		
						CLAYEY SAND w/ SILT; LT REDDISH BROWN; SLT. MOIST; POORLY SORTED; 65% SAND; 25% CLAY, 10% SILT	SC		
	4						CH		
1520				385-S03 009.00A	NA	CLAY; DARK BLUISH BLACK; WET; LOOSE; PLASTIC		NA	
	6					CLAYEY SAND; DARK BLUISH GREY; WET; LOOSE SLT. PLASTIC; CLAY- 15%, SILT- 5%, SAND- 80%	SC		
	8			HYDRO PUNCH 385-S03-010/010A		HYDROPUNCH GROUNDWATER SAMPLE 385-S03-010/010A PH- 7.67 TMP- 19.2 °C TRB- >999 NTU ORP- -219 mV CND- 18.0 mS/cm DO- .08 mg/L			
1545	10								

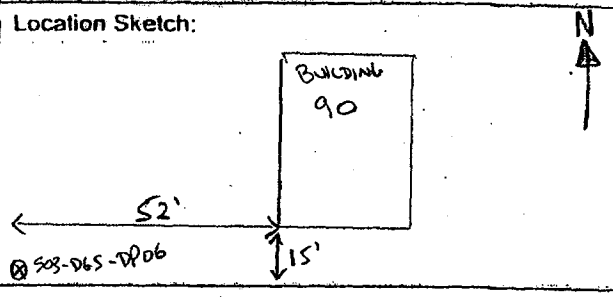
TOTAL DEPTH = 10'
BORING BACKFILLED W/ CONCRETE GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA ... SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03- DGS- DP06	Date Started: 6/18/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 4.5	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
1045				385-S03-001		ASPHALT GRAVELY SAND TR. CLAY; OLIVE BROWN (2.5Y 4/3); SL. MOIST; LOOSE; 35% GRAVEL, 5% CLAY, 60% CLAY, POORLY SORTED	SP		
	2					SAND W/ CLAY; DARK GREENISH BROWN (2.5Y 4/2) SL. MOIST; LOOSE; 80% MED. SAND, 20% CLAY; SLIGHTLY PLASTIC.	SC		
1050				385-S03-012		- WET @ 4.5'			
	4				NA				
1055				385-S03-013					
	6								
	8					TOTAL DEPTH = 7' BORING BACKFILLED W/ CEMENT GROUT.			
	10								

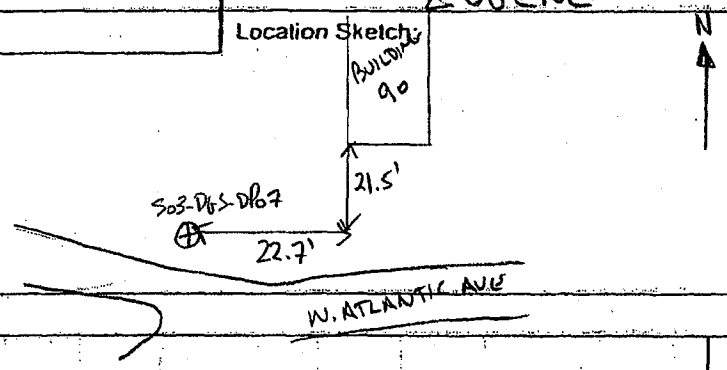
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP07	Date Started: 6/18/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 4.75'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
1132				385-S03-015		CLAYEY SAND; DARK OLIVE GREY (5Y 3/2); SLT MOIST; M. DENSE; CLAY 30%, SAND 70%	SC		
	2					SAND; DARK OLIVE GREY (5Y 2/2), MOIST; LOOSE; WELL ROUNDED WELL SORTED; SAND 90%, GRAVEL 10% - ROUNDED 1-2cm.	SW		
1144				385-S03-016	N/A	CLAY w/ SAND; BLUISH BLACK (2.5/1 5B GLEY 2); V. MOIST; V. SOFT; PLASTIC; 20% SAND, 80% CLAY GRADES INTO CLAY. - WET @ 4.75'	CL		
	4								
1150				385-S03-017		SAND w/ GRAVEL; BLACK (2.5Y 2.5/1); WET; LOOSE; F.G. SAND 85%, GRAVEL 15% - ROUNDED 2-4cm.	SP	N/A	
	6								
						TOTAL DEPTH = 7.0' BORING BACK FILLED W/ CEMENT GROUT.			
	8								

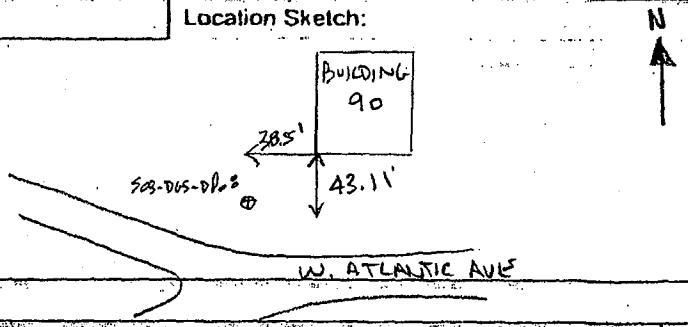
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P SUPPLEMENTAL REMEDIA INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP08	Date Started: 6/18/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 4.0'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	TVM (ppm)
1110						ASPHALT			
				385-S03-019		GRAVELY SAND; BROWN (2.5Y 5/6); SLT. MOIST; M. DENSE; SAND - 60% GRAVEL - 40% - ANGULAR, POORLY SORTED	SP		
	2			385-S03-020	NA	SAND W/ SHELLS; YELLOWISH BROWN (10YR 5/8); SLT. MOIST; LOOSE; 90% FINE-M. GRAINED SAND; 10% SHELL FRAGMENTS.	SW	NA	
	4			385-S03-021		-3.5' - MOIST - 4.0' - WET.			
	6					CLAY W/ SAND; V. DARK BROWN (10YR 2/2); WET; SOFT; HIGH PLASTIC, SAND - 20%, CLAY - 80%	CL		
	8					TOTAL DEPTH = 7' BORING BACKFILLED W/ CEMENT GROUT			

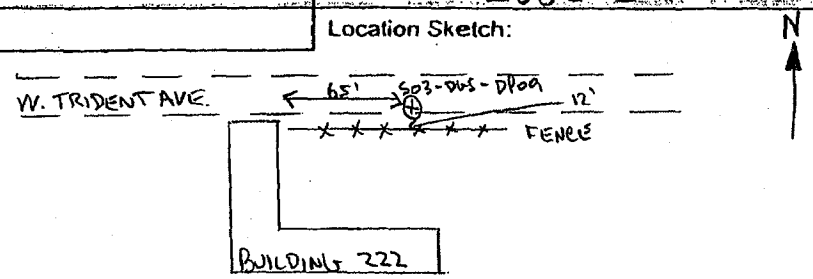
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP09	Date Started: 6/18/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	V.B. utility type, dia. / Blow count (per 6 inches)	Description	USCS soil symbol	Well construction	OVM (ppm)
1545				385-S03-023		ASPHALT			
						SANDY GRAVEL; VERY DARK BROWN; SLT. MOIST; DENSE; SAND-30%, GRAVEL- 70% - ANGULAR - 0.5-3.0CM.	GP		
	2					SAND W/SHELLS; OLIVE GREY (5Y 4/2); SLT. MOIST; LOOSE; 95% - FINE GRAINED SAND, 5% SHELL FRAGS.	SW		
						CLAYEY SAND; BLACK (5Y 2.5/1); SLT. MOIST; LOOSE; SAND 60% CLAY-40% SLT PLASTIC; CLAY POCKETS: GLASS FRAGS	SP		
1547	4			385-S03-024	N/A	CLAY; BLACK (5Y 2.5/1); SLT. MOIST; SOFT; PLASTIC GRADATIONAL CONTACTS	CH	N/A	
						CLAYEY SAND; V. DARK GREY (5Y 3/1); SLT MOIST; LOOSE; 70% F.G. SAND; 30% CLAY; GRADATIONAL CONTACT; NON PLASTIC; WELL SORTED	SC		
1554	6			385-S03-025					
	8								

TOTAL DEPTH = 6'
BORING BACKFILLED W/ CEMENT GROUT

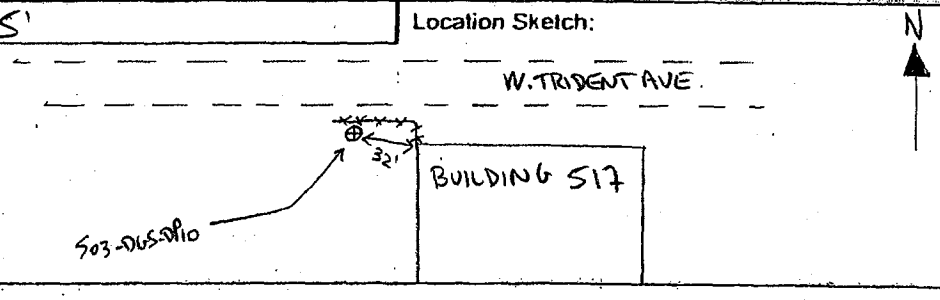
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA ... SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP10	Date Started: 6/18/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PM (ppm)
1607				385-S03-027	NA	ASPHALT		NA	
						CLAYEY SAND w/ SILT; GREENISH BLACK (10GY 2.5/1); SLT. MOIST; DENSE; NON PLASTIC; CLAY- 20%, SAND(F.G.)- 70%, SILT- 10%	SC		
	2					SAND w/ GRAVEL; DARK GREENISH GREY (10GY 4/1); SLT. MOIST; LOOSE; F.G. SAND - 90%, GRAVEL- 10% - ROUNDED 1-2cm.	SW		
1614	4			385-S03-028		CLAYEY SAND TR. GRAVEL; GREENISH BLACK (10GY 2.5/1); V. MOIST - WET @ 5.5'; LOOSE; CLAY- 30%, SAND- 65%, GRAVEL- 5% SLT. ODOR, SAND - F.G.	SC		
1616	6			385-S03-029					
	8								

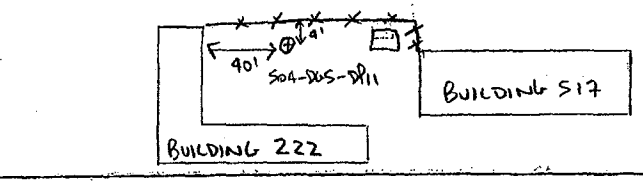
TOTAL DEPTH = 6'
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP11	Date Started: 6/19/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/19/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 6.25'	Location Sketch:



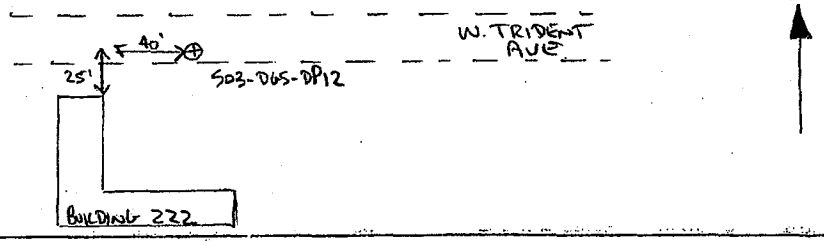
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
0900				385-S03-030		SANDY GRAVEL; YELLOWISH BROWN (10YR 5/8); DRY; LOOSE; ANGULAR; SAND- 40%, GRAVEL- 60% - 0.5-3.0 cm.	GP		
	2					CLAY; D. GREENISH GREY (GLEY1 10GY 4/1); MOIST; SOFT; HIGHLY PLASTIC, CLAY 90%, F.G. SAND-10%	CL	NA	
0911	4			385-S03-031	NA	GRAVELY SAND; LIGHT YELLOWISH BROWN (2.5Y 6/4); DRY; LOOSE; SAND- 85%, GRAVEL -15% - 0.5-1.0 cm.	SP		
						SANDY CLAY; V. DARK GREENISH BROWN (2.5Y 3/2); MOIST; V. SOFT; H. PLASTIC; SAND 30% -(F.G.), CLAY-70% - LARGE PIECE OF GLASS	CL		
1007	6			385-S03-032		WET @ 6.25'			
						TOTAL DEPTH = 6.5' BORING BACKFILLED W/ CEMENT GROUT			
	8								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP12	Date Started: 6/19/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/19/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 6.25'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.O. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
1113	2			385-S03 033	N/A	ASPHALT GRAVELY SAND W/ CLAY; S. BROWN (7.5YR 5/6); SLT. MOIST; LOOSE; ANGULAR GRAVEL, POORLY SORTED; GRAVEL - 30%, SAND - 60%, CLAY - 10% 0.8-1.25 - DECREASED CLAY, COLOR - (GLEY1 10GY 3/1)	SP SW	N/A	
1119	4			385-S03 034		SAND; DARK GREENISH GREY (5G 4/1); SLT. MOIST; LOOSE WELL SORTED; FINE GRAINED	CL		
	6					CLAY; DARK GREENISH GREY (GLEY1 5GY 3/1); MOIST; SOFT; MED. PLASTIC, GRADATIONAL CNTCT SAND; DARK GREENISH GREY (10GY 3/1); SLT MOIST; LOOSE; FINE GRAINED; WELL SORTED	SW		
	8					TOTAL DEPTH = 6.5' BORING BACKFILLED W/ CEMENT GROUT			

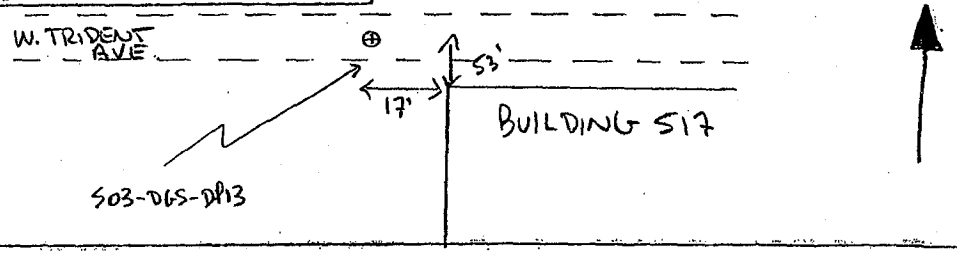
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP13	Date Started: 6/19/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/19/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 6.0'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					ASPHALT			
0932			385-S03 037		SANDY GRAVEL w/ CLAY; STRONG BROWN (7.5YR 5/6); SLT. MOIST; M.DENSE; ANGULAR; POORLY SORTED; SAND - 30%, GRAVEL - 50%, CLAY - 20% - INCREASED CLAY W/ DEPTH.	GC		
2								
0944			385-S03-038		SAND W/ CLAY; DK. GREENISH GREY (GLEY1 10GY 3/1); SLT. MOIST; LOOSE; SAND - 90%, CLAY - 10% - INTERMITENT LAYERS OF CLAY	SC	NA	
4				NA				
0949			385-S03 039		GRAVELY SAND; DARK BROWN (10YR 3/3); V. MOIST; LOOSE; ANGULAR; GRAVEL - 40% - 0.5-3cm, SAND - 60% - M. GRAINED. WET @ 6.0'	SW		
6								
					TOTAL DEPTH = 6.0' BORING BACKFILLED W/ CEMENT GROUT.			
8								

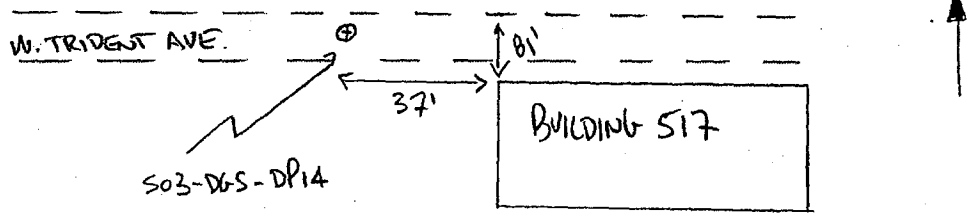
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA (T
SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP14	Date Started: 8/2/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/2/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 3.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						ASPHALT			
1015	2			385-S03-069		SANDY GRAVEL; REDDISH BROWN (7.5YR 6/6); MOIST; M. DENSE; ANGULAR; NON PLASTIC; SAND-35%, GRAVEL-60%, CLAY 5%	GC		
1018	4			HYDRO PUNCH	NA	SAND W/ GRAVEL; GREENISH GREY (5BG 6/1); MOIST; LOOSE; ANGULAR; GRAVEL-20%-GRANITE. 0.5-2cm, SAND-70%, CLAY-10% - DECREASED GRAVEL W/ DEPTH	SP	NA	
1020				385-S03-070					
				385-S03-072					
1030	6			385-S03-071		SANDY GRAVEL; V. DK. GREYISH BLUE (10YR 3/2); WET; LOOSE; ANGULAR; GRAVEL-70%-0.5-4.0cm, SAND-15%, CLAY-5%, WOOD-5%	GC		
						COLOR CHANGE @ 6.0' BLACK (10YR 2/1)			
	8					HYDROPUNCH GROUNDWATER SAMPLE 385-S03-072 FROM 3.0-5.0' BGS TMP-20.51°C TRB-5.0 NTU DO-4.55 mg/L PH-7.10 ORP-106.4 MV CND-29.00 MS/cm			

TOTAL DEPTH = 6.5'
BORING BACKFILLED W/ CEMENT GROUT.

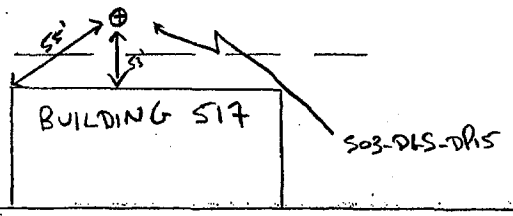
Sheet 1 of 1

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S03-DGS-DP15	Date Started: 8/2/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/2/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 3.0'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	V.B. utility type, dia. / Blow count (per 6 inches)	Description	USCS soil symbol	Well construction	OVM (ppm)
0900	2			385-S03-073	NA	ASPHALT GRAVELY SAND W/ CLAY; (GLEY1 5BG 4/1); MOIST; DENSE; V. SLT. PLASTIC; ANGULAR; POORLY SORTED; SAND - 65%, GRAVEL - 25%, CLAY - 10% ← 0.5-2cm	SP	NA	
						SANDY GRAVEL W/ CLAY; BLACK (7.5YR 2/0); SLT. MOIST; LOOSE; POORLY SORTED; NON PLASTIC; SAND - 40%, GRAVEL - 50%, CLAY - 10%	GC		
0950	4			385-S03-074		GRAVELY SAND; BLACK (7.5YR 2/0); WET; LOOSE; POORLY SORTED; ANGULAR; GRAVEL - 30% - 0.5CM, SAND - 70%	SP		
1000	6			385-S03-075		SAND GRAVEL; BLACK (7.5YR 2/0); WET; LOOSE; POORLY SORTED; ANGULAR; SAND - 40%, GRAVEL - 60%, STRONG ODOR, TR. WOOD FRAGMENTS	GC		
	8					TOTAL DEPTH = 7' BORINGS BACKFILLED W/ CEMENT GROUT			

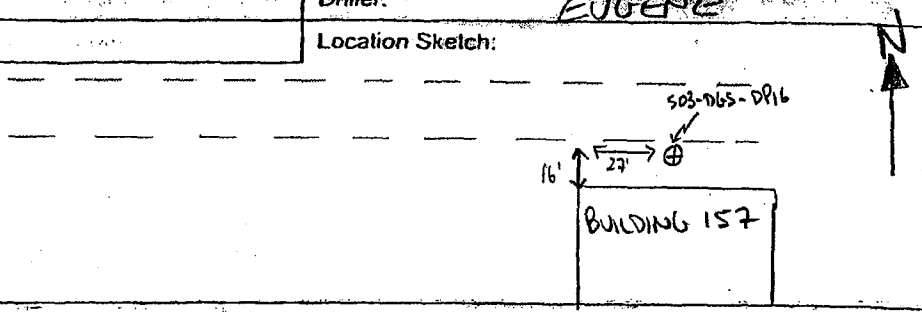
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-D6S-DP16	Date Started: 8/1/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/1/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 2.0'	Location Sketch:



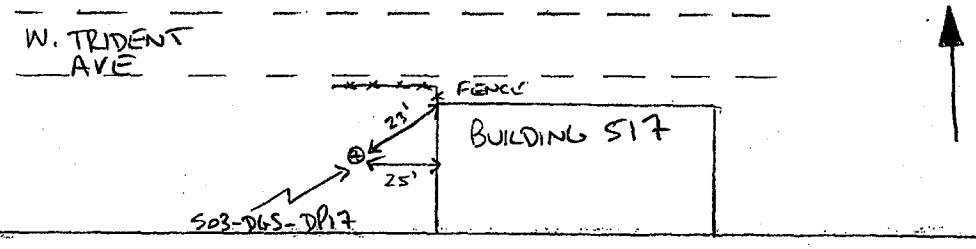
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
1455	2			385-S03-076	N/A	ASPHALT GRAVELY SAND; (GLEY 5G 5/1); MOIST; LOOSE; SUB-ANGULAR; NONPLASTIC; GRAVEL- 25%, SAND- 70%, CLAY- 5%, SHELLS - 5%, SAND IS F.G., GRAVEL 3-4 cm FROM 2-7' — GRAVEL -15%, SAND- 85%, MOIST, GLASS FRAGMENTS, NON PLASTIC, LOOSE, POORLY SORTED, GRAVEL 0.5cm, COLOR CHANGE GLEY 5G 4/2	SP	N/A	
1500	4			385-S03-077					
1510	6			385-S03-078					
	8					TOTAL DEPTH = 7' BORING BACKFILLED w/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03- DGS- DP17	Date Started: 8/1/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/1/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5.0'	Location Sketch:



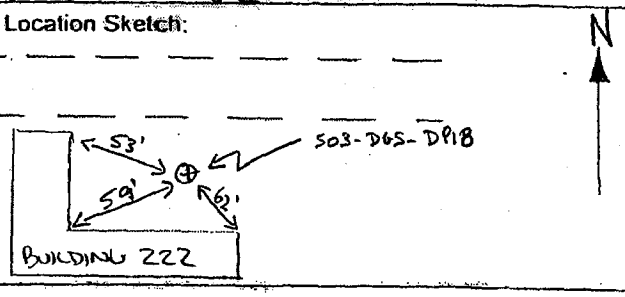
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
1340	2			385-S03 079	NA	SAND w/ CLAY; PALE OLIVE (5Y 6/4); MOIST; LOOSE; WELL SORTED; SLT. PLASTIC; SAND (F.G.) - 90%, CLAY - 10%, RARE GRAVEL - 2cm	SC		
1345	4			385-S03 080		GRAVELY SAND; OLIVE YELLOW (2.5Y 6/6); MOIST; LOOSE; SUBANGULAR; NON PLASTIC; SAND (F.G.) - 60%, GRAVEL - 40%, SHARP CONTACTS.	SP		
1345	6			385-S03 081		4-6' - SAND; DARK GREENISH GREY (5GY 5/1), WET; LOOSE; NON PLASTIC, WELL SORTED, NON GRADED			
						TOTAL DEPTH - 6.5' BORING BACKFILLED w/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA [illegible] SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP18	Date Started: 8/1/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/1/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	TM (ppm)
						ASPHALT			
	2				NA	CLAYEY SAND W/ GRAVEL; YELLOWISH BROWN (10YR 5/4); SLT. MOIST; DENSE; NON PLASTIC; POORLY SORTED; CLAY- 30%, SAND (FINE - C. GRAINED) - 50%, GRAVEL- 20% - 0.5-1cm.	SC	NA	
1415	4			385-S03 082		SILTY SAND; GREENISH GREY (GLEY1 5G 5/1); SLT. MOIST; LOOSE; NON PLASTIC; MOD. GRADED - FINING DOWN; SAND - 80%, SILT- 20%	SM		
1420	6			385-S03 083		CLAY; GREENISH GREY (GLEY1 5BG 4/1); V. MOIST; SOFT- FIRM @ 6.5'- SHELL FRAGS -15%, GRADING TO SAND @ 6.75'	CH		
	8					TOTAL DEPTH = 7' BORING BACKFILLED W/ CEMENT GROUT			

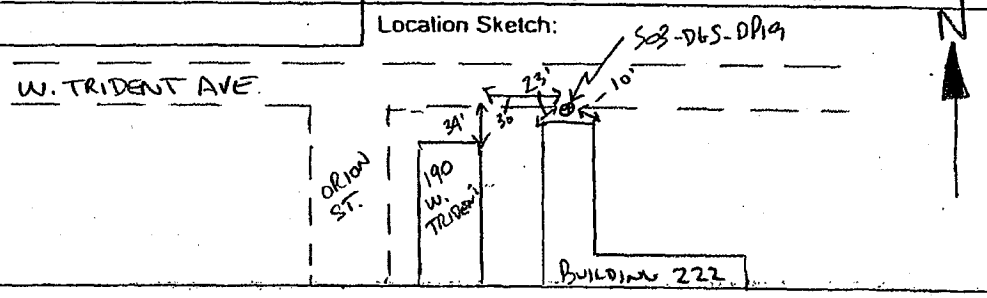
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP19	Date Started: 8/2/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/2/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 4.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	2					SAND; OLIVE BROWN (2.5Y 4/4); SLT. MOIST; LOOSE; WELL SORTED; SAND - 97%(F.G.), GRAVEL-2% - 2cm - SUBROUNDED	SW		
	4					CLAY w/ SAND; DK. GREENISH BROWN (2.5Y 4/2); MOIST; SLT. FIRM; PLASTIC; CLAY - 80%, SAND - 20%.	CL		
1120				385-S03 084		GRAVELY SAND; DK. GREYISH BROWN (2.5Y 4/2); WET; LOOSE; WELL SORTED; SAND (F.G.) - 80%, GRAVEL - 20% - ANGULAR - 0.5cm.	SW		
1145				HYDRO PUNCH 385-S03 086					
	6			385-S03 085		CLAY; DARK GREY (2.5Y 4/0); WET; SOFT - SLT. FIRM; H. PLASTIC; SHELL FRAGMENTS 5-20%.	CH		
1140									
	8					HYDROPUNCH GROUNDWATER SAMPLE FROM 4.5-6.5'			
						TMP - 21.50 CND - -29.00			
						PH - 6.84 DO - 14.12			
						TRB - 68.5 ORP - -99.7			

TOTAL DEPTH = 7'

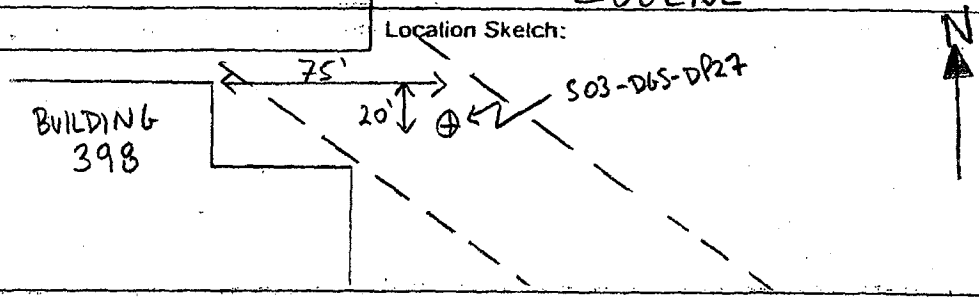
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA [illegible] SUPPLEMENTAL REMEDI[illegible] INVESTIGATION DATA GAP SAMPLING

Boring Number: S03- DGS- DP27	Date Started: 8/31/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/31/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5.0'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					ASPHALT			
* 2 * * 4 * * 6 *				NA	SILTY SAND; LT. OLIVE BROWN (2.5Y 4/4); MOIST; LOOSE; POORLY GRADED; SILT-20%, SAND (FINE-M. GRAINED) - 80% COLOR CHANGE @ 4.5' V. DARK GREY (2.5Y 3/1) WET @ 5' STRONG HYDROCARBON ODOR, STAINING 5-6'	SM	2" PVC SCREENED (0.10")	0 0 8 189 333
* 8 * * 10					SILTY CLAY; DK. GREENISH GREY (5.6Y 2.5/1); WET; SOFT; CLAY 85%, SILT-15%.	CL		19 22

* QUALITATIVE LNAPL VOA TEST SAMPLE LOCATIONS. LNAPL DETECTED IN VOA SAMPLE @ 5.5'. TEMP WELL MONITORED W/ BAILOR & INTERPHASE ON 9/19/01 RESULTS NEG. (SEE NOTE BOOK #4, PAGE 29).

Total Depth = 10'
Boring Completed as Temporary Well by installing 10' of well screen to assess potential for LNAPL. No LNAPL Layer detected in temporary well on 9/19/01. Screen removed and boring backfilled with cement grout.

Sheet 1 of 1

CTO-385
Bldg./Site: 503
Project Name: SUPPLEMENT REMEDIAL INVESTIGAT DATA GAP SAMPLING

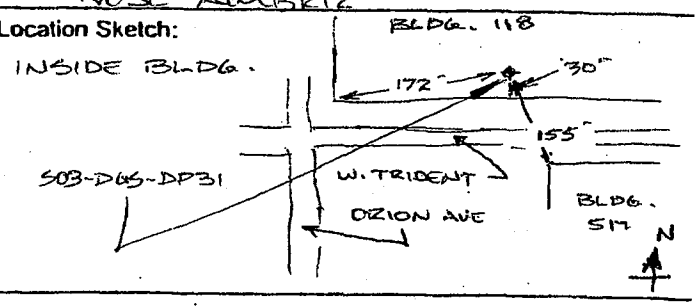
TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S03-DGS-DP31	Date Started: 9/24/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/24/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RE
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: JOSE ALMBRIZ
Depth to Water (ft./bgs.) ~10'	Location Sketch:

GROUND WATER SAMPLE COLLECTED W/ TEFLON DISPOSABLE BAILER IN PVC 1"φ TEMP. OID SCREEN PLACED IN HAND AUGERED BOREHOLE TO 10'

TEMP - 17.02 °C SPC - 3,209
COND - 2,719 MS/CM PH - 7.73
DO - 1.60 mg/L TURB - 1,380 NTU
ORP - -166.0 MV



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						6" CONCRETE	CONC.		
	2				NA	YELLOWISH-BROWN SAND 10YR/66 (SP) MOIST, LOOSE. SOME CLAY BALLS FOUNDATION BASE MAT'L	SP	NA	
1025	4			385 S03 116					
1030	6			385 S03 117					
	8					BLACK SANDY CLAY 2.5Y N2/ (CL) MOIST, SOFT. MUCH FILL DEBRIS EMBEDDED IN CLAY I.E.: WOOD, ROCK, BRICK ETC.	(CL) FILL DEBRIS		
	10			385 S03 118		BLACK TURBID WATER, H_2S ODOR MUCH SEDIMENT			

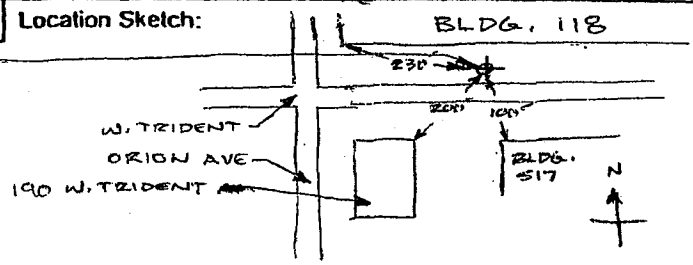
TOTAL DEPTH = 10'
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site: 3
Project Name: SUPPLEMENT REMEDIAL INVESTIGATI DATA GAP SAMPLING

Boring Number: 503-DGS-DP32	Date Started: 9/24/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/24/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RE
Outer Diameter of Boring: 1" 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing: 1" ϕ TEMP. PVC .010 SCREEN	Driller: JOSE AMBRIZ
Depth to Water (ft./bgs.) ~8'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	M (ppm)
						8" CONCRETE 8"	CONC.		
	2					MULTI-COLORED FILL MATERIAL, MOSTLY GRAYISH-REDDISH BROWN ~2.5 YR 5/4 SANDY, CLAYEY GRAVEL (GC) 15% SAND, 30% CLAY, GRAVEL TO 1" ϕ, W/ DEBRIS I.E.: GLASS, WOOD, CONC., AC, ETC. DRY, LOOSE 3½'	GC		
1450	4			385 503 127	90 L	GRAY CLAY (CH) 10YR 5/1 WET STIFF SHELL FRAGMENTS, SOME BLACK STAINED NODULES, SMALL SAND LENSES ~4.7' & 5.5'	CH		
1455	6			385 503 126	90 L				
1515	8			385 503 127	GW	GROUNDWATER SAMPLE SCREENED 5'-10' #385-503-127, DISSOLVED LEAD 1-500ml poly/HNO3 FILTERED THRU .45 μ TEMP - 23.97°C SPC - 5,870 COND - 5,760 μS/cm PH - 6.75 D.O. - 0.76 mg/L TURB - 466.3 NTU ORP - -198.8 mV			
	10								

TOTAL DEPTH = 10'
BORING BACKFILLED W/ CEMENT GROUT.

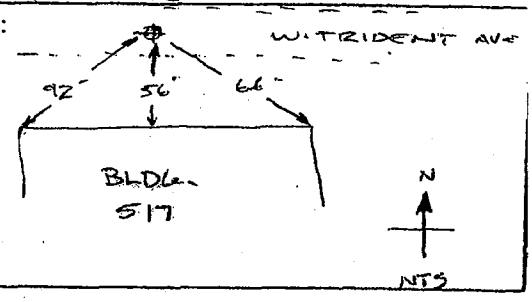
Sheet 1 of 1

CTO-385
Bldg./Site: 3
Project Name: SUPPLEMENT REMEDIAL INVESTIGATI DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S03-DGS-DP33	Date Started: 9/24/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/24/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RE
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: JOSE AMBRIZ
Depth to Water (ft./bgs.) ~6' / SAMPLED W/ PERISTALTIC PUMP	Location Sketch:



GROUNDWATER SAMPLE FROM BOREHOLE W/ 1"φ TEMP
PVC WELL SCREEN (.010) @ 0935 # 385-S03-115

TEMP = 21.53°C SPC - 1,613 GRAYISH BLACK TURBID
COND = 1,496 MS/cm PH - 6.91 SILTY, SANDY WATER
D.O. = 1.42 mg/L TURB - 1,091 NTU ~~ODORLESS~~ SLIGHT H_2S ODOR
ORP - 75.8 mV

Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE SURFACE TO 7"	CONCRETE		
0835	1			385-S03 112	NA	.7 REDDISH-YELLOW (5YR 6/8) ~~ORANGE~~ SANDY GRAVELLY CLAY (CL) MOIST, STIFF 25% f.-c. SAND, 15% f. GRAVEL	CL	NA	
						1 GRAY GRAVELLY SANDY CLAY (5G 4/1) (CL) MOIST, STIFF			
	2					1.5 GRAY (5G 4/1) SAND MOIST, DAED. DENSE (SP)	SP	2	
						2.5 GRAYISH BLACK CLAY (5Y 2.5/1) (CH) WET, SOFT	CH		
	3							3	
0840	4			385-S03 113		4.5 GRAYISH BLACK SANDY CLAY (5Y 2.5/1) (CL) WET, SOFT 10% f.-m. SAND	CL	4	
	5							5	
0845	6			385-S03		INCREASING WATER, SAND %			

TOTAL DEPT = 6' BORING BACKFILLED W/ CEMENT GROUT

Sheet 1 of 1

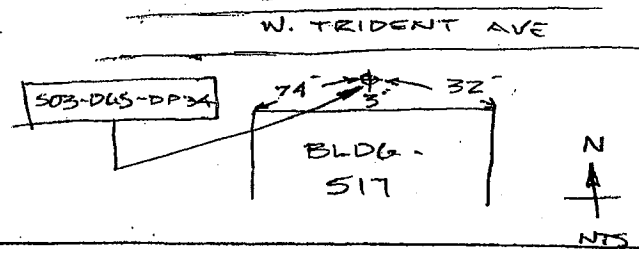
CTO-385
Bldg./Site: 3
Project Name: SUPPLEMENT REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S03-DGS-DP34	Date Started: 9/24/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/24/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RE
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing: –	Driller: JOSE AMBRIZ
Depth to Water (ft./bgs.) ~6"	Location Sketch: BLDG-118

GROUNDWATER SAMPLE COLLECTED W/ PERISTALTIC PUMP, THROUGH PVC 1"Φ SCREEN .010
TURBID BLACK WATER, VISIBLE SHEEN, STRONG HYDROCARBON ODOR. #385-S03-122 @ 1210
TEMP - 18.37°C ORP - -121.3mV TURB - 987 NTU
COND - 1,142 MS/cm SPC - 1,309
D.O. - 0.80 mg/L PH - 7.28



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PM (ppm)
				385 S03 119		ASPHALT			
						BASE - GRAYISH BROWN SANDY GRAVEL 10YR 5/2 (GP) DRY, LOOSE 3"	GC		
1115	1					REDDISH BROWN CLAYEY GRAVELLY SAND 2.5 YR 5/4 DRY, MED. DENSE (SW) 10% CLAY 25% GRAVEL 6"	SW		
	2								
				385 S03 120					
120	4					LIGHT BROWN SAND 10YR 6/4 (SP) MOIST, MED. DENSE 4"	SP		
						BLACK GRAVELLY CLAYEY SAND 10 YR 2/1 (SC) WET, LOOSE 15% GRAVEL & DEBRIS, 20% CLAY, STRONG H/C ODOR, SHEEN 5	SC		
				385 S03 121		GRAY CLAY 10YR 5/1 (CH) WET, STIFF, SOME BLACK DEBRIS FROM ABOVE EMBEDDED IN THIS BAY MUD. 6	CH		
125	6								
	7								
	8					TOTAL DEPTH = 7' BORING BACKFILLED W/ CEMENT GROUT			
	10								

Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

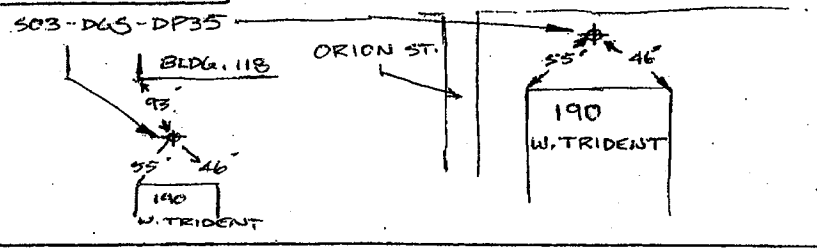
CTO-385
Bldg./Site: 3
Project Name: SUPPLEMENT REMEDIAL INVESTIGAT DATA GAP SAMPLING

Boring Number: 503-DGS-DP35	Date Started: 9/24/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/24/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RE
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: JOSE AMBRIZ
Depth to Water (ft./bgs.) ~8'	Location Sketch:

* QC: FIELD DUPLICATE ALSO COLLECTED #385-503-902

VERY LOW YIELDING SLOW RECOVERING BAY MUD

** PARAMETERS MEASURED ON 9/25/01



Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	2					4" ASPHALT OVER MULTI-COLORED GRAYISH, REDDISH BROWN 10 YR 5/2 ↔ 2.5 YR 5/4 CLAYEY, SANDY GRAVEL (GP) DRY, LOOSE → MED. DENSE. 20% CLAY, 30% SAND RUST STAINING, FILL DEBRIS I.E.	AC / GP		
	4				NA	GRAY CLAY (CH) 10YR 5/1 WET, STIFF, SLIGHT H2S ODOR SOME SHELL FRAGMENTS, DEBRIS	CH	NA	
1345	6			385-503-123	501				
1400	7			385-503-124	GW	* GROUNDWATER SAMPLE # 385-503-124 COLLECTED IN PVC TEMP. 3/4" Ø .010 SCREEN 4'-9' WITH PERISTALTIC PUMP, DISSOLVED LEAD 1-500 ml Poly/HNO3, FILTERED THROUGH .45 µ ** TEMP. 16.67°C SPC. 15,990 COND. 13,434 mS/cm pH. 7.24 D.O. 4.26 mg/L TURB. 1,369 NTU ORP. 346.3 mV			
	8								
1800	9			385-503-902					
	10	BOH @ 9'							

TOTAL DEPTH = 9'
BORING BACKFILLED W/ CEMENT GROUT

Sheet 1 of 1

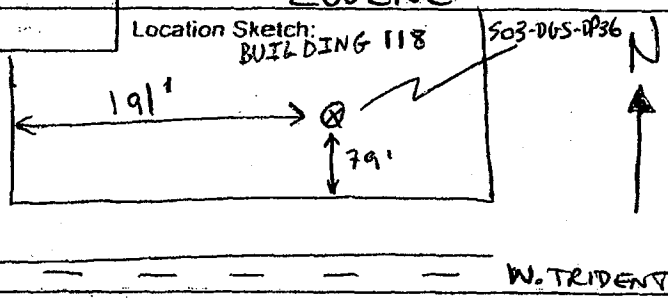
VFW

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA ... SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-DP36	Date Started: 11/6/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 11/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 4.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.S. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						CONCRETE			
	2					CLAYEY SAND; YELLOWISH BROWN (10YR 5/4); MOIST-WET; V. LOOSE; MOD. SORTED; NON GRADED; NON PLASTIC; CLAY-10%, SAND (M.G.)-80%, 5% SHELL FRAGMENTS & TR. GRAVEL.	SC		
	4								
	6					INCREASED CLAY W/ DEPTH TO 20% DECREASED SHELL FRAGMENTS	CL		
1330				385-S03-118			SC		
1345	8		HYDROPUNCH GW SAMPLE	385-S03-119		CLAY - D. GREENISH GREY (5G 4/1); WET; SOFT; V. PLASTIC; WELL SORTED; CLAY-100%, TR. SILT			
						CLAYEY SAND; D. GREENISH GREY (5G 4/1); WET; LOOSE; WEAKLY SORTED; NON GRADED; NON PLASTIC SAND-85%, CLAY-15%			

TOTAL DEPTH = 8.5'
BORING BACKFILLED W/ CONCRETE GROUT

HYDROPUNCH GW SAMPLE FROM 6.5 - 8.5'
DO PH COND SAMPLE VOL
TRB ORP TM
NOT ENOUGH

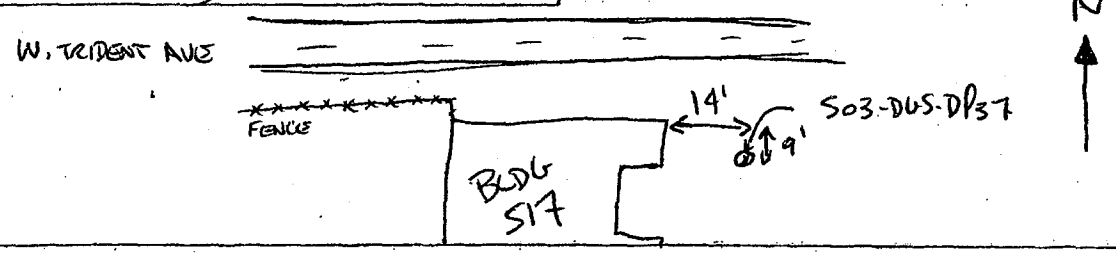
WFW

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

oring Number: S03-DGS-DP37	Date Started: 11/6/01
rilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 11/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUCKSHANK
uter Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
ner Diameter of Well Casing:	Driller: EUGENE
epth to Water (ft./bgs.) 5'	Location Sketch:



ime	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE			
	2					GRAVELY SAND; D. BROWN (7.5Y3/2); MOIST; LOOSE; POORLY SORTED; NON GRADED; GRAVEL ANGULAR - 25% - TO 3CM; CLAY - 5%, SAND - 70% - FINE - M. GRAINED.	SP		
	4				N/A	SILTY SAND; YELLOWISH BROWN (10YR5/4), MOIST; V. LOOSE; MOD. SORTED; NON GRADED; SILT - 15%, SAND - 85%, TR. GRAVEL; CLAY (2" @ 1.8')	SM	N/A	
0935	6			385-S03 121		COLOR CHANGE @ 2.5' - GREENISH GREY (5G 6/1) WET @ 5.0'	SC		
0945	8		HYDROPUNCH GW SAMPLE	385-S03-122		SILTY CLAY SAND; V. DK. BROWN (10YR 2/2); WET; POORLY SORTED; LOOSE; FILL MATERIAL; SILT - 15%, CLAY - 20%, SAND (M.G.) - 60%, GRAVEL - 5% ANGULAR, TR. GLASS; WOOD FRAGMENTS.			

TOTAL DEPTH = 8.5'
BORING BACKFILLED W/ CONCRETE GROUT.

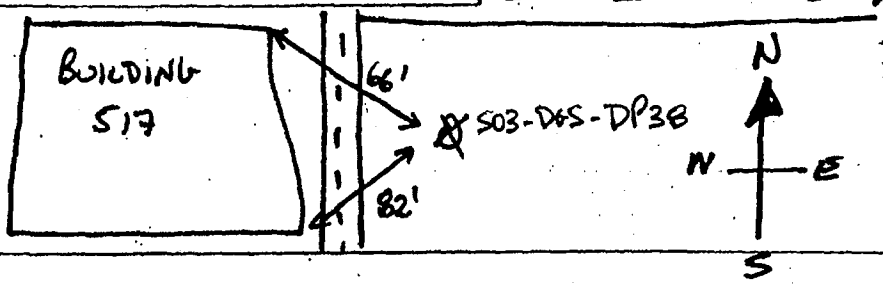
HYDROPUNCH GW SAMPLE FROM 6.5 - 8.5' BGS
DO 5.22 mg/L TMP 19.9°C ORP -100 mV CND 6.02 mS/cm TRB - 998 NTU pH 7.23

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

Boring Number: S03-D6S-DP3B	Date Started: 2/8/02
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 2/8/02
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
Outer Diameter of Boring: 2"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing: 1 3/4"	Driller: JREAL
Depth to Water (ft./bgs.) 6.0'	Location Sketch: W. TRIDENT AVE



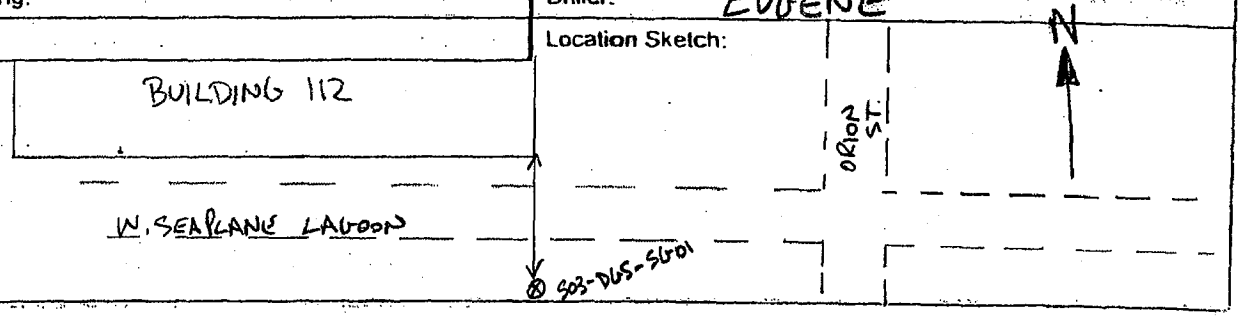
Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility (gas, etc.)	Description	USCS soil symbol	Well construction	OVM (ppm)
						~1' ASPHALT & BASE ROCK ~1' CONCRETE		PVC	
	2					GRAVELY SILTY CLAY; YELLOWISH BROWN (10YR 5/6); SLT. MOIST; M. STIFF; POORLY SORTED; 20% ANGULAR GRAVEL TO 1cm	CL	BLANK	
	4					@ 4' - WET SAND, FINE - MED. GRAINED - 2" CLAY; DK. GREENISH GREY (1GLEY 5G 3/1); SOFT; H. PLASTIC; WELL SORTED; "BALL MUD" HYDROCARBON STAINING FROM 5.5 - 6.0'	CH		
1215 1400	6			3B5-S03-132 3B5-S03-133		SAND; GREENISH BLACK (1GLEY 10G 2.5/1); WET; LOOSE; MOD. SORTED; FINE MED. GRAINED; SLIGHT HYDROCARBON ODOR @ 6.0', SLIGHT HYDROCARBON STAIN THRUOUT.	SW	SLOTTED PVC	
	8					TOTAL DEPTH = 8' BORING BACKFILLED W/ CEMENT GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-SG01	Date Started: 7/5/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
1849	1			385-S03-049		SANDY SILT w/ GRAVEL; DK. GREENISH GREY (1GLEY 1 04 4/2.1); SLT. MOIST; LOOSE; POORLY SORTED; GRAVEL - 15%, SAND - 30% CLAY - 10%, SILT - 45%	CL		
	2					SILTY SAND; DK GREENISH GREY (5GY 3/1); MOIST; LOOSE; POORLY SORTED; SILT - 20%, SAND (FINE - M. GRAINED) 80%. CLAY LAYER @ 1.5'	SM		
	3					TOTAL DEPTH = 3' BORING BACKFILLED W/ CEMENT GROUT			

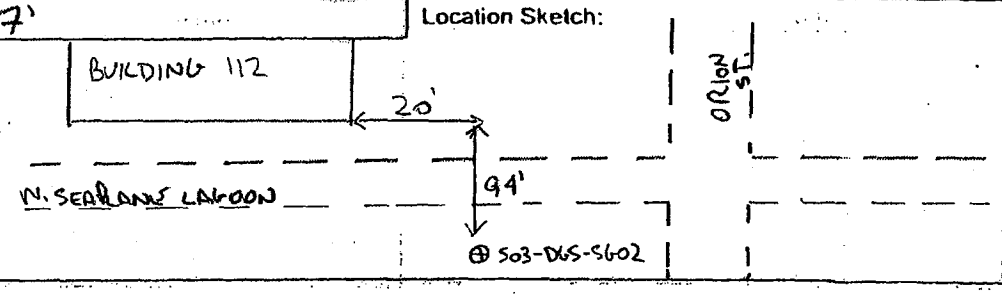
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA NT SUPPLEMENTAL REMED. INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-SG02	Date Started: 7/5/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 7'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
0906	2			385-S03 050	NA	ASPHALT		NA	
						GRAVELY SILTY SAND; DARK YELLOWISH BROWN (10 YR 4/6); DRY; M. DENSE; NON PLASTIC; POORLY SORTED; GRAVEL-30% (CHERT), 30% SILT, 40% SAND	SP		
						SILTY SAND; OLIVE BROWN (2.5Y 4/3); MOIST; LOOSE; POORLY SORTED; SILT-20%, SAND-80%	SM		
	4					CLAY; DARK BLUISH GREY (2GLEY 10B 3/1); MOIST; SOFT; PLASTIC	CH		
	6					SILTY SAND; BLUISH BLACK (2GLEY 5B 2.5/1); MOIST; LOOSE; NON PLASTIC; WEAKLY SORTED; SILT-20%, SAND-80%	SM		
	8					CLAY; DARK GREENISH GREY (2GLEY 10G 3/1); MOIST; SOFT; PLASTIC WET @ 7.0'	CH		

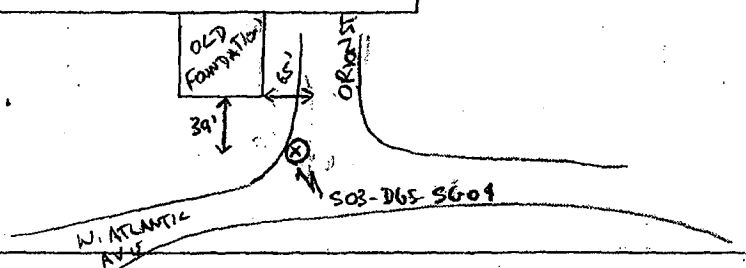
TOTAL DEPTH = 8'
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03- DGS- SG04	Date Started: 7/5/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 7'	Location Sketch:



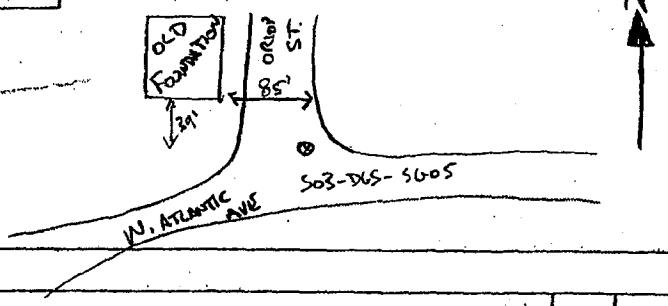
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
0959	2			385S04 0S4	N/A	ASPHALT SANDY CLAY w/ GRAVEL BROWN (7.5YR 4/4); DRY; M. DENSE; POORLY SORTED; CLAY - 40%, SAND - 30%, SILT - 10%, GRAVEL - 20%.	CL	4/2	
	4					SILTY SAND w/ CLAY; OLIVE (5Y 4/2); MOIST; LOOSE; POORLY SORTED; SAND (FINE TO M. GRAINED) - 55%, GRAVEL - 15%, SILT - 20%, CLAY - 10% STRONG ODOR DECREASED GRAVEL, CLAY w/ DEPTH COLOR CHANGE @ 5.0' - DK GREENISH GREY (10GY 4/1) 2" LAYER OF CLAY @ 6.0'.	SM		
	6								
	8					CLAY; V. DK. GREY (1GLEY N 3/1); MOIST; SOFT; PLASTIC; WET @ 7.0'	CH		
	10					TOTAL DEPTH = 9' BORING BACKFILLED w/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-SG05	Date Started: 7/5/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.)	Location Sketch:



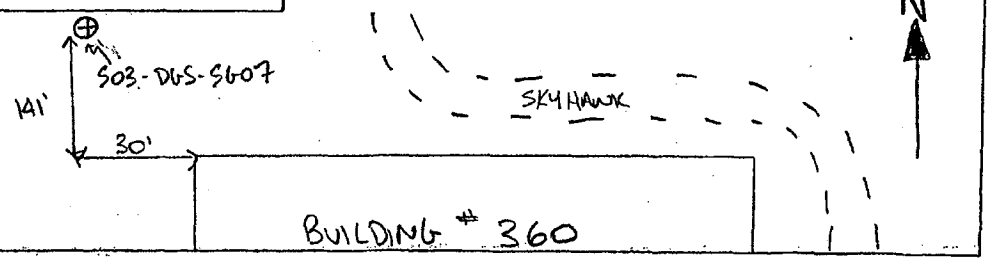
Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VOM (ppm)
						SANDY GRAVEL w/ SILT, DK. YELLOWISH BROWN (10YR 4/4); DRY; LOOSE; 50% GRAVEL, 30% SAND, 10% SILT/CLAY GRAVEL - CHERT.	GC		
0943	1			385-S03-055	N/A	SILTY SAND; OLIVE BROWN (2.5Y 4/3); MOIST; LOOSE; MOD. SORTED; SILT - 20%, SAND 80% STRONG ODOR	SM	N/A	
	2								
	3					* NOTE - DEPTHS MEASURED FROM SOIL SURFACE, N 6" BELOW ASPHALT. TOTAL DEPTH = 3' BORING BACKFILLED W/ CEMENT GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-S607	Date Started: 7/5/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 6'	Location Sketch:



ime	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	2			385-S03 059	UA	SILTY CLAYEY SAND; DARK OLIVE BROWN (2.5Y 3/3); MOIST; LOOSE; MOD. SORTED; SAND (F.G.) - 75%, CLAY - 15%, SILT - 15% COLOR CHANGE @ 1.0 - LT. OLIVE BROWN (2.5Y 5/4); DECREASED CLAY.	SM	N/A	
	4					CLAYEY SAND w/ SILT, V. DARK GREYISH BROWN (2.5Y 3/2); MOIST; SLT. PLASTIC; POORLY SORTED; SILT - 10%, CLAY - 20%, SAND 70%, TRACE TILE	SC SM		
	6					SILTY SAND; BLACK (10YR N 2.5/1); MOIST; LOOSE; NON PLASTIC; SILT - 30%, SAND - 70%; GRAVEL - TRACE COLOR CHANGE - @ 6'; DK. OLIVE GREY (5Y 3/2); WET, 20% SILT COLOR CHANGE @ 7' DK GREENISH GREY (10Y 4/1)			
	8								
	10					SOIL SURFACE			

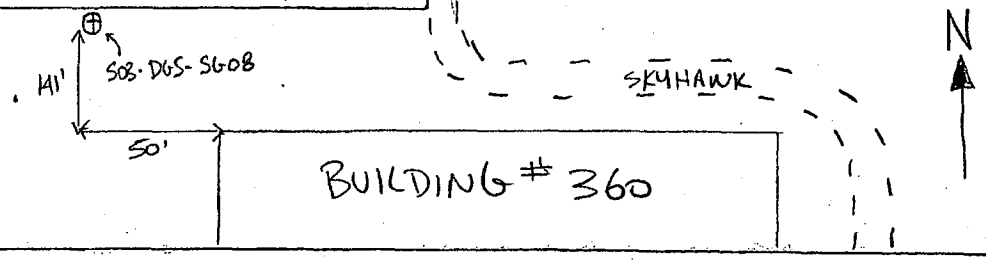
TOTAL DEPTH = 9'
BORING BACKFILLED W/ CEMENT GROUT.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA NT SUPPLEMENTAL REMED. INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-SG08	Date Started: 7/5/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring:	Drilling Subcontractor:
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



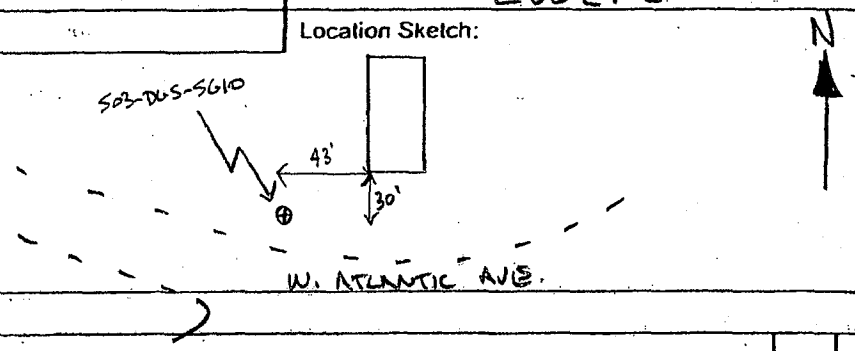
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						ASPHALT			
1058	1			385-S03-060	NA	SILTY SAND W/ CLAY; OLIVE (5Y 4/3); MOIST; LOOSE; WEAKLY SORTED; SAND-70%, SILT-20%, CLAY-10%.	SM	NA	
	2								
	3					TOTAL DEPTH = 3' BORING BACKFILLED W/ CEMENT GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-D6S-SG10	Date Started: 7/3/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/3/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 7'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
1516	2			385-S03 063	NA	ASPHALT SILTY SANDY CLAY; DK. GREENISH BROWN (2.5Y 4/2); DRY; M DENSE; SLIGHTLY PLASTIC; SAND - 25%, CLAY - 40%, SILT - 28% COLOR CHANGE - 0.5-3.0 DARK BLUISH GREY (2GLEY 5GB 3/1), MOIST, DENSE, PLASTIC, TRACE WOOD FRAGS. COLOR CHANGE - 3.0-7.0 - BLACK (1-GLEY N 2.5/), V. MOIST; MOTTLED	CL	NA	
	4								
	6								
	8					SILTY CLAYEY SAND; DARK GREENISH GREY (1-GLEY 10Y 3/1); WET; LOOSE, PLASTIC, WEAKLY SORTED SAND - 50%, SILT - 30%, CLAY - 20%	SM		
	10					TOTAL DEPTH = 9'			

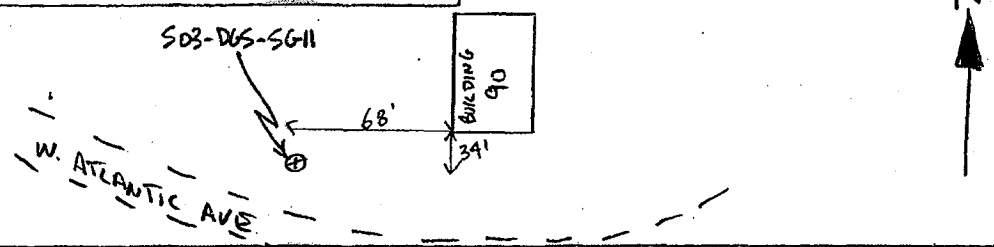
BORING BACKFILLED W/ CEMENT GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-SG11	Date Started: 7/3/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/3/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.)	Location Sketch:



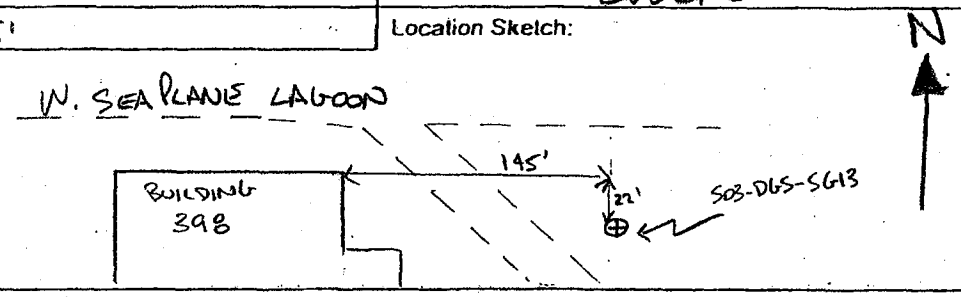
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						GRAVELY CLAY W/ SAND; DBROWN (10YR 4/4); MOIST; M. STIFF; SLT. PLASTIC, ANGULAR GRAVEL- 30%, SAND(F-G)-20%, CLAY-45%, WOOD FRAGS- 3%	CL		
1506	1			385-S03-065	N/A	SILTY SAND; DARK YELLOWISH BROWN (10YR 4/4); V. MOIST; LOOSE; MOD. SORTED; SAND-80% SILT-20%, TR. SHELL FRAGMENTS	SM	N/A	
	2								
	3					TOTAL DEPTH = 3' BORING BACKFILLED W/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03-DGS-SG13	Date Started: 9/6/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN / KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 6.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
0840	2			385-S03-102	N/A	GRAVEL SAND w/ CLAY; DARK YELLOWISH BROWN (10YR 4/4); DRY; LOOSE; POORLY SORTED; GRAVEL-25% (0.5-1cm), SAND-60%, CLAY-15% COLOR CHANGE 2-4'- OLIVE BROWN (3.5Y 4/4); SLT. MOIST; CLAY POCKETS.	SP		
	1					SILTY SAND; OLIVE GREY (5GY 4/1); MOIST; LOOSE; WELL SORTED; SILT-30%, SAND-70%; STRONG PETROL. ODOR; FINE GRAINED. COLOR CHANGE @ 6.5- DARK GREY (5Y 4/1). WET	SM	N/A	
	6								
	8					CLAY; V. DK. GREY (5Y 3/1); MOIST; SOFT; HIGHLY PLASTIC; 100% CLAY; GRADATIONAL UPPER CONTACT.	CH		
	10								

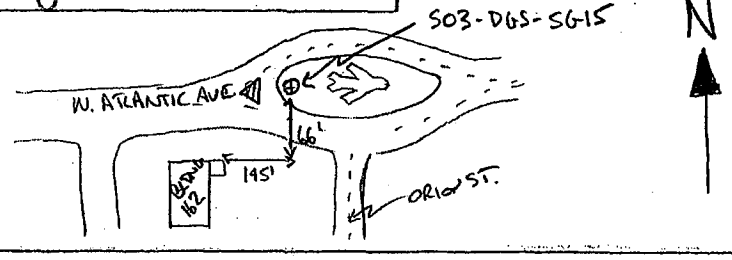
TOTAL DEPTH = 10'
BORING BACKFILLED w/ CEMENT GROUT.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA NAS SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S03- DGS- SG15	Date Started: 9/6/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 8'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
1000	2			385-S03-105	NA	SILTY SAND; (LOAM, TOPSOIL); DK. GRAYISH BROWN (10Y 4/2); DRY, LOOSE; SAND (FINE GRAINED) - 55%, SILT - 35%, GRAVEL 5% - 2mm-2cm SUBANGULAR; ORGANICS - 5%.	SM SC	NA	
	4					CLAYEY SAND W/ GRAVEL; OLIVE BROWN (2.5Y 4/4); SLT. MOIST. MED. DENSE; SAND (F.-M. GRAIND) - 55%, CLAY - 25%, GRAVEL - 20%, SILT - TRACE	SM		
	6					SILTY SAND; OLIVE (5Y 4/4); SLT. MOIST; LOOSE; WELL GRADED; SILT - 20%, SAND - 80%; FINE TO MED. GRAINED	SP		
	8					SAND; DARK GREY (GLEY N 4/1); MOIST; M. DENSE; NON PLASTIC; POORLY SORTED; STRONG ODOR.			
	10					CLAY W/ SILT; DARK GREY (GLEY N 4/1); WET; SOFT MOD. PLASTIC; CLAY - 85%, SILT - 15%, STRONG PETROL. ODOR	CL		

TOTAL DEPTH = 9'
BORING BACKFILLED W/ CEMENT GROUT.

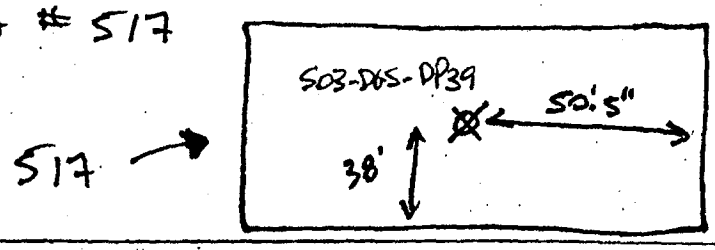
TETRA TECH EM INC.

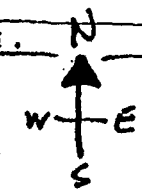
SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

ring Number: S03-DGS-DP39	Date Started: 2/8/02
illing Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 2/8/02
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
uter Diameter of Boring: 2"	Drilling Subcontractor: PRECISION
ner Diameter of Well Casing: 1 3/4"	Driller: ISREAL
epth to Water (ft./bgs.) 6.0'	Location Sketch: W. TRIDENT AVE.

INSIDE BUILDING # 517





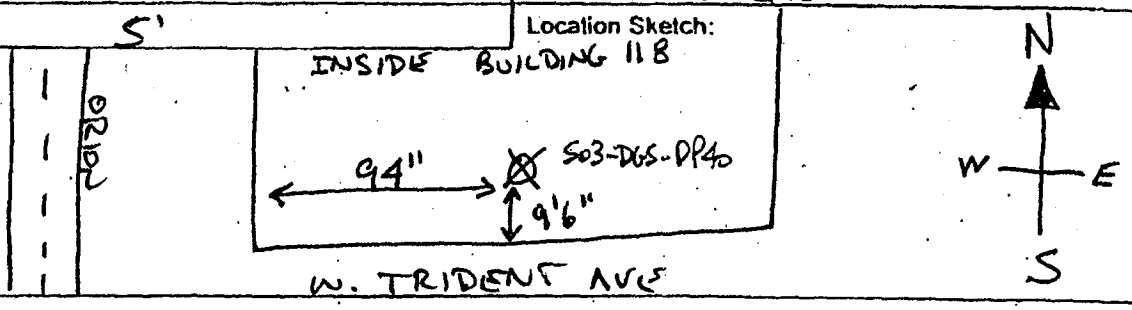
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE FLOOR			
	2					SANDY GRAVELY SILT; STRONG BROWN (7.5YR 5/6); DRY; V. STIFF; POORLY SORTED; NON GRADED; SECTIONS CLAYEY; 30% ANGULAR PLUTONIC GRAVEL TO 1CM; 20% SAND		BLANK PVC	
	4								
20	6			385-S03-134		SAND; DK. YELLOWISH BROWN (10YR 4/6); WET; LOOSE; MOD. SORTED; NON GRADED; F. TO M. GRAINED.	SW	SLOTTED PVC	
40				385-S03-135		CLAY; DK. GREENISH GREY (1GLEY 5G 3/1); MOIST; SOFT; V. PLASTIC; WELL SORTED "BAY MUD."	CH		
	8								
						TOTAL DEPTH = 9', BORING BACKFILLED w/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

Boring Number: S03-DGS-DP40	Date Started: 2/8/02
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 2/8/02
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
Outer Diameter of Boring: 2"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing: 1 3/4"	Driller: JSREAR
Depth to Water (ft/bgs.) 5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE FLOOR			
						SAND; LT. OLIVE BROWN (2.5Y 5/4); MOIST; LOOSE; MOD. SORTED; NON GRADED; SAND FINE-MED. GRAINED	SW	BLANK PVC	
	3					CLAY; DK. BLUISH GREY (2 GLEY 10B/3/1); MOIST; SOFT; H. PLASTIC; HOMOGENOUS; WELL SORTED	CH		
	6			385-S03	-136 -137 913	GRAVELY CLAYEY SAND; DK YELLOWISH BROWN (10YR 4/6); WET; SLT. DENSE; POORLY SORTED; SLT. PLASTIC; GRAVEL - SUB ANGULAR TO 2CM	GC / CH	SLOTTED PVC	
20 45 50									
	9					CLAY; DK. YELLOWISH BROWN (10YR 4/4) → DK. BLUISH GREY (2GLEY 10B 3/1); MOIST; SOFT; V. PLASTIC; HOMOGENOUS			
	12					GRAVELY CLAYEY SAND; DK YELLOWISH BROWN (10YR 4/6); WET; M. DENSE; POORLY SORTED. SECTIONS BLACK.	GC		
						TOTAL DEPTH = 11.0', BORING BACK FILLED W/ CEMENT GROUT			

BORING NO. M03-09

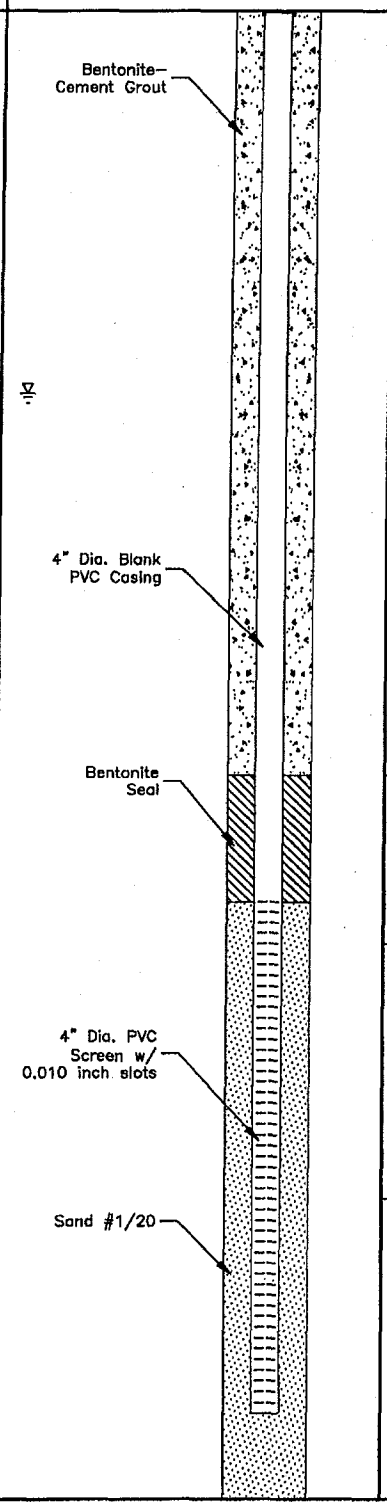
COORDINATES: N. 471196
E. 1481413

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 37 ft.

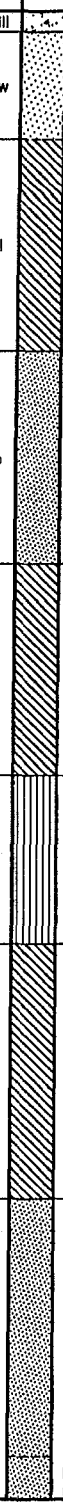
DATE BEGAN 8/14/02
DATE FINISHED 8/14/02
SURFACE ELEV. 10.0
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	USCS	DESCRIPTION
0			fill	ASPHALT 0.5'
	NO	DAMP	sw	Mixed SAND and GRAVEL; upper 3.0'. 3.0'
5	NO	VMST	cl	CLAY WITH SILT; greenish black, (GLEY 1(2.5/1)), very soft, plastic, 10% silt, trace fine sand, very moist, no product odor. 8.0'
10	LT/ MOD	VMST/ WET	sp	POORLY GRADED FINE SAND; dark olive gray, (5Y (3/2)), very loose, very moist to wet, light to moderate product odor. 13.0'
15	VLPO	WET	cl	CLAY WITH SILT; greenish black, (GLEY 1(2.5/1)), very soft, plastic, "mucky", 15% silt, wet, very light product odor (?)/light organic odor (?). 18.0'
20	LPO	WET	ml	SILT WITH CLAY; greenish black, (GLEY 1(2.5/1)) 15–20% silt, trace fine sand, wet (sticky), light product odor. 22.0'
25	NO	WET	cl/ ml	SILTY CLAY WITH SAND; very dark greenish gray, (GLEY 1(3/1)), 30% silt, 25–30% fine sand. 28.0'
30	NO	WET	sp	POORLY GRADED FINE SAND; olive gray, (5Y (4/2)), 10–15% silt, wet, no product odor.
35	NO	WET	sp	POORLY GRADED FINE SAND; olive gray, (5Y (4/2 to 3/2)), trace silt, wet, no product odor.

DRILLING REMARKS



PROFILE



DRILLER : V. Leonard (Woodward Drilling)
DRILLING CO. : Contracted by Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 Feet)
SAMPLING METHOD : HSA
PROJECT : Alameda Point, CTO-78
LOCATION : SSE of Bldg 112
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27, California State Plane Zone *III*.
Vertical: NVGD 1929.

DRAWN BY	T.R.S.	CHECKED BY	Tim Ault 11/4/02	DRAWING NO. : 829084-A10
DATE	11/18/02	APPROVED BY		

IT CORPORATION

BORING NO. M03-09

COORDINATES: N. 471196
E. 1481413

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 37 ft.

DATE BEGAN 8/14/02
DATE FINISHED 8/14/02
SURFACE ELEV. 10.0
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	DRILLING REMARKS	USCS	PROFILE	DESCRIPTION
35	NO	WET	Sand	sp		POORLY GRADED SAND; olive, (5Y (4/2 to 3/2)), trace silt, wet, no product odor. 36.0'
				sm		POORLY GRADED SAND; dark grayish brown, (2.5Y (4/2)), 40% silt, wet, no product odor. 37.0'
40			Bentonite Seal: 18 to 21 feet (bgs) Sand: 21 to 37 feet (bgs) Screen Interval: 21 to 33 feet (bgs) Top of Casing: 9.51 (msl)			TOTAL DEPTH OF BORING IS 37.0 FEET
45						
50						
55						
60						
65						
70						

DRILLER : V. Leonard (Woodward Drilling)
DRILLING CO. : Contracted by Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 Feet)
SAMPLING METHOD : HSA
PROJECT : Alameda Point, CTO-78
LOCATION : SSE of Bldg 112
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27, California State Plane Zone *III*.
Vertical: NVGD 1929.

DRAWN BY	T.R.S.	CHECKED BY		DRAWING NO. : 829084-A10
DATE	11/18/02	APPROVED BY		

IT CORPORATION

BORING NO. M03-10

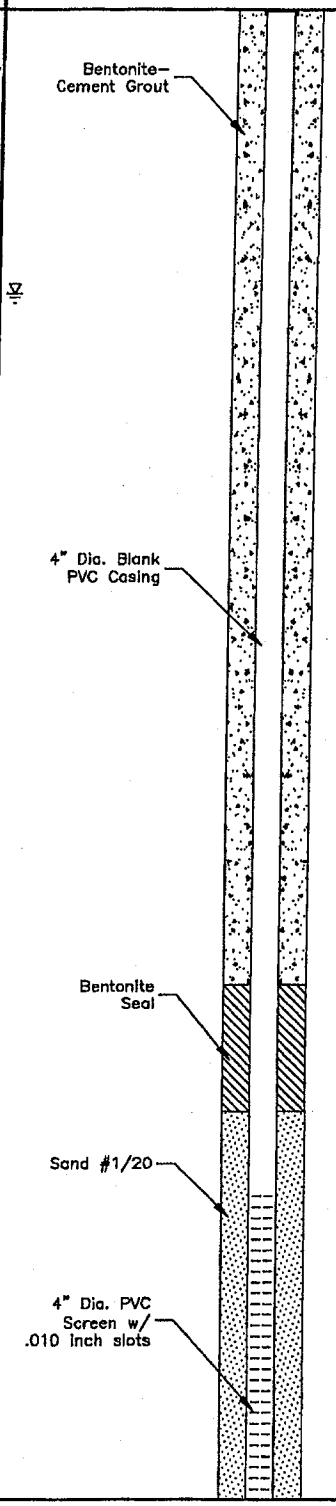
COORDINATES: N. 470380
E. 1481423

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 38 ft.

DATE BEGAN 8/14/02
DATE FINISHED 8/14/02
SURFACE ELEV. 10.0
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	USCS	DESCRIPTION
0			fill	ASPHALT 0.5'
	NO	DAMP/ MOIST	sp	POORLY GRADED FINE SAND; brown, (10YR (4/3), trace silt, very loose, damp to moist, no product odor. NOTE: Small amounts of rock, asphalt fragments at 3.0'. to 3+ inch diameter.
5	NO	WET	sp	At 7': Black to dark olive gray, (5Y (2.5/2)) loose, trace wood fragments, trace silt (10%). 16.0'
10				
15	NO	SAT.	sm	SILTY SAND; black, GLEY 1(2.5/), very loose, graded sand 50-60%, silt 20-30%, trace clay (10%), wet to saturated, no product odor. 23.0'
20	NO	SAT.	sm/ ml	SILTY SAND; very dark greenish gray, (GLEY (3/1)), loose, 40% silt, saturated, no product odor. 28.0'
25	NO	SAT.	ml	SANDY SILT; very dark grayish brown, (2.5Y (3/2)), loose, saturated, no product odor. 34.0'
30	NO	SAT.		
35	NO	WET	sp	POORLY GRADED SAND WITH SILT; dark grayish brown, (2.5Y (4/2)), loose, trace (10%) silt, wet, no product odor.

DRILLING REMARKS



PROFILE

DRILLER : F. Ramirez/R. Barragan
DRILLING CO. : Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 feet)
SAMPLING METHOD : HSA
PROJECT : Alameda Point, CTO 78
LOCATION : N Side Bldg 170, inside green fence
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27,
California State Plane Zone *III*.
Vertical: NVGD 1929.

IT CORPORATION

DRAWN BY	T.R.S.	CHECKED BY	Tim Ault 11/4/02	DRAWING NO. : 829084-A11
DATE	11/18/02	APPROVED BY		

BORING NO. M03-10

COORDINATES: N. 470380
E. 1481423

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 38 ft.

DATE BEGAN 8/14/02
DATE FINISHED 8/14/02
SURFACE ELEV. 10.0
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	DRILLING REMARKS	USCS	PROFILE	DESCRIPTION
35	NO	WET	Sand	sp		POORLY GRADED SAND WITH SILT; dark grayish brown, (2.5Y (4/2)), loose, trace (10%) silt, wet, no product odor. POORLY GRADED SAND WITH SILT; dark grayish brown, (2.5Y (4/2)), loose, wet, no product odor.
40			*Bentonite Seal:* 23 to 26 feet (bgs) Screened Interval: 28 to 38 feet (bgs) Top of Sand: 26 feet (bgs) Top of Casing: 9.53 (msl)			TOTAL DEPTH OF BORING IS 38.0 FEET
45						
50						
55						
60						
65						
70						

DRILLER : F. Ramirez/R. Barragan
DRILLING CO. : Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 feet)
SAMPLING METHOD : HSA
PROJECT : Alameda Point, CTO 78
LOCATION : N Side Bldg 170, inside green fence
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27,
California State Plane Zone *III*.
Vertical: NVGD 1929.

IT CORPORATION

DRAWN BY	T.R.S.	CHECKED BY		DRAWING NO. : 829084-A11
DATE	11/18/02	APPROVED BY		

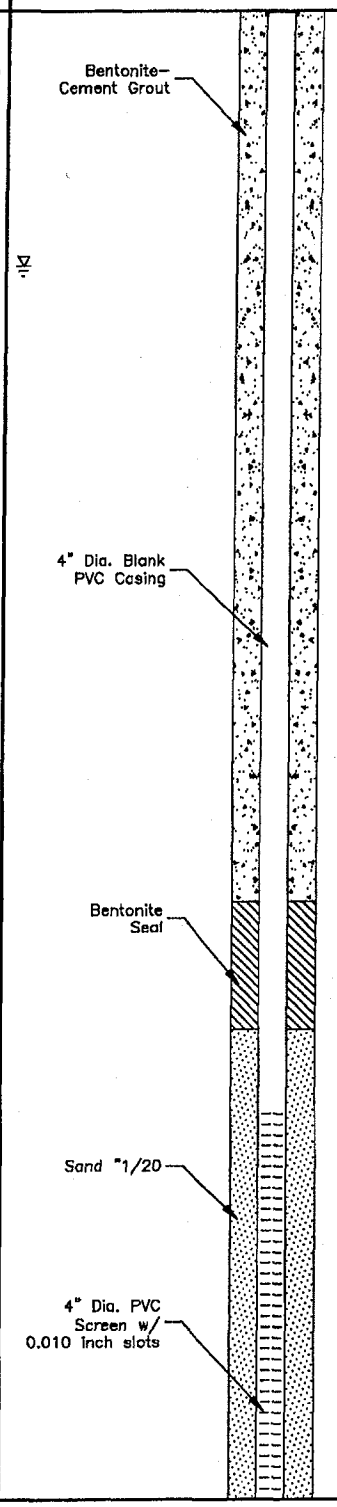
BORING NO. M03-11

COORDINATES: N. 470783
E. 1482365

FIELD GEOLOGIST Garrick Anderson — DATE BEGAN 8/14/02
CHECKED BY Tim Ault — DATE FINISHED 8/14/02
APPROVED BY — SURFACE ELEV. 9
TOTAL DEPTH 36 ft. — CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	USCS	DESCRIPTION
0			fill	ASPHALT 0.5'
	NO	DAMP	sw	WELL GRADED SAND WITH GRAVEL; dark grayish brown, (10YR (4/2)), very loose, trace silt, 20–25% gravel (pea to 3"), angular, damp, no product odor. 3.0'
	NO	VMST	ml	SILT; black to very dark brown, (10YR (2/2)), loose, trace 10% fine sand, very moist, no product odor. 5.0'
5			sm/sc	CLAYEY SAND WITH SILT; grayish brown, (GLEY 1(2.5/1)), fine grained, 20–25% clay matrix, 15% silt, loose, wet, no product odor. 9.0'
			sp/sm	POORLY GRADED SAND WITH SILT; brown, (10YR (5/3)), loose, 10–15% silt, wet, ("mucky"), no product odor. 10.0'
10	NO	WET	sp	POORLY GRADED SAND WITH SILT; brown, (10YR (4/3)), loose, 10% silt, wet, light product odor (?). 15.0'
15	NO	WET	sm	POORLY GRADED SAND WITH SILT; 15–20% silt, brown, (10YR (5/3)), loose, mucky, wet, no product odor. 18.0'
20	NO	WET	sp	POORLY GRADED FINE SAND; brown to olive brown, (2.5Y (5/3)) to (10YR (4/3)), 10–15% silt, mucky, wet, no product odor. 34.0'
25				
30	NO	WET		
35	NO	WET	sm	SILTY SAND; brown, (10YR (4/3)), loose, 25–30% silt, wet, no product odor.

DRILLING REMARKS



PROFILE

DRILLER : V. Leonard (Woodward Drilling)
DRILLING CO. : Woodward Drilling Subcontracted by Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 feet)
SAMPLING METHOD : HSA Cuttings
PROJECT : Alameda Point, CTO-37
LOCATION : N. Side Parking Lot at N Side Soccer Field
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27,
California State Plane Zone *III*.
Vertical: NVGD 1929.

IT CORPORATION

DRAWN BY	T.R.S.	CHECKED BY	Tim Ault 11/4/02	DRAWING NO. : 829084-A12
DATE	11/18/02	APPROVED BY		

BORING NO. M03-11

COORDINATES: N. 470783
E. 1482365

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 36 ft.

DATE BEGAN 8/14/02
DATE FINISHED 8/14/02
SURFACE ELEV. 9
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	DRILLING REMARKS	USCS	PROFILE	DESCRIPTION
35	NO	WET	Sand	sm		POORLY GRADED SAND WITH SILT; brown, (10YR (4/3)), lose, 25-30% silt, wet, no product odor.
40						TOTAL DEPTH OF BORING IS 36.0 FEET
45						
50						
55						
60						
65						
70						

Bentonite Seal: 21 to 24 feet (bgs)
Screen Interval: 26 to 36 feet (bgs)
Sand: 24 to 36 feet (bgs)
Top of Casing: 8.59 (mls)

DRILLER : V. Leonard (Woodward Drilling)
DRILLING CO. : Woodward Drilling Subcontracted by Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 feet)
SAMPLING METHOD : HSA Cuttings
PROJECT : Alameda Point, CTO-37
LOCATION : N. Side Parking Lot at N Side Soccer Field
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27,
California State Plane Zone *III*.
Vertical: NVGD 1929.

IT CORPORATION

DRAWN BY	T.R.S.	CHECKED BY		DRAWING NO. : 829084-A12
DATE	11/18/02	APPROVED BY		

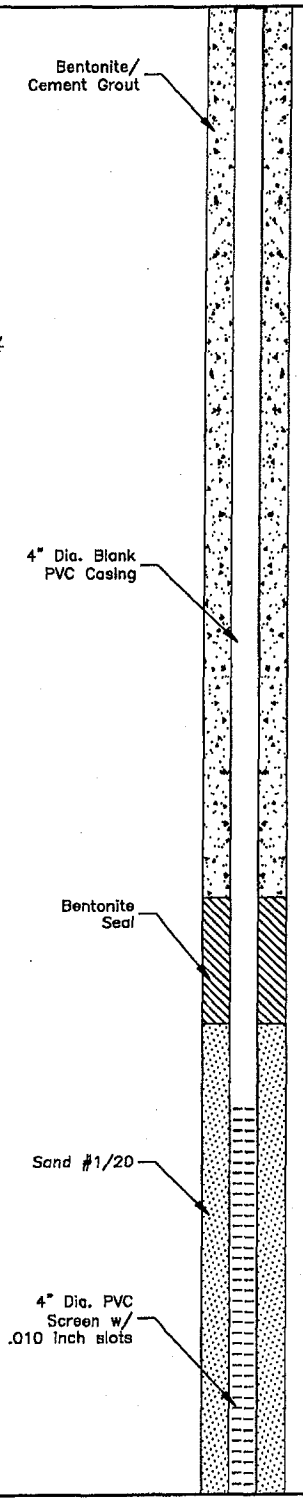
BORING NO. M03-12

COORDINATES: N. 470506
E. 1482562

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 39.5 ft.

DATE BEGAN 8/12/02
DATE FINISHED 8/12/02
SURFACE ELEV. 9.5
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	USCS	DESCRIPTION
0			fill	GRASS SURFACE; soccer field. 0.5'
	NO	MST	sp	POORLY GRADED FINE SAND; olive gray, (5Y (4/2)), moist, no product odor. 3.0'
	NO	VMST	cl/sc	VERY SANDY CLAY/CLAYEY SAND; fine sand, very dark greenish gray, (GLEY 1(3/5GY), very moist, no product odor. 6.5'
	NO	SMST	ml	SANDY SILT; greenish black, (GLEY 1(2.5/10Y)), loose, 30% sand, slightly moist, no product odor. 8.0
	NO	WET	sp	POORLY GRADED FINE SAND; greenish black, (GLEY 1(2.5/10)), fine sand, wet, no product odor. 10.0'
10	NO	VMST/WET	sp	POORLY GRADED FINE SAND; trace clay, dark grayish brown, (10YR (4/2)), moderate iron oxidized staining, loose, very moist, no product odor. 12.5'
15			sp	POORLY GRADED FINE SAND; dark grayish brown, (10YR (4/2)), saturated (sloppy), no product odor. 22.0'
	NO	SAT./WET	sm	POORLY GRADED FINE SILTY SAND; dark greyish-brown 2.5(4/2), trace per-sized rock fragment saturated (sloppy) silt 15-25%, no product odor. 25.0'
25			ml	Sandy Silt, dark greyish brown, saturated (2.5Y (4/3)). At 26.0'; 30% fine sand, 50% silt, 20% clay. 27.0'
	NO	SAT.	sp	At 27.0'; POORLY GRADED SAND; olive brown, (2.5Y (4/3)), fine grained, very loose, saturated (sloppy), no product odor. 30.0'
30	NO	SAT.	sp	POORLY GRADED FINE SAND; olive brown, (2.5Y (4/3 to 4/4)), very loose, saturated, no product odor. 35.0'
35	NO	SAT.		



DRILLER : M. Martin
DRILLING CO. : Vironex Environmental Services
DRILLING METHOD : Direct Push-2" Macrocore, 10" Hollow Stem Auger. (Hand Auger to 5 feet)
SAMPLING METHOD : Macrocore
PROJECT : Alameda Point, CTO-78
LOCATION : West Side Soccer Field
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27, California State Plane Zone III.
Vertical: NVGD 1929.

DRAWN BY	T.R.S.	CHECKED BY	Tim Ault 11/4/02	DRAWING NO. : 829084-A13
DATE	11/18/02	APPROVED BY		

IT CORPORATION

BORING NO. M03-12

COORDINATES: N. 470506
E. 1482562

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 39.5 ft.

DATE BEGAN 8/12/02
DATE FINISHED 8/12/02
SURFACE ELEV. 9.5
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	DRILLING REMARKS	USCS	PROFILE	DESCRIPTION
35			Sand #1/20	sp		POORLY GRADED SAND WITH SILT; olive brown, (2.5Y (4/3)), very loose, saturated, no product odor.
						At 37.0'; 10-15% silt.
				sp/sm		39.0' POORLY GRADED SAND WITH SILT; olive brown, (2.5Y (4/3)), very loose, saturated, no product odor.
40			Bentonite Seal: 21 to 24 feet (bgs) Screen Interval: 26 to 36.5 feet (bgs) Sand: 24.5 to 39.5 feet (bgs) Top of Casing: 9.36 (msl)			TOTAL DEPTH OF BORING IS 39.5 FEET
45						
50						
55						
60						
65						
70						

DRILLER : M. Martin
DRILLING CO. : Vironex Environmental Services
DRILLING METHOD : Direct Push-2" Macrocore, 10" Hollow Stem Auger. (Hand Auger to 5 feet)
SAMPLING METHOD : Macrocore
PROJECT : Alameda Point, CTO-78
LOCATION : West Side Soccer Field
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27, California State Plane Zone *III*.
Vertical: NVGD 1929.

DRAWN BY	T.R.S.	CHECKED BY		DRAWING NO. : 829084-A13
DATE	11/18/02	APPROVED BY		

IT CORPORATION

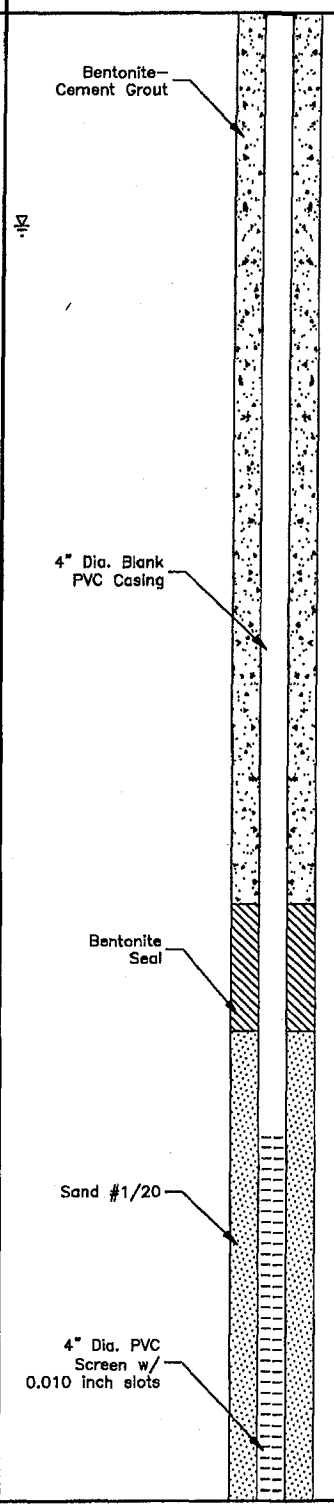
BORING NO. M03-13

COORDINATES: N. 470186
E. 1482291

FIELD GEOLOGIST Garrick Anderson — DATE BEGAN 8/14/02
CHECKED BY Tim Ault — DATE FINISHED 8/14/02
APPROVED BY _____ — SURFACE ELEV. 10.2
TOTAL DEPTH 37 ft. — CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	USCS	DESCRIPTION	
0			fill	ASPHALT	0.5'
	NO	MST	sp	POORLY GRADED FINE SAND; dark grayish brown, (2.5Y (4/2)), very loose, most, no product odor.	3.5'
	NO	MST	ml	SILT; olive brown, (2.5Y (4/2)), loose, moist.	4.0'
			cl	CLAY; dark greenish gray, (GLEY 1(4/5GY)), plastic, soft, very moist to moist, no product odor.	4.5'
5	NO	VMST	ml	SILT; very dark brown, (10YR (2/2)), loose, trace clay (slightly sticky), very moist, no product odor.	5.0'
	NO	WET	sp/sm	POORLY GRADED SAND WITH SILT; dark gray, (10YR (4/1)), very loose, 10–15% silt, wet, no product odor.	20.75'
	NO	WET	sm	SILTY SAND; brown, (10YR (4/3)), loose, 25–35% silt, slightly "mucky", wet, no product odor.	23.0'
25	NO	WET	sw/sm	POORLY GRADED SAND WITH SILT; dark grayish brown, (2.5Y (4/2)), loose, 10–15% silt, very moist to wet, no product odor.	
30	NO	WET			
	NO	WET			
35	NO	WET		POORLY GRADED SAND WITH SILT; olive brown, (2.5Y (4/3)), loose, 15–20% silt, "mucky", no product odor.	35.0'

DRILLING REMARKS



DRILLER : F. Ramirez/Rick Barragan (Woodward Drilling)
DRILLING CO. : Woodward Drilling contracted by Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 feet)
SAMPLING METHOD : HSA
PROJECT : Alameda Point, CTO–78
LOCATION : SW Side of Soccer Field
PROJECT NO. : 829084–33020418

Survey Datum
Horizontal: NAD27, California State Plane Zone *III*.
Vertical: NVGD 1929.

DRAWN BY	T.R.S.	CHECKED BY	Tim Ault 11/4/02	DRAWING NO. : 829084–A5
DATE	11/18/02	APPROVED BY		

IT CORPORATION

BORING NO. M03-13

COORDINATES: N. 470186
E. 1482291

FIELD GEOLOGIST Garrick Anderson
CHECKED BY Tim Ault
APPROVED BY
TOTAL DEPTH 37 ft.

DATE BEGAN 8/14/02
DATE FINISHED 8/14/02
SURFACE ELEV. 10.2
CORE SIZE N/A

DEPTH IN FEET	PRODUCT ODOR	MOISTURE	DRILLING REMARKS	USCS	PROFILE	DESCRIPTION
35	NO	WET	4" Dia. PVC Screen w/ 0.010" slots Sand #1/20	sw/ sm		POORLY GRADED SAND WITH SILT; olive brown, 15-20% silt, wet, "mucky", no product odor. 37.0'
			Bentonite Seal: 21 to 24 feet (bgs) Screen Interval: 26.5 to 36.5 feet (bgs) Sand: 24 to 37 feet (bgs) Top of Casing 9.79 (msl)			TOTAL DEPTH OF BORING IS 37.0 FEET
40						
45						
50						
55						
60						
65						
70						

DRILLER : F. Ramirez/Rick Barragan (Woodward Drilling)
DRILLING CO. : Woodward Drilling contracted by Vironex Environmental Services
DRILLING METHOD : 10" Hollow Stem Auger (Hand Auger to 5 feet)
SAMPLING METHOD : HSA
PROJECT : Alameda Point, CTO-78
LOCATION : SW Side of Soccer Field
PROJECT NO. : 829084-33020418

Survey Datum
Horizontal: NAD27, California State Plane Zone *III*.
Vertical: NVGD 1929.

DRAWN BY	T.R.S.	CHECKED BY	Tim Ault 11/4/02	DRAWING NO. : 829084-A5
DATE	11/18/02	APPROVED BY		

IT CORPORATION

SITE 4

Site 4 Boring Log Table of Contents

Boring ID	Date Drilled	Investigation
MW360-1	6/28/1990	Phase 1 & 2A
MW360-2	6/28/1990	Phase 1 & 2A
MW360-3	6/27/1990	Phase 1 & 2A
MW360-4	6/27/1990	Phase 1 & 2A
B360-5	6/26/1990	Phase 1 & 2A
B360-6	6/25/1990	Phase 1 & 2A
B360-7	6/26/1990	Phase 1 & 2A
B360-8	6/26/1990	Phase 1 & 2A
B360-9	6/26/1990	Phase 1 & 2A
M04-05	3/30/1994	Follow On 1994
M04-06	3/30/1994	Follow On 1994
M04-07	3/30/1994	Follow On 1994
B04-21	3/30/1994	Follow On 1994
B04-22	3/30/1994	Follow On 1994
B04-23	3/30/1994	Follow On 1994
B04-24	3/30/1994	Follow On 1994
B04-41	9/1/1994	Follow On 1994
B04-42	4/1/1994	Follow On 1994
B04-43	9/1/1994	Follow On 1994
B04-44	9/1/1994	Follow On 1994
B04-45	9/15/1994	Follow On 1994
CPT-S4-01	2/1/1994	Follow On 1994
CPT-S4-02	2/1/1994	Follow On 1994
CPT-S4-03	2/1/1994	Follow On 1994
CPT-S04-05	8/19/1994	Follow On 1994
D04-01	5/14/1994	Follow On 1994
D04-02	3/2/1995	Follow On 1994
D04-03	2/22/1995	Follow On 1994
372-MW1	1/20/1995	Underground Storage Tank Investigation
372-MW3	1/23/1995	Underground Storage Tank Investigation
BERC-S04-01	3/28/1997	Geochemical Profiling for Definition of Chlorinated Sovent Plumes
BERC-S04-02	3/28/1997	Geochemical Profiling for Definition of Chlorinated Sovent Plumes
BERC-S04-03	3/28/1997	Geochemical Profiling for Definition of Chlorinated Sovent Plumes
FP-CA04-DG1-01	4/26/2000	Corrective Action Area Investigation
FP-CA04-DG1-02	4/26/2000	Corrective Action Area Investigation
GP-CA04-DG5-01	5/4/2000	Corrective Action Area Investigation
GP-CA04-DG5-03	5/4/2000	Corrective Action Area Investigation

Boring ID	Date Drilled	Investigation
HP-CA04-DG6-01	4/27/2000	Corrective Action Area Investigation
HP-CA04-DG6-03	4/27/2000	Corrective Action Area Investigation
S04-DGS-DP01	7/20/2001	Data Gap Sampling 2001
S04-DGS-DP02	7/2/2001	Data Gap Sampling 2001
S04-DGS-DP03	6/25/2001	Data Gap Sampling 2001
S04-DGS-DP04	8/6/2001	Data Gap Sampling 2001
S04-DGS-DP05	8/2/2001	Data Gap Sampling 2001
S04-DGS-DP06	8/8/2001	Data Gap Sampling 2001
S04-DGS-DP07	8/3/2001	Data Gap Sampling 2001
S04-DGS-DP08	8/3/2001	Data Gap Sampling 2001
S04-DGS-DP14	7/24/2001	Data Gap Sampling 2001
S04-DGS-DP15	8/7/2001	Data Gap Sampling 2001
S04-DGS-DP16	6/20/2001	Data Gap Sampling 2001
S04-DGS-DP17	6/20/2001	Data Gap Sampling 2001
S04-DGS-DP18	6/19/2001	Data Gap Sampling 2001
S04-DGS-DP19	6/19/2001	Data Gap Sampling 2001
S04-DGS-DP20	6/19/2001	Data Gap Sampling 2001
S04-DGS-DP21	7/10/2001	Data Gap Sampling 2001
S04-DGS-DP22	8/15/2001	Data Gap Sampling 2001
S04-DGS-DP23	8/16/2001	Data Gap Sampling 2001
S04-DGS-SG01	7/5/2001	Data Gap Sampling 2001
S04-DGS-SG02	7/5/2001	Data Gap Sampling 2001
S04-DGS-SG04	7/9/2001	Data Gap Sampling 2001
S04-DGS-SG05	7/9/2001	Data Gap Sampling 2001
S04-DGS-SG07	6/5/2001	Data Gap Sampling 2001
S04-DGS-SG08	6/7/2001	Data Gap Sampling 2001
S04-DGS-SG10	7/5/2001	Data Gap Sampling 2001
S04-DGS-SG11	7/5/2001	Data Gap Sampling 2001
S04-DGS-SG13	7/9/2001	Data Gap Sampling 2001
S04-DGS-SG14	7/9/2001	Data Gap Sampling 2001
S04-DGS-SG16	7/9/2001	Data Gap Sampling 2001
S04-DGS-SG17	7/9/2001	Data Gap Sampling 2001
S04-DGS-SG19	9/6/2001	Data Gap Sampling 2001
S04-DGS-VE01	8/6/2001	Data Gap Sampling 2001
S04-DGS-VE02	8/7/2001	Data Gap Sampling 2001
S04-DGS-VE03	8/21/2001	Data Gap Sampling 2001
S04-DGS-VE04	4/26/2002	Data Gap Sampling 2001
S04-DGS-VE05	4/26/2002	Data Gap Sampling 2001
S04-DGS-VE06	4/26/2002	Data Gap Sampling 2001

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW360-1
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION North side of Building 360 in front of rollup doors SURFACE ELEVATION 113.19 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/28/90 FINISH 6/28/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS
														Concrete. (Fill)
	1	CS	0.5	2.0	8	10	12	12	SM			0.5		Medium dense, mottled reddish yellowish
	2	CS	2.0	3.5	4	10	12	14	SP			2.7		brown, silty medium sand, moist. (Fill)
5	3	CS	3.5	5.0	3	4	2	15	SP					Medium dense, gray and tan, fine to medium sand, moist.
	4	CS	5.0	6.5	1	2	5	13	SP					becomes loose at 3.5 feet.
														becomes saturated at 4.5 feet.
	5	CS	6.5	8.0	3	1	2	12	SP					color change to black at 5.5 feet.
	6	CS	8.0	9.5	2	3	2	15	SP					increase of clay to trace at 5.5 feet.
10											Fill			color change to dark brown at 8.0 feet.
	7	CS	9.5	11.0	2	2	4	15	SC		MS	10.3		Loose, orange brown, clayey fine sand,
	8	CS	11.0	12.5	8	12	18	15	SC					saturated. (Merritt Sand)
														becomes medium dense at 11.5 feet.
	9	CS	12.5	14.0	4	16	16	14	SC					decrease in clay to trace at 12.3 feet.
15	10	CS	14.0	15.5	5	9	11	16	SC					becomes fine to medium grained at
												15.5		12.3 feet.
														Bottom of Boring at 15.5 feet.
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings:
   a) 8-10 ppm at 4.0 feet.
   b) 20-30 ppm at 5.5 feet.
   c) 0 ppm at 9.0 feet.

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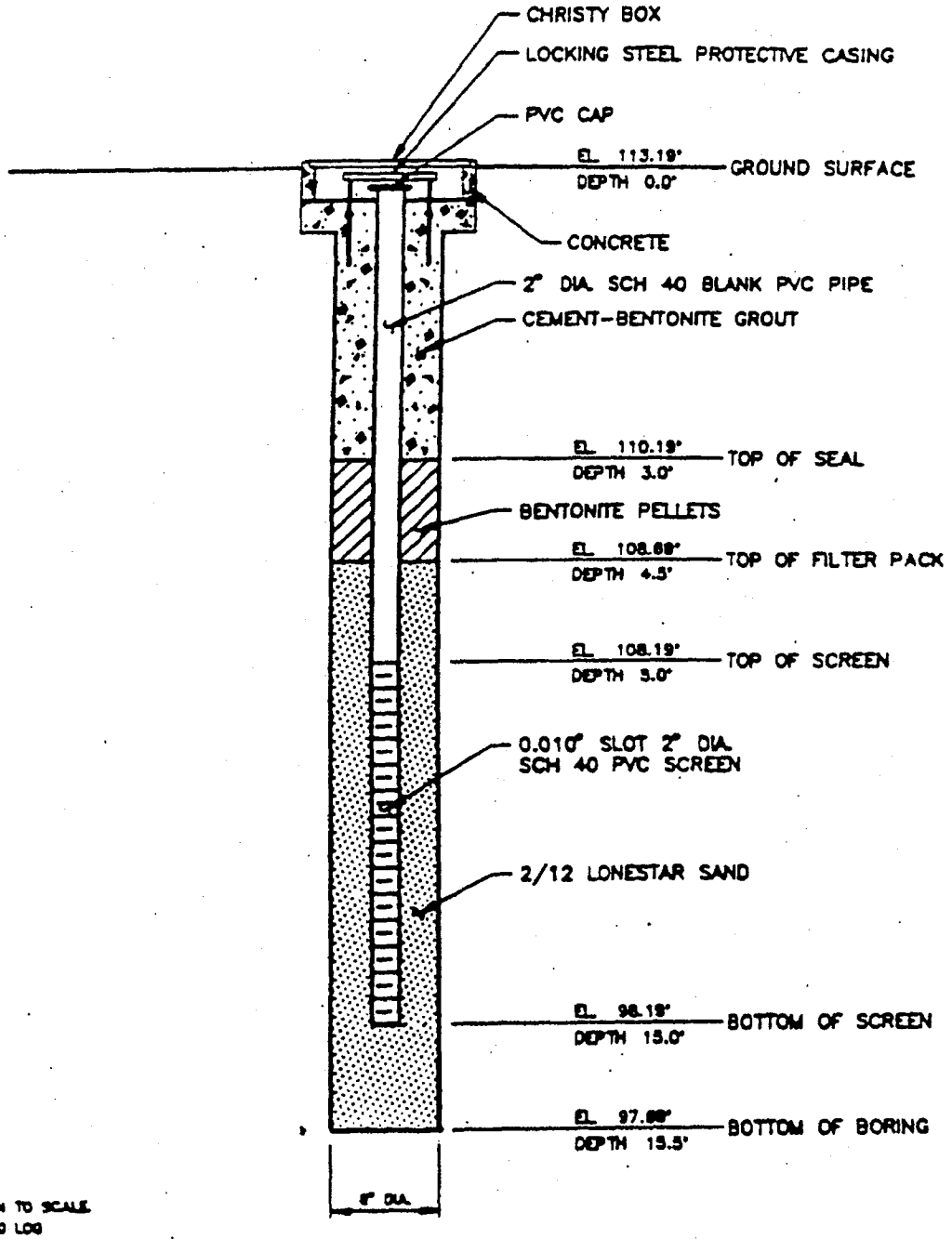
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-1

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, NORTHWEST CORNER DATE 6-28-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MW360-2
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION West side of Building 360 SURFACE ELEVATION 114.27 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/28/90 FINISH 6/28/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0" 6"	6" 12"	12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	5	8	12	15	SM			0.5	Loose, dark brown, silty fine sand, moist.	
	2	CS	2.0	3.5	4	5	5	15	SM				(Fill) color change to orangish brown	
													and trace of clay at 2.8 feet.	
5	3	CS	3.5	5.0	2	4	3	6	SW			3.8	Loose, orangish brown, gravelly sand,	
	4	CS	5.0	6.5	1	3	5	10	SM			5.0	moist, with trace of silt, moist. (Fill)	x
													Loose, gray, silty fine sand, saturated,	x
	5	CS	6.5	8.0	3	2	2	15	SM		Fill		with trace of gravel and clay.	x
	6	CS	8.0	9.5	3	4	5	16	SC			9.0	color change to dark brown at 5.5 feet.	x
10											MS		gravel decreases to none at 6.5 feet.	x
	7	CS	9.5	11.0	5	10	11	16	SC				Loose, reddish brown and gray, silty fine	x
	8	CS	11.0	12.5	10	12	14	16	SC				sand, saturated, with trace of clay.	x
													increase in clay to some at 9.5 feet.	x
	9	CS	12.5	14.0	8	9	10	16	SC				density changes to Medium at 9.5 feet.	x
15	10	CS	14.0	15.5	6	13	15	16	SC				decrease in clay at 12.5 feet.	x
												15.5	very wet at 12.5 feet.	
													Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.

2. Groundwater was encountered at 5.0 feet during drilling.

3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches

4. Boring was converted to a monitoring well upon completion of drilling.

5. OVA readings:
   a) 2-5 ppm at 1.0 feet.
   b) 2-4 ppm at 5.0 feet.

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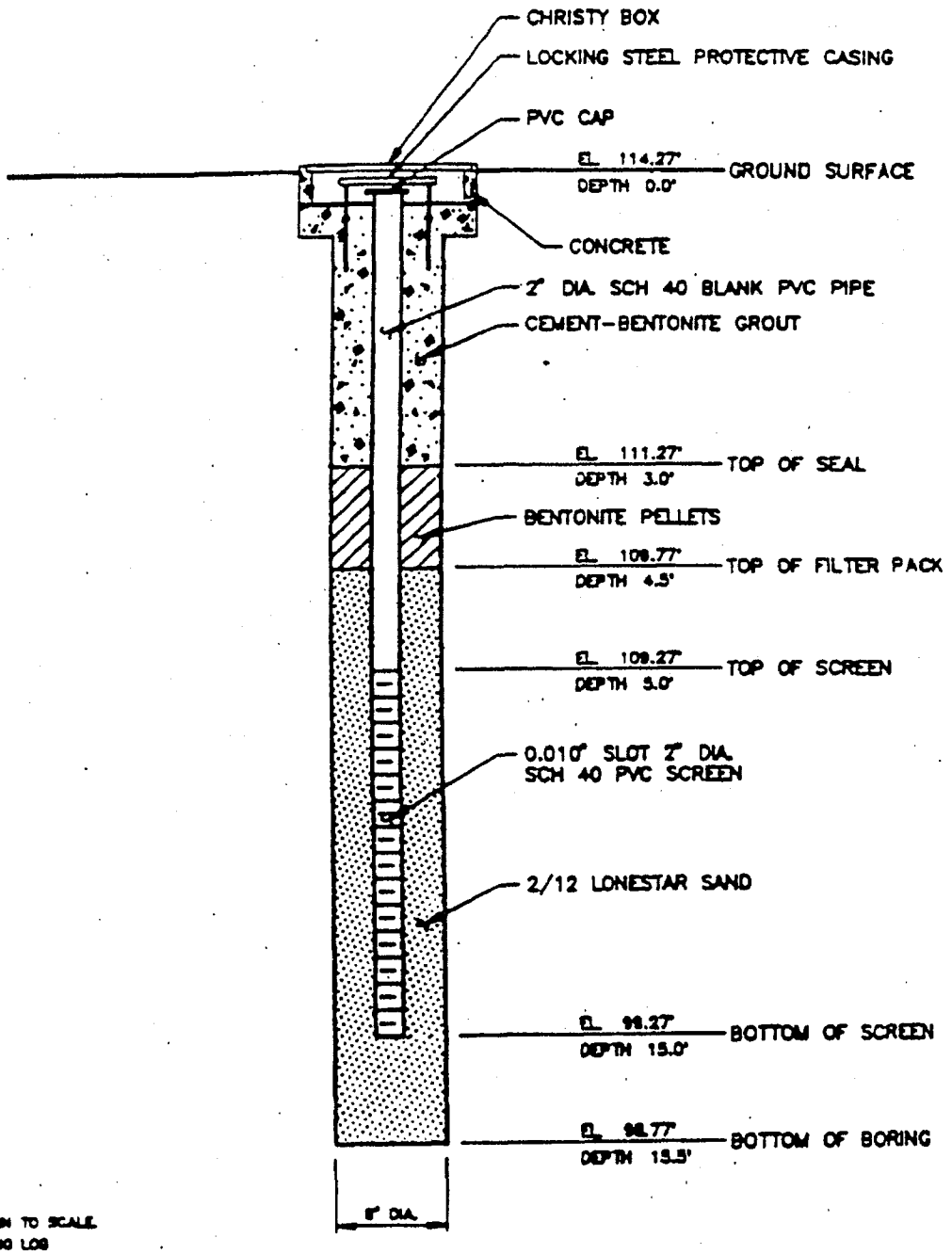
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-2

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, WEST SIDE DATE 6-28-90 BY RMD



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. MW360-3
LOGGED BY RMD

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION South side of Building 360 SURFACE ELEVATION 114 28 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/27/90 FINISH 6/27/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS
													Concrete. (Fill)
	1	CS	0.5	2.0	7	12	14	15	SM			0.5	Medium dense, dark brown, silty fine sand, moist. (Fill)
	2	CS	2.0	3.5	7	5	3	15	SP			1.2	
												3.0	Medium dense, light brown, fine sand, moist. (Fill)
5	3	CS	3.5	5.0	1	2	2	15	SM				
	4	CS	5.0	6.5	3	1	1	16	SM			5.0	Loose, grayish tan, silty fine sand, moist, with trace of clay. (Fill) some asphalt from 3.8 feet to 5.0 feet.
	5	CS	6.5	8.0	3	4	5	16	SM				
	6	CS	8.0	9.5	5	15	17	18	SM				Loose, light brown, silty fine sand, saturated. trace of clay at 8.0 feet.
10													
	7	CS	9.5	11.0	10	14	13	16	SM		Fill		
	8	CS	11.0	12.5	7	10	12	17	SM		MS	11.5	Medium dense, orange brown mottled with gray, silty fine sand, saturated, trace of clay. (Merritt Sand)
	9	CS	12.5	14.0	6	13	20	15	SM				
15	10	CS	14.0	15.5	5	6	7	17	SM				
												15.5	Bottom of Boring at 15.5 feet.
20													
25													
30													
35													
40													

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings:
   a) 5 ppm at 6.0 feet.
6. Standing water at 14.0 feet upon completion of drilling.

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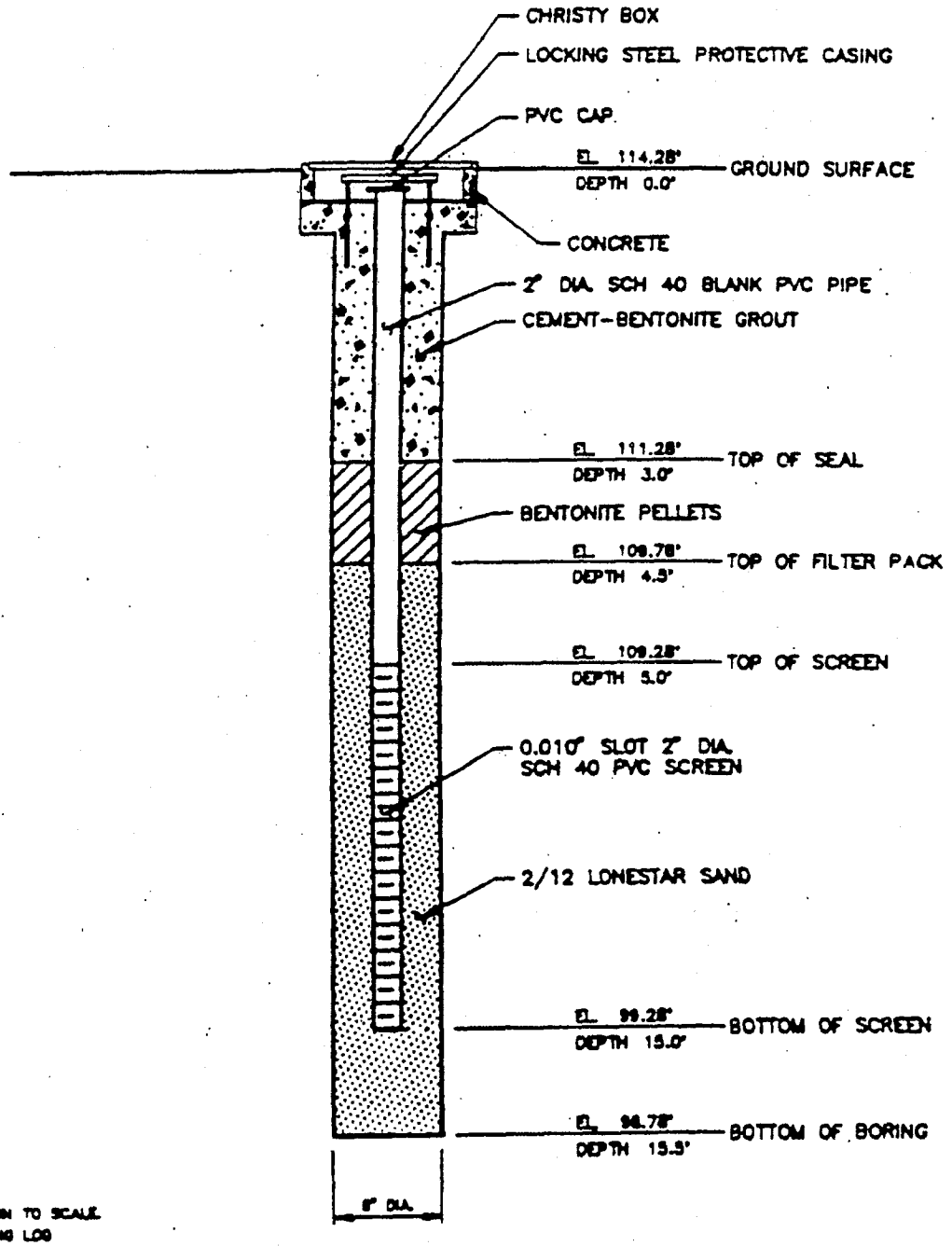
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-3

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, SOUTH SIDE DATE 6-27-90 BY GM



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. MW360-4
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION East side of Building 360 by picnic area SURFACE ELEVATION 113.90 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/27/90 FINISH 6/27/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS
														Concrete. (Fill)
	1	CS	0.5	2.0	13	14	21	15	SM			0.5		Medium dense, dark brown, silty fine sand. (Fill)
	2	CS	2.0	3.5	8	11	8	15	SM					becomes loose and saturated at
5	3	CS	3.5	5.0	3	6	5	14	SM					4.5 feet, color change to black, with
	4	CS	5.0	8.5	1	1	4	13	SM					some asphalt at 5.5 feet..
	5	CS	6.5	8.0	2	3	3	17	SM		Fill	6.5		Loose, dark brown, silty fine sand,
	6	CS	8.0	9.5	3	3	2	16	SM			8.5		saturated.
10											MS			Loose, reddish brown, silty fine sand,
	7	CS	9.5	11.0	4	7	11	16	SM					saturated, with trace of clay.
	8	CS	11.0	12.5	7	11	12	16	SM					(Merritt Sand)
	9	CS	12.5	14.0	5	12	12	14	SM					color change to dark brown at
15	10	CS	14.0	15.5	8	10	7	14	SM					13.5 feet.
												15.5		Bottom of Boring at 15.5 feet
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D: 2.0 inches
4. Boring was converted to a monitoring well upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

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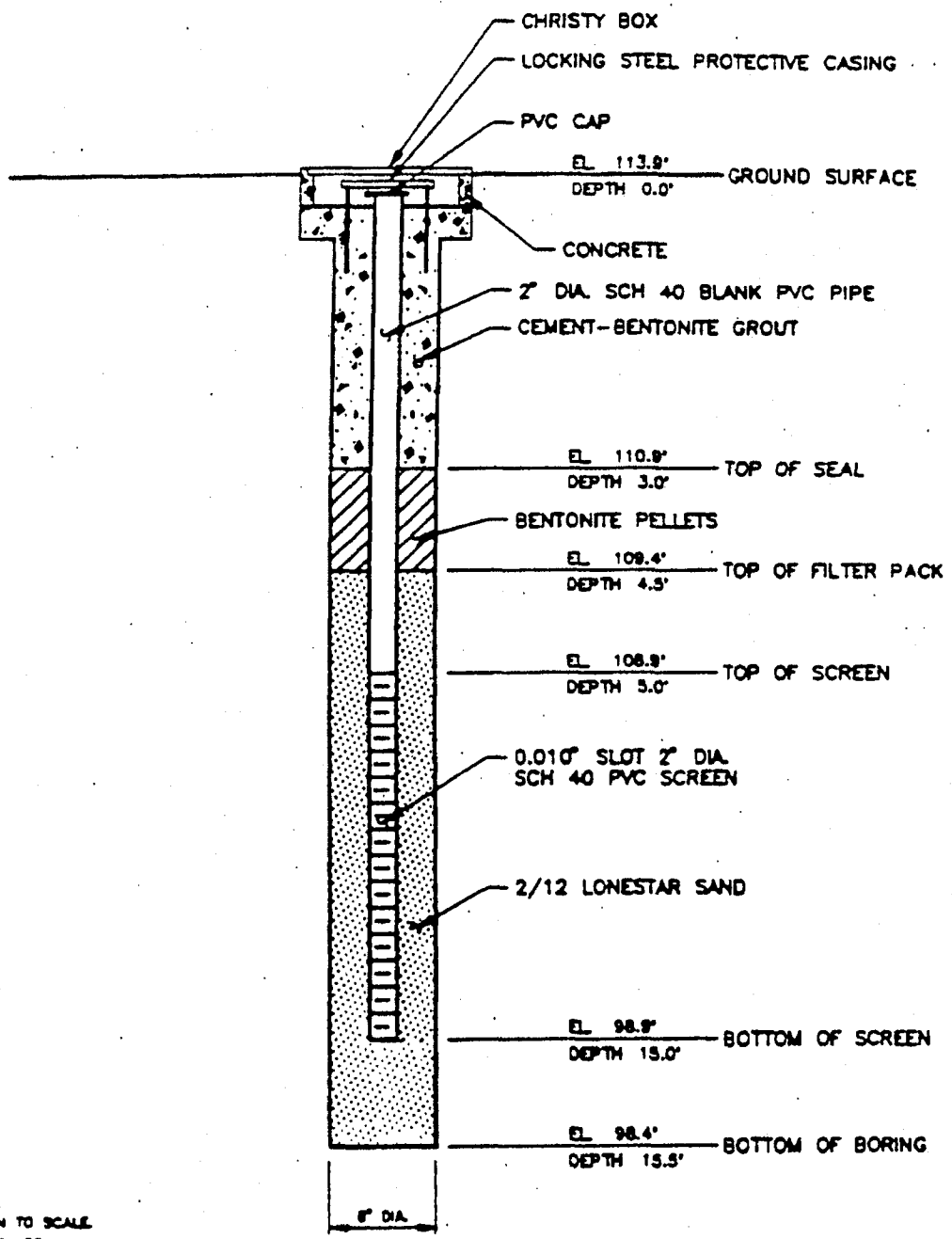
Monitoring Well Detail

PROJECT No. 86-018-1804

WELL No. MW360-4

PROJECT NAME NAS ALAMEDA-PHASE 2A SITE INVESTIGATION

WELL LOCATION BUILDING 360, EAST SIDE DATE 6-27-90 BY GM



NOTES:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION

PROJECT No. 86-018-1804
BORING No. B360-5
LOGGED BY GMM

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Northwest side of Building 360 SURFACE ELEVATION 114 7 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26 90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0" 6"	6" 12"	12" 18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER	DEPTH	SOIL DESCRIPTION AND REMARKS
														Concrete. (Fill)
	1	CS	0.5	2.0	14	35	30	15	SM			0.7		Dense, dark brown, fine to medium sand, moist, with trace of silt. (Fill)
	2	CS	2.0	3.5	15	25	22	14	SM					
5	3	CS	3.5	5.0	9	7	12	14	SM					becomes dry and color changes to light brown at 3.0 feet.
	4	CS	5.0	6.5	9	11	9	17	SM					becomes medium dense at 3.5 feet.
	5	CS	6.5	8.0	2	1	2	18	SM-CL		Fill	7 2		becomes saturated at 5.5 feet.
	6	CS	8.0	9.5	4	3	3	16	SM		MS	8.0		becomes loose at 6.5 feet.
10														Very soft, dark gray, silty clay, saturated, with some fine sand. (Bay Mud)
	7	CS	9.5	11.0	3	4	8	17	SM-SC			10.0		Loose reddish brown and gray, silty fine sand, saturated, with trace of clay. (Merritt Sand)
	8	CS	11.0	12.5	5	12	17	17	SC-SM					
	9	CS	12.5	14 0	8	14	18	16	SM					
15	10	CS	14.0	15.5	7	11	8	16	SM					Medium dense, orange and brown, clayey fine sand, saturated, with trace of silt. (Merritt Sand)
	11	CS	15.5	17 0	1	2	10	16	SM					
												17 0		decrease in clay to some at 11 5 feet. decrease in clay to trace at 13 0 feet.
20														Bottom of Boring at 17 0 feet.
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5 5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-6
LOGGED BY GMM

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Southwest side of Building 360 SURFACE ELEVATION 114.2 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/25/90 FINISH 6/25/90

DEPTH	SAMPLE No.	SAMPLE TYPE	SAMPLE INTERVAL FROM	SAMPLE INTERVAL TO	BLOW COUNT 0"-6"	BLOW COUNT 6"-12"	BLOW COUNT 12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	10	7	8	18	SM			0.7	Medium dense, brown, silty medium sand, moist. (Fill)	
	2	CS	2.0	3.5	3	7	6	12	SM				becomes loose and color changes to black at 3.5 feet.	
5	3	CS	3.5	5.0	3	3	2	14	SM					
	4	CS	5.0	6.5	2	1	4	14	SM			5.8	Very loose, black, sandy gravel, angular, saturated. (Fill)	
	5	CS	6.5	8.0	3	3	3	16	GP-SM		Fill	6.5	Loose, black, silty medium sand, with saturated, trace of clay.	
	6	CS	8.0	9.5	5	9	11	16	SM-SC		MS	8.0	color change to brown at 7.3 feet.	
10														
	7	CS	9.5	11.0	3	11	10	15	SC				Medium dense, reddish brown and gray, clayey fine gray sand, saturated, with trace of silt. (Merritt Sand)	
	8	CS	11.0	12.5	3	6	8	16	SC					
	9	CS	12.5	14.0	12	10	14	16	SC				clay content decreases at 10.0 feet.	
15	10	CS	14.0	15.5	10	12	15	3	SC			15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 5.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion on drilling.
5. OVA readings:
   a) 30 ppm at 4.0 feet.
6. Standing water level at 7.3 feet after drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-7
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION West of southwest corner of Building 360 SURFACE ELEVATION 114.0 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS
													Concrete. (Fill)
	1	CS	0.5	2.0	12	22	12	14	SM			0.5	Medium dense to dense, dark brown, silty sand, moist. (Fill)
	2	CS	2.0	3.5	5	5	5	16	SM				becomes very loose at 3.5 feet.
5	3	CS	3.5	5.0	2	1	1	10	SM				trace of clay at 3.5 feet.
	4	CS	5.0	6.5	1	1	2	12	SM				becomes saturated at 4.5 feet.
	5	CS	6.5	8.0	2	1	2	16	SM		Fill		
	6	CS	8.0	9.5	3	5	8	16	SM		MS	8.0	Medium dense, reddish brown and gray, silty fine sand, saturated, with
10													some clay. (Merritt Sand)
	7	CS	9.5	11.0	12	13	12	17	SM				
	8	CS	11.0	12.5	8	17	24	15	SM				
	9	CS	12.5	14.0	8	13	18	16	SM				
15	10	CS	14.0	15.5	5	7	13	16	SM				
												15.5	Bottom of Boring at 15.5 feet.
20													
25													
30													
35													
40													

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

Canonie Environmental

Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-8
LOGGED BY GMM

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION Southeast corner of Building 360 SURFACE ELEVATION 113.9 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	INTERVAL TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS	PIEZO
													Concrete. (Fill)	
	1	CS	0.5	2.0	17	16	16	16	SM			0.5	Medium dense, brown and black, silty fine sand, moist. (Fill)	
	2	CS	2.0	3.5	4	4	5	15	SM				becomes loose at 2.0 feet.	
5	3	CS	3.5	5.0	4	4	4	16	SM				color change to black at 2.7 feet,	
	4	CS	5.0	6.5	2	1	1	12	SM			6.0	some asphalt.	
											Fill		Medium dense, brown, silty fine sand,	
	5	CS	6.5	8.0	2	4	10	17	CL			7.0	saturated.	
	6	CS	8.0	9.5	6	13	19	17	CL-SM		MS	9.0	Stiff, orange brown mottled gray, sandy clay, saturated. (Merritt Sand)	
10														
	7	CS	9.5	11.0	8	13	17	15	SM				Medium dense, orange brown, silty fine sand, saturated, trace of clay,	
	8	CS	11.0	12.5	8	12	14	17	SM				decrease of clay to trace at 9.5 feet.	
	9	CS	12.5	14.0	8	11	10	16	SM					
15	10	CS	14.0	15.5	5	5	11	18	SM					
												15.5	Bottom of Boring at 15.5 feet.	
20														
25														
30														
35														
40														

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 4.5 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings:
   a) 100 ppm at 4.5 feet.

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Soil Boring Log

PROJECT No. 86-018-1804
BORING No. B360-9
LOGGED BY BB

PROJECT NAME NAS Alameda - Phase 2A Site Investigations
BORING LOCATION East side of Building 360 SURFACE ELEVATION 113.8 feet
DRILLER Spectrum Exploration - Garry Buss DATE: START 6/26/90 FINISH 6/26/90

DEPTH	SAMPLE No.	TYPE	INTERVAL FROM	TO	BLOW COUNT 0"-6"	6"-12"	12"-18"	REC (in)	USCS SOIL TYPE	WC (%)	qu (TSF)	LAYER DEPTH	SOIL DESCRIPTION AND REMARKS
													Concrete. (Fill)
	1	CS	0.5	2.0	15	10	8	12	SM			0.5	Medium dense, dark brown, silty fine sand, moist. (Fill)
	2	CS	2.0	3.5	4	7	16	14	SM				color change to black at 3.0 feet.
5	3	CS	3.5	5.0	4	5	6	14	SM				slight hydrocarbon odor at 3.0 feet.
	4	CS	5.0	6.5	2	1	2	17	SM				becomes loose at 5.0 feet.
													becomes saturated at 6.0 feet.
	5	CS	6.5	8.0	2	2	3	14	SM		Fill		color change to dark brown
	6	CS	8.0	9.5	3	6	14	17	SM			8.5	at 6.5 feet.
10											MS		Medium dense, reddish brown and gray, silty fine sand, saturated, with trace of clay. (Merritt Sand)
	7	CS	9.5	11.0	7	12	17	17	SC-SM				color change to light brown at 12.0 feet.
	8	CS	11.0	12.5	10	10	12	16	SM				
	9	CS	12.5	14.0	7	9	12	13	SC				increase in clay content at 12.5 feet.
15	10	CS	14.0	15.5	7	12	13	16	SC				
	11	CS	15.5	17.0	3	7	15	17	SC				
												17.0	Bottom of Boring at 17.0 feet.
20													
25													
30													
35													
40													

Notes:

1. Boring was advanced using 8-inch-diameter hollow stem augers.
2. Groundwater was encountered at 6.0 feet during drilling.
3. Sampler type:
   California Sampler (CS)
   O.D.: 2.5 inches
   I.D.: 2.0 inches
4. Boring was backfilled with cement/bentonite grout upon completion of drilling.
5. OVA readings: No OVA readings observed during drilling.

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ok

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LOG OF BORING M04-05

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								8 inches of concrete
								FILL
	CHEMICAL	260-S04-056		30			SM	Silty sand (SM), dark grayish brown (10YR 4/2), very fine to medium sand, medium dense to dense, moist
	CHEMICAL	260-S04-057	Ø					
	CHEMICAL	260-S04-058		13				Same as above, but light brownish gray (10YR 6/2), medium dense, very moist, wet at 5 Feet bgs, trace shells
			Ø					
5	CHEMICAL	260-S04-059		8				
			Ø					
								MERRITT SAND
				10				Same as above, but light brownish gray (10YR 6/2) and yellowish brown (10YR 5/4), mottled, loose to medium dense, wet
10			Ø					
								Same as above, but yellowish brown (10YR 5/4) with light brownish gray (10YR 6/2) staining around voids, medium dense
				27				
15			Ø					
								TD = 15 Feet bgs
20								

Water Level

Split Spoon

Sample Collected

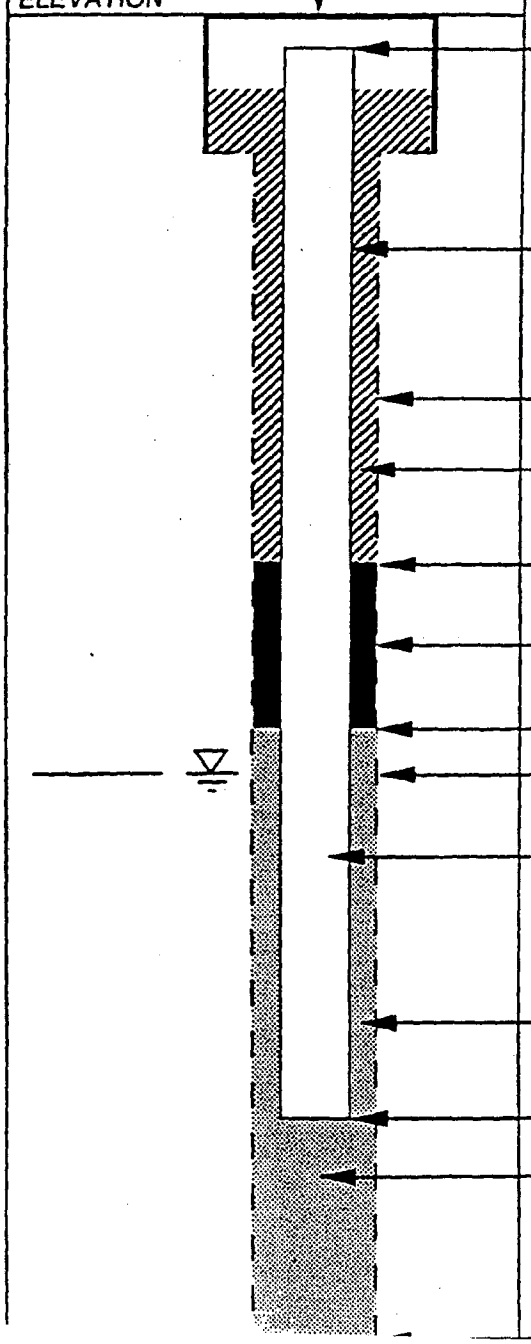
PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WW
DATE DRILLED 3-30-94
DRILLER Gregg Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split Spoon
GROUND ELEVATION 14.18 Feet
TOC ELEVATION 14.18 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 15 Feet bgs
WATER LEVEL 5.02 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. MØ4-Ø5

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Gregg Drilling Co.
PROJECT NO. Ø44 Ø26Ø	BORING MØ4-Ø5	DRILLING METHOD Hollow Stem Auger
~~ELEVATION~~ SITE 4	DATE 3-3Ø-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 14.18

ELEVATION OF TOP OF WELL CASING: 14.18

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL: (feet bgs) 2.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 3.0

DEPTH TOP OF SCREEN: 3.5

TYPE OF SCREEN: Schedule 4Ø PVC

SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 13.5

DEPTH BOTTOM OF SAND PACK: 15.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2/12 Monterey Sand

DEPTH OF HOLE: (feet bgs) 15.0

ok

06

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M04-0

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-060		11			SM	Silty sand (SM), grayish brown (10YR5/2), fine sand, medium dense, moist, trace concrete at surface
	CHEMICAL	260-S04-061	0					
				12				
			0					
5	CHEMICAL	260-S04-062	0.5	6				Same as above, but loose, very moist to wet, no concrete
								MERRITT SAND
			0.5	42				Same as above, but yellowish brown (10YR5/4), fine to medium sand, dense, trace roots, lense of gray (10YR5/1) sand
10								
			0	26				Same as above, but yellowish brown (10YR5/4), medium dense, very moist to wet
15								TD = 15.5 Feet bgs
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WPW
DATE DRILLED 3-30-94
DRILLER Gregg Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split Spoon
GROUND ELEVATION 14.3 Feet
TOC ELEVATION 13.79 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 15.5 Feet bgs
WATER LEVEL 5.2 Feet bgs
WELL INSTALLED? (Y/N) Y

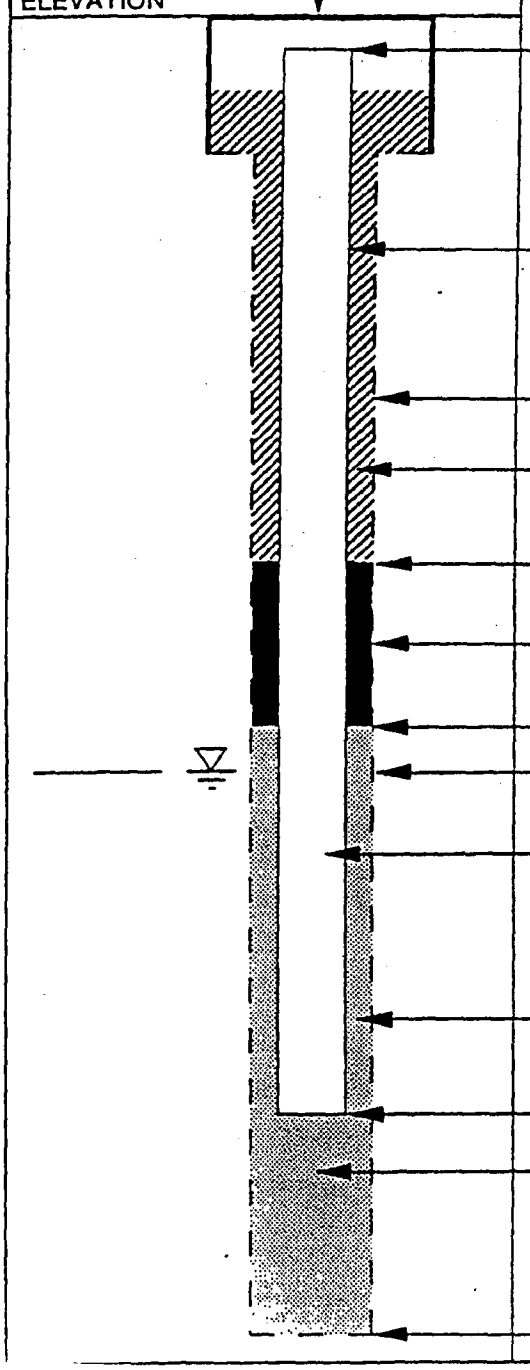
WELL ~~BORING~~ NO. MØ4-Ø6

MONITORING WELL SHEET

PROJECT NAS Alameda RI
PROJECT NO. Ø44 Ø26Ø
~~ELEVATION~~ SITE 4
FIELD GEOLOGIST WPW

LOCATION Alameda, California
BORING MØ4-Ø6
DATE 3-30-93

DRILLER Gregg Drilling Co.
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: 14.30

ELEVATION OF TOP OF WELL CASING: 13.79

RISER PIPE I.D.: 2 inches
TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 2.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 3.0

DEPTH TOP OF SCREEN (feet bgs) 3.5

TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch
I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 13.5

DEPTH BOTTOM OF SAND PACK 15.5

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2/12 Monterey Sand

DEPTH OF HOLE (feet bgs) 15.5

MF

ok

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LOG OF BORING M04-07

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL
	CHEMICAL	260-S04-063	0	37			SP	3 inches asphalt Sand (SP), light brownish gray (10YR 6/2), fine to medium sand, dense, moist, trace shells, trace roots
	CHEMICAL	260-S04-064	0	25				Same as above, but medium dense, very moist, trace silt, wet at 4.9 Feet bgs
5	CHEMICAL	260-S04-065	1.0	5			SM	Silty sand (SM), black (2.5YN2/1), 20% silt, 80% sand, loose, very moist to wet, organic matter common, trace clay
								MERRITT SAND
							SP	Sand (SP), yellowish brown (10YR5/4), with gray (5Y 6/1) staining in root pores, fine to medium sand, medium dense, very moist to wet, trace silt
			0	10				
							SM	Silty sand (SM), light brownish gray (2.5Y6/2), with gray (5Y 6/1) in root pores, 10% silt, 90% sand, medium dense, wet
			0	25				
								TD = 13.5 Feet bgs
10								
15								
20								

Water Level

Split Spoon

Sample Collected

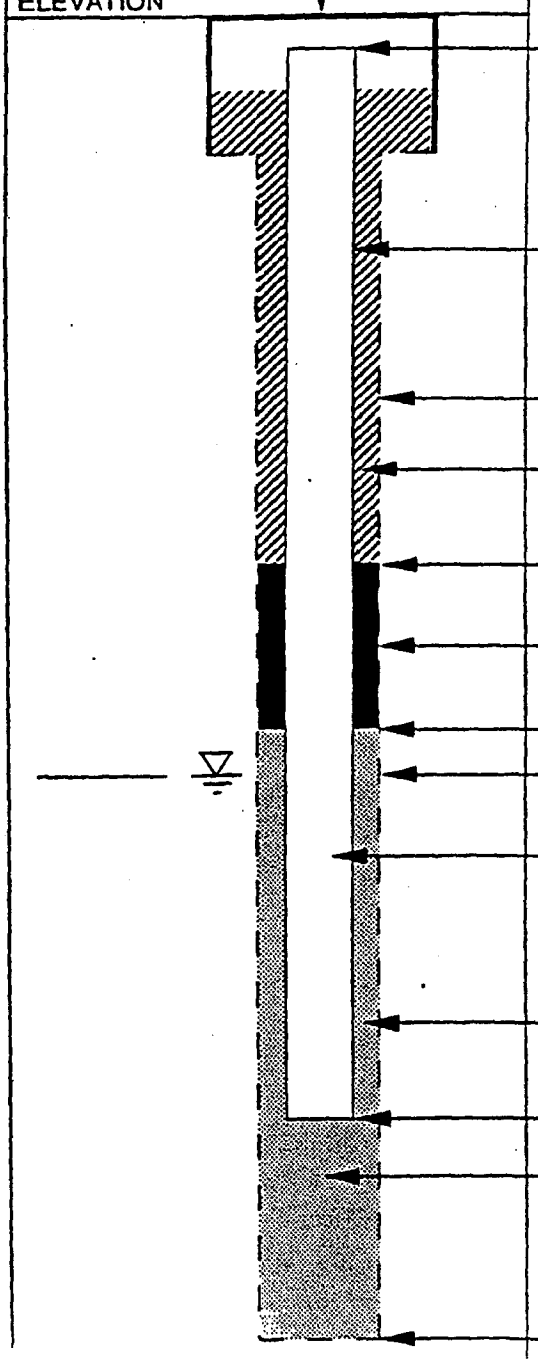
PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WPW
DATE DRILLED 3-30-94
DRILLER Gregg Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.5 Feet
TOC ELEVATION 13.29 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 13.5 Feet bgs
WATER LEVEL 4.9 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. MØ4-Ø7

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Gregg Drilling Co.
PROJECT NO. Ø44 Ø26Ø	BORING MØ4-Ø7	DRILLING METHOD Hollow Stem Auger
~~ELEVATION~~ SITE 4	DATE 3/30/94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 13.50

ELEVATION OF TOP OF WELL CASING: 13.29

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL: (feet bgs) 2.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 3.0

DEPTH TOP OF SCREEN: 3.5

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 13.5

DEPTH BOTTOM OF SAND PACK: 13.5

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE: (feet bgs) 13.5

MF

ck

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-21

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-001	0	NA	☒		SP	FILL 6 inches concrete Sand (SP), light brownish gray (10YR6/2), fine to medium sand, moist
	CHEMICAL	260-S04-002	0		☒			same as above
5	CHEMICAL	260-S04-003	0		☒			same as above, but dark gray (5Y4/1) and wet at 5 Feet bgs
10								
15								
20								

TD = 5.5 Feet bgs

Borehole abandoned as follows:
5.5 to 0.0 feet bgs: Neat Cement

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WW
DATE DRILLED 3-30-94
DRILLER Gregg Drilling Co.
DRILL METHOD Hand Auger

SAMPLING METHOD Sleeves
GROUND ELEVATION 14.50 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 4 inches
TOTAL DEPTH OF HOLE 5.5 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-22

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL 6 inches concrete
	CHEMICAL	260-S04-004	Ø	41			SP	sand (SP), light brownish gray (10YR 6/2), fine to medium sand, dense, moist, trace shells
	CHEMICAL	260-S04-005	Ø	19			SM	Silty sand (SM), black (10YR 2/1), medium dense, very moist
5	CHEMICAL DUPE	260-S04-006 260-S04-131	Ø	12				Same as above, but dark gray (2.5Y N4/), wet at 5 feet bgs ▽
10								
15								
20								

TD = 5.5 Feet bgs

Borehole abandoned as follows:
5.5 to Ø.Ø feet bgs: Neat Cement

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WW
DATE DRILLED 3-30-94
DRILLER Gregg Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Spliti Spoon
GROUND ELEVATION 14.58 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 6 inches
TOTAL DEPTH OF HOLE 5.5 Feet bgs
WATER LEVEL 5. Feet bgs
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-23

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL
								6 inches concrete
	CHEMICAL	260-S04-007	0	45			SP	Sand (SP), dark reddish brown (7.5YR 3/2), color
	DUPE	260-S04-008						change to light brownish gray (10YR 6/2) at 1.5
								Feet bgs, dense, moist
			0	18				
	CHEMICAL	260-S04-009						Same as above, but medium dense and very
								moist
			0	10				Same as above, but light brownish gray (10YR 6/2), fine sand,
5	CHEMICAL	260-S04-010						loose to medium dense, very moist to wet
								TD = 5.5 Feet bgs
								Borehole abandoned as follows:
								5.5 to 0.0 feet bgs: Neat Cement
10								
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WW
DATE DRILLED 3-30-94
DRILLER Gregg Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split Spoon
GROUND ELEVATION 14.24 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 6 inches
TOTAL DEPTH OF HOLE 5.5 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-24

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								FILL
								6 inches concrete
	CHEMICAL	260-S04-011	0	23			SP	Sand (SP), dark brown (7.5YR4/2), color change to light brownish gray (10YR6/2) below 1 Foot bgs, fine sand, medium dense, moist
	CHEMICAL	260-S04-012	0	31				Same as above, but gray (10YR 5/1), wet at 4.8 feet bgs.
5	CHEMICAL	260-S04-013	0.5	17			SM	Silty sand (SM), black (2.5YN2/1), 10% silt, 90% fine to medium sand, medium dense, very moist to wet

TD = 5.5 Feet bgs

Borehole abandoned as follows:
5.5 to 0.0 feet bgs: Neat Cement

10

15

20

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WW
DATE DRILLED 3-30-94
DRILLER Gregg Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 14.53 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 6 inches
TOTAL DEPTH OF HOLE 5.5 Feet bgs
WATER LEVEL 4.8 Feet bgs
WELL INSTALLED? (Y/N) N

ck

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-41

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-049	NA	NA	☒		SP	FILL Sand (SP), light to dark brown, fine sand, dense, damp
	CHEMICAL	260-S04-050			☒			Same as above with some clay
5	CHEMICAL	260-S04-051			☒			same as above, but wet
	DUPE	260-S04-052			☒			

TD = 6.5 Feet bgs

Borehole abandoned as follows:
Unknown

10

15

20

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY JEV
DATE DRILLED 9-1-94
DRILLER Montgomery Watson
DRILL METHOD Hand Auger

SAMPLING METHOD Sleeves
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER Not Available
TOTAL DEPTH OF HOLE 6.5 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-42

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-053	0	NA	☒		SM	FILL Silty sand (SM), light brownish gray (10YR 6/2), moist, trace gravel, trace concrete
	CHEMICAL	260-S04-054	0		☒			Same as above, but gray (5Y 5/1), moist to very moist, trace clay, no gravel, no concrete
5	CHEMICAL	260-S04-055	0		☒			

TD = 5.5 Feet bgs

Borehole abandoned as follows:
5.5 to 0.0 feet bgs: Cuttings

10

15

20

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WW
DATE DRILLED 4-1-94
DRILLER Montgomery Watson
DRILL METHOD Hand Auger

SAMPLING METHOD Sleeves
GROUND ELEVATION 13.54 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 4 inches
TOTAL DEPTH OF HOLE 5.5 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-43

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION (FILL)
	CHEMICAL	280-S04-001	NA	NA	X		SP	Sand (SP), light brown, fine sand, dense dry
	CHEMICAL	280-S04-002			X			Same as above with trace of gravel
5	CHEMICAL	280-S04-003			X			Same as above, but no gravel, wet
								TD = 6 Feet bgs
								Borehole abandoned as follows: 6.0 to 0.0 feet bgs: Native Soil
10								
15								
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0280
LOGGED BY JEV
DATE DRILLED 9-1-94
DRILLER Montgomery Watson
DRILL METHOD Hand Auger

SAMPLING METHOD Sleeves
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER Not available
TOTAL DEPTH OF HOLE 6 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-14

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S04-004	NA	NA	☒		SM	FILL Silty gravelly sand (SM), brown, damp
	CHEMICAL	280-S04-005			☒			Same as above, but rust brown
							SP.	Sand (SP), gray-brown, fine sand, damp
								Same as above, but brown, fine to medium sand
5							ML	Sandy clayey silt (ML), black, moist, organic
	CHEMICAL	280-S04-006			☒			Same as above
								TD = 6 Feet bgs
								Borehole abandoned as follows:
								6.0 to 0.0 feet bgs: Native Soil
10								
15								
20								

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0280
LOGGED BY MEM
DATE DRILLED 9-1-94
DRILLER Montgomery Watson
DRILL METHOD Hand Auger

SAMPLING METHOD Sleeves
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER 4 inches
TOTAL DEPTH OF HOLE 6 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) N

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B04-45

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S04-007	Ø Ø	NA	X		SP	FILL Sand (SP); brown (10YR5/3), very fine to fine sand, moist
	CHEMICAL	280-S04-008	Ø Ø.1		X			Same as above, but greenish gray (5GY5/1), wet PSH?
5	CHEMICAL	280-S04-009	Ø Ø		X			

TD = 5.5 Feet bgs

Borehole abandoned as follows:
5.5 to Ø.Ø feet bgs: Native Soil

10

15

20

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER ~~044~~-Ø28Ø
LOGGED BY WPW
DATE DRILLED 9-15-94
DRILLER Montgomery Watson
DRILL METHOD Hand Auger

SAMPLING METHOD Sleeves
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER 4 inches
TOTAL DEPTH OF HOLE 5.5 Feet bgs
WATER LEVEL 3.6 Feet bgs
WELL INSTALLED? (Y/N) N

TONTO ENVIRONMENTAL DRILLING

Engineer MontgomeryWatson On Site Loc:CPT-S4-01 Page No.

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
10.25	33.63	274.60	4.77	1.74	1.28	sand to silty sand	>90	44-46	>50	UNDEFINED
10.50	34.45	247.74	4.48	1.81	1.30	sand to silty sand	80-90	42-44	>50	UNDEFINED
10.75	35.27	170.76	2.00	1.17	1.33	sand to silty sand	70-80	42-44	41	UNDEFINED
11.00	36.09	146.56	3.34	2.28	1.35	silty sand to sandy silt	70-80	40-42	47	UNDEFINED
11.25	36.91	106.06	2.81	2.65	1.37	sandy silt to clayey silt	UNDFND	UNDFD	41	6.9
11.50	37.73	103.82	2.50	2.41	1.39	silty sand to sandy silt	60-70	38-40	33	UNDEFINED
11.75	38.55	99.18	2.45	2.47	1.41	silty sand to sandy silt	60-70	38-40	32	UNDEFINED
12.00	39.37	114.80	2.62	2.28	1.43	silty sand to sandy silt	60-70	40-42	37	UNDEFINED
12.25	40.19	71.10	0.69	0.97	1.45	sand to silty sand	50-60	36-38	17	UNDEFINED
12.50	41.01	111.88	4.55	4.06	1.48	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
12.75	41.83	98.66	3.19	3.24	1.50	sandy silt to clayey silt	UNDFND	UNDFD	38	6.4
13.00	42.65	187.02	7.87	4.21	1.52	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.25	43.47	275.42	10.58	3.84	1.54	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
13.50	44.29	329.94	8.79	2.67	1.56	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
13.75	45.11	274.64	6.85	2.49	1.58	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
14.00	45.93	272.86	7.19	2.63	1.61	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
14.25	46.75	275.22	5.05	1.83	1.63	sand to silty sand	80-90	42-44	>50	UNDEFINED
14.50	47.57	283.86	3.62	1.28	1.65	sand	80-90	42-44	>50	UNDEFINED
14.75	48.39	330.64	4.82	1.46	1.67	sand to silty sand	>90	44-46	>50	UNDEFINED
15.00	49.21	319.72	4.23	1.32	1.69	sand	>90	42-44	>50	UNDEFINED
15.25	50.03	229.64	8.16	3.55	1.71	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
.50	50.85	204.24	6.97	3.41	1.74	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
..75	51.67	226.70	5.78	2.55	1.76	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
16.00	52.49	284.08	5.99	2.11	1.78	sand to silty sand	80-90	42-44	>50	UNDEFINED
16.25	53.31	244.00	7.62	3.12	1.80	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
16.50	54.13	255.94	8.29	3.24	1.82	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
16.75	54.95	189.62	5.61	2.96	1.84	silty sand to sandy silt	70-80	40-42	>50	UNDEFINED
17.00	55.77	302.76	6.25	2.06	1.86	sand to silty sand	80-90	42-44	>50	UNDEFINED
17.25	56.59	218.28	6.71	3.07	1.89	silty sand to sandy silt	70-80	40-42	>50	UNDEFINED
17.50	57.41	171.42	6.86	4.00	1.91	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
17.75	58.23	342.68	6.40	1.87	1.93	sand to silty sand	>90	42-44	>50	UNDEFINED
18.00	59.06	444.28	5.98	1.35	1.95	sand	>90	44-46	>50	UNDEFINED
18.25	59.88	508.08	4.93	0.97	1.97	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Engineer MontgomeryWatson
On Site Loc:CPT-S4-02
Job No. :2738.1203
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :02/01/94 11:05
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	108.64	1.07	0.98	0.02	sand to silty sand	>90	>48	26	UNDEFINED
0.50	1.64	82.50	1.10	1.33	0.07	silty sand to sandy silt	>90	>48	26	UNDEFINED
0.75	2.46	129.48	0.65	0.51	0.12	sand	>90	>48	25	UNDEFINED
1.00	3.28	83.16	0.42	0.50	0.17	sand to silty sand	80-90	46-48	20	UNDEFINED
1.25	4.10	21.34	0.21	1.01	0.21	sandy silt to clayey silt	UNDFND	UNDFD	8	1.4
1.50	4.92	6.04	0.01	0.17	0.26	sensitive fine grained	UNDFND	UNDFD	3	.3
1.75	5.74	18.90	0.00	0.02	0.31	silty sand to sandy silt	<40	38-40	6	UNDEFINED
2.00	6.56	25.30	0.08	0.31	0.35	silty sand to sandy silt	40-50	38-40	8	UNDEFINED
2.25	7.38	36.02	0.06	0.16	0.40	sand to silty sand	50-60	40-42	9	UNDEFINED
2.50	8.20	32.76	0.04	0.11	0.45	silty sand to sandy silt	40-50	38-40	10	UNDEFINED
2.75	9.02	16.30	0.02	0.13	0.50	silty sand to sandy silt	<40	34-36	5	UNDEFINED
3.00	9.84	26.64	0.19	0.72	0.54	silty sand to sandy silt	<40	36-38	9	UNDEFINED
3.25	10.66	57.30	1.99	3.48	0.59	clayey silt to silty clay	UNDFND	UNDFD	27	3.7
3.50	11.48	131.36	4.55	3.46	0.64	sandy silt to clayey silt	UNDFND	UNDFD	>50	8.7
3.75	12.30	161.78	5.13	3.17	0.68	sandy silt to clayey silt	UNDFND	UNDFD	>50	10.7
4.00	13.12	145.64	5.12	3.51	0.73	sandy silt to clayey silt	UNDFND	UNDFD	>50	9.6
4.25	13.94	157.48	4.70	2.99	0.77	sandy silt to clayey silt	UNDFND	UNDFD	>50	10.4
4.50	14.76	168.90	3.84	2.27	0.79	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
4.75	15.58	175.72	2.14	1.22	0.81	sand to silty sand	80-90	44-46	42	UNDEFINED
00	16.40	153.34	3.09	2.02	0.83	silty sand to sandy silt	80-90	42-44	49	UNDEFINED
.25	17.22	138.22	2.88	2.08	0.85	silty sand to sandy silt	70-80	42-44	44	UNDEFINED
5.50	18.04	161.28	4.35	2.69	0.87	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
5.75	18.86	246.44	3.34	1.36	0.89	sand	>90	44-46	47	UNDEFINED
6.00	19.69	191.42	2.26	1.18	0.92	sand	80-90	44-46	37	UNDEFINED
6.25	20.51	251.50	2.03	0.81	0.94	sand	>90	44-46	48	UNDEFINED
6.50	21.33	248.24	2.08	0.84	0.96	sand	>90	44-46	48	UNDEFINED
6.75	22.15	325.58	2.02	0.62	0.98	gravelly sand to sand	>90	46-48	>50	UNDEFINED
7.00	22.97	353.40	2.65	0.75	1.00	sand	>90	46-48	>50	UNDEFINED
7.25	23.79	240.22	2.55	1.06	1.02	sand	>90	44-46	46	UNDEFINED
7.50	24.61	243.90	2.58	1.06	1.05	sand	>90	44-46	47	UNDEFINED
7.75	25.43	284.58	3.13	1.10	1.07	sand	>90	44-46	>50	UNDEFINED
8.00	26.25	236.18	4.73	2.00	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	179.14	2.11	1.18	1.11	sand to silty sand	80-90	42-44	43	UNDEFINED
8.50	27.89	69.58	1.05	1.51	1.13	silty sand to sandy silt	50-60	38-40	22	UNDEFINED
8.75	28.71	163.44	2.51	1.54	1.15	sand to silty sand	70-80	42-44	39	UNDEFINED
9.00	29.53	186.36	1.83	0.98	1.17	sand	80-90	42-44	36	UNDEFINED
9.25	30.35	189.50	3.55	1.87	1.20	sand to silty sand	80-90	42-44	45	UNDEFINED
9.50	31.17	243.36	4.42	1.82	1.22	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.75	31.99	270.70	3.95	1.46	1.24	sand to silty sand	>90	44-46	>50	UNDEFINED
10.00	32.81	353.90	4.50	1.27	1.26	sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

ote: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Engineer MontgomeryWatson On Site Loc:CPT-S4-02

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr - Dr (%)	PHI deg.	SPT N	Su tsf
10.25	33.63	357.14	5.95	1.67	1.28	sand to silty sand	>90	44-46	>50	UNDEFINED
10.50	34.45	362.00	4.96	1.37	1.30	sand	>90	44-46	>50	UNDEFINED
10.75	35.27	336.14	4.37	1.30	1.33	sand	>90	44-46	>50	UNDEFINED
11.00	36.09	197.80	3.54	1.79	1.35	sand to silty sand	80-90	42-44	47	UNDEFINED
11.25	36.91	77.32	1.92	2.49	1.37	sandy silt to clayey silt	UNDFND	UNDFD	30	5.0
11.50	37.73	90.14	2.59	2.88	1.39	sandy silt to clayey silt	UNDFND	UNDFD	35	5.8
11.75	38.55	138.10	3.94	2.86	1.41	sandy silt to clayey silt	UNDFND	UNDFD	>50	9.0
12.00	39.37	130.76	4.36	3.33	1.43	sandy silt to clayey silt	UNDFND	UNDFD	>50	8.5
12.25	40.19	66.48	0.96	1.44	1.45	silty sand to sandy silt	40-50	36-38	21	UNDEFINED
12.50	41.01	56.18	0.93	1.66	1.48	silty sand to sandy silt	40-50	36-38	18	UNDEFINED
12.75	41.83	52.36	0.97	1.84	1.50	silty sand to sandy silt	40-50	34-36	17	UNDEFINED
13.00	42.65	118.80	4.60	3.87	1.52	clayey silt to silty clay	UNDFND	UNDFD	>50	7.7
13.25	43.47	364.92	4.72	1.29	1.54	sand	>90	44-46	>50	UNDEFINED
13.50	44.29	417.14	0.00	0.00	1.56	undefined	UNDFND	UNDFD	UDF	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Engineer MontgomeryWatson
On Site Loc:CPT-S4-03
Job No. :2738.1203
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :02/01/94 15:40
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Dr - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	159.48	1.08	0.68	0.02	sand	>90	>48	51	UNDEFINED
0.50	1.64	135.58	1.18	0.87	0.07	sand to silty sand	>90	>48	32	UNDEFINED
0.75	2.46	47.00	0.32	0.67	0.12	silty sand to sandy silt	70-80	46-48	15	UNDEFINED
1.00	3.28	12.90	0.12	0.96	0.17	sandy silt to clayey silt	UNDFND	UNDFD	5	.8
1.25	4.10	21.94	0.05	0.22	0.21	silty sand to sandy silt	40-50	40-42	7	UNDEFINED
1.50	4.92	21.38	0.02	0.10	0.26	silty sand to sandy silt	40-50	40-42	7	UNDEFINED
1.75	5.74	20.60	0.03	0.13	0.31	silty sand to sandy silt	<40	38-40	7	UNDEFINED
2.00	6.56	18.26	0.09	0.47	0.35	sandy silt to clayey silt	UNDFND	UNDFD	7	1.1
2.25	7.38	32.76	0.17	0.52	0.40	silty sand to sandy silt	40-50	40-42	10	UNDEFINED
2.50	8.20	35.70	0.53	1.48	0.45	sandy silt to clayey silt	UNDFND	UNDFD	14	2.3
2.75	9.02	196.14	3.66	3.44	0.50	sandy silt to clayey silt	UNDFND	UNDFD	41	7.0
3.00	9.84	108.94	4.47	4.10	0.54	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
3.25	10.66	105.34	3.83	3.63	0.59	sandy silt to clayey silt	UNDFND	UNDFD	40	6.9
3.50	11.48	152.54	6.06	3.97	0.64	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
3.75	12.30	157.46	5.79	3.68	0.68	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
4.00	13.12	186.46	4.85	2.60	0.73	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
4.25	13.94	208.54	4.73	2.27	0.77	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
4.50	14.76	170.38	5.49	3.22	0.79	sandy silt to clayey silt	UNDFND	UNDFD	>50	11.3
4.75	15.58	217.84	3.65	1.67	0.81	sand to silty sand	>90	44-46	>50	UNDEFINED
00	16.40	203.92	2.53	1.24	0.83	sand	80-90	44-46	39	UNDEFINED
..25	17.22	186.50	2.27	1.22	0.85	sand to silty sand	80-90	44-46	45	UNDEFINED
5.50	18.04	189.24	5.04	2.66	0.87	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.75	18.86	206.76	4.07	1.97	0.89	sand to silty sand	80-90	44-46	50	UNDEFINED
6.00	19.69	255.36	2.23	0.87	0.92	sand	>90	44-46	49	UNDEFINED
6.25	20.51	310.16	4.29	1.38	0.94	sand	>90	46-48	>50	UNDEFINED
6.50	21.33	320.56	5.08	1.59	0.96	sand to silty sand	>90	46-48	>50	UNDEFINED
6.75	22.15	367.22	3.35	0.91	0.98	sand	>90	46-48	>50	UNDEFINED
7.00	22.97	361.20	3.76	1.04	1.00	sand	>90	46-48	>50	UNDEFINED
7.25	23.79	296.10	3.77	1.27	1.02	sand	>90	44-46	>50	UNDEFINED
7.50	24.61	230.66	4.17	1.81	1.05	sand to silty sand	80-90	44-46	>50	UNDEFINED
7.75	25.43	197.06	3.82	1.94	1.07	sand to silty sand	80-90	42-44	47	UNDEFINED
8.00	26.25	267.32	5.08	1.90	1.09	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	240.08	3.64	1.52	1.11	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	235.04	1.78	0.76	1.13	sand	80-90	44-46	45	UNDEFINED
8.75	28.71	192.02	2.23	1.16	1.15	sand	80-90	42-44	37	UNDEFINED
9.00	29.53	201.24	2.62	1.30	1.17	sand to silty sand	80-90	42-44	48	UNDEFINED
9.25	30.35	224.84	2.02	0.90	1.20	sand	80-90	42-44	43	UNDEFINED
9.50	31.17	262.90	2.99	1.14	1.22	sand	>90	44-46	>50	UNDEFINED
9.75	31.99	289.20	3.54	1.23	1.24	sand	>90	44-46	>50	UNDEFINED
10.00	32.81	282.20	5.25	1.86	1.26	sand to silty sand	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINT1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Engineer MontgomeryWatson On Site Loc:CPT-S4-03

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
10.25	33.63	302.56	4.82	1.59	1.28	sand to silty sand	>90	44-46	>50	UNDEFINED
10.50	34.45	345.60	5.78	1.67	1.30	sand to silty sand	>90	44-46	>50	UNDEFINED
10.75	35.27	305.20	3.93	1.29	1.33	sand	>90	44-46	>50	UNDEFINED
11.00	36.09	319.46	4.17	1.31	1.35	sand	>90	44-46	>50	UNDEFINED
11.25	36.91	277.36	4.18	1.51	1.37	sand to silty sand	>90	44-46	>50	UNDEFINED
11.50	37.73	121.96	3.53	2.89	1.39	sandy silt to clayey silt	UNDFND	UNDFD	47	7.9
11.75	38.55	162.84	2.31	1.42	1.41	sand to silty sand	70-80	40-42	39	UNDEFINED
12.00	39.37	155.58	3.48	2.24	1.43	silty sand to sandy silt	70-80	40-42	50	UNDEFINED
12.25	40.19	125.46	1.73	1.38	1.45	sand to silty sand	60-70	40-42	30	UNDEFINED
12.50	41.01	68.94	0.24	0.34	1.48	sand to silty sand	50-60	36-38	17	UNDEFINED
12.75	41.83	86.42	2.89	3.34	1.50	sandy silt to clayey silt	UNDFND	UNDFD	33	5.6
13.00	42.65	214.84	10.54	4.91	1.52	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.25	43.47	208.56	10.10	4.85	1.54	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.50	44.29	145.44	6.57	4.52	1.56	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.75	45.11	301.58	4.37	1.45	1.58	sand to silty sand	>90	42-44	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

(*) overconsolidated or cemented

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson
On Site Loc:CPT-S04-05
Job No. :27381402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :08/19/94 15:00
Cone Used :465
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	3.98	0.01	0.14	0.02	sensitive fine grained	UNDFND	UNDFD	2	.3
0.50	1.64	1.30	0.00	0.34	0.07	sensitive fine grained	UNDFND	UNDFD	1	.1
0.75	2.46	2.06	0.02	0.96	0.12	sensitive fine grained	UNDFND	UNDFD	1	.1
1.00	3.28	3.04	0.04	1.21	0.17	sensitive fine grained	UNDFND	UNDFD	1	.2
1.25	4.10	7.74	0.05	0.65	0.21	sensitive fine grained	UNDFND	UNDFD	4	.7
1.50	4.92	17.08	2.88	16.84	0.26	undefined	UNDFND	UNDFD	UDF	UNDEFINED
1.75	5.74	526.02	11.23	2.14	0.31	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
2.00	6.56	292.28	6.25	2.14	0.35	sand to silty sand	>90	>48	>50	UNDEFINED
2.25	7.38	334.14	3.85	1.15	0.40	sand	>90	>48	>50	UNDEFINED
2.50	8.20	69.68	-0.01	-0.01	0.45	undefined	UNDFND	UNDFD	UDF	UNDEFINED
2.75	9.02	44.66	0.82	1.84	0.50	sandy silt to clayey silt	UNDFND	UNDFD	17	4.4
3.00	9.84	77.92	1.76	2.26	0.54	silty sand to sandy silt	60-70	42-44	25	UNDEFINED
3.25	10.66	42.04	0.13	0.30	0.58	sand to silty sand	40-50	38-40	10	UNDEFINED
3.50	11.48	63.18	2.77	4.38	0.60	clayey silt to silty clay	UNDFND	UNDFD	30	6.2
3.75	12.30	76.44	5.62	7.35	0.62	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
4.00	13.12	195.06	12.19	6.25	0.64	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
4.25	13.94	155.82	9.41	6.04	0.66	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
4.50	14.76	138.38	7.82	5.65	0.68	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
4.75	15.58	163.68	8.89	5.43	0.71	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
5.00	16.40	173.00	8.93	5.16	0.73	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
5.25	17.22	157.86	10.26	6.50	0.75	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
5.50	18.04	191.34	8.89	4.64	0.77	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
5.75	18.86	171.64	8.02	4.67	0.79	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
6.00	19.69	204.38	6.78	3.32	0.81	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
6.25	20.51	227.02	5.47	2.41	0.84	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
6.50	21.33	239.64	5.82	2.43	0.86	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
6.75	22.15	227.84	3.80	1.67	0.88	sand to silty sand	>90	44-46	>50	UNDEFINED
7.00	22.97	248.62	7.52	3.02	0.90	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.25	23.79	306.62	10.78	3.51	0.92	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
7.50	24.61	297.86	7.51	2.52	0.94	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
7.75	25.43	188.66	6.08	3.22	0.96	sandy silt to clayey silt	UNDFND	UNDFD	>50	18.7
8.00	26.25	302.90	9.01	2.97	0.99	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
8.25	27.07	261.82	10.91	4.17	1.01	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
8.50	27.89	268.68	7.53	2.80	1.03	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
8.75	28.71	290.12	6.71	2.31	1.05	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
9.00	29.53	316.28	10.49	3.32	1.07	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
9.25	30.35	265.50	9.73	3.66	1.09	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
9.50	31.17	232.02	8.34	3.60	1.12	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

E TONTO ENVIRONMENTAL DRILLING

Operator :Montgmry Watson On Site Loc:CPT-S04-05 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	267.36	6.17	2.31	1.14	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
10.00	32.81	313.96	11.03	3.51	1.16	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
10.25	33.63	262.28	9.25	3.53	1.18	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
10.50	34.45	263.80	7.08	2.68	1.20	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
10.75	35.27	275.32	5.21	1.89	1.22	sand to silty sand	>90	44-46	>50	UNDEFINED
11.00	36.09	115.92	6.44	5.55	1.24	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
11.25	36.91	181.62	9.30	5.12	1.27	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
11.50	37.73	203.32	8.64	4.25	1.29	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
11.75	38.55	146.18	4.97	3.40	1.31	sandy silt to clayey silt	UNDFND	UNDFD	>50	14.4
12.00	39.37	130.24	3.45	2.65	1.33	silty sand to sandy silt	70-80	40-42	42	UNDEFINED
12.25	40.19	58.42	0.77	1.32	1.35	silty sand to sandy silt	40-50	36-38	19	UNDEFINED
12.50	41.01	88.32	5.15	5.83	1.37	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
12.75	41.83	188.08	16.26	8.64	1.40	undefined	UNDFND	UNDFD	UDF	UNDEFINED
13.00	42.65	155.58	9.81	6.31	1.42	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
13.25	43.47	286.56	7.48	2.61	1.44	silty sand to sandy silt	>90	44-46	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	NA	NA	NA	22			SP	FILL: 6 inches concrete. Sand (SP), grayish brown (10YR5/2), to pale brown (10YR6/3), fine sand, medium dense, slightly moist
				21			SM	Silty sand (SM), light brownish gray (10YR6/2), medium dense, very moist
				7			ML	Clay silt (ML), greenish gray (5GY5/1), firm, very moist
							SP	Sand (SP), very dark gray (10YR3/1), color change to grayish brown (10YR5/2) at 5 feet bgs, fine sand, loose, very moist, wet at 5 Feet bgs, trace silt
5				4				
				2				
				Push				Switched from Hollow-Stem Auger to Mud Rotary. Same as above, but pale brown (10YR6/3), wet
								Same as above, but yellowish brown (10YR5/4), fine sand, moist, trace clay, slightly consolidated. MERRITT SAND
10				Push				Same as above, but very fine to fine sand, wet at 10 Feet bgs. Same as above with trace silt
				Push				
15								Same as above, but pale brown (10YR6/3) and yellowish brown (10YR5/4), very fine to fine sand, wet, trace clay,
20								

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044-0260
LOGGED BY WPW
DATE DRILLED 5-14-94
DRILLER Water Development Corp.
DRILL METHOD Hollow-Stem Auger & Mud Rotary

SAMPLING METHOD Split spoon/continuous sampler
GROUND ELEVATION 14.17 Feet
TOC ELEVATION 13.91 Feet
BORING DIAMETER 8 inches
TOTAL DEPTH OF HOLE 101 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				Push			SP	Same as above, but light yellowish brown (10YR6/4), no clay
								Same as above, but dark yellowish brown (10YR4/6)
25 / 5				Push				Same as above, but light brownish gray (10YR6/2) and yellowish brown (10YR5/4) mottled, trace clay
								same as above, slightly consolidated at 28 Feet bgs and no clay or silt
30 / 10				Push				Same as above, but loose, trace silt
								Same as above, but brown (10YR5/3), very moist to wet
35 / 15				Push				Same as above, but pale brown (10YR6/3), wet
								Same as above, but brown (10YR5/3), very moist, trace clay, slightly consolidated
40 / 20								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER 044-

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

WATER LEVEL

WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-0

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
							SP	
				Push				Same as above, but light brownish gray (10YR 6/2) and yellowish brown (10YR 5/4) mottled, wet
45 / 5				Push				Same as above, but mottled with yellowish brown (10YR 5/6), no clay
50 / 10				Push				Same as above, but light brownish gray with yellowish brown (10YR 5/4) mottling
								Same as above, but pale brown (10YR 6/3)
55 / 15								
				Push				Same as above, but light brownish gray (10YR 6/2), trace clay
60 / 20								Same as above, but light olive brown (2.5Y 5/3), no clay

Water Level

Split Spoon

Sample Collected

PROJECT _____

LOCATION

JOB NUMBER 044-

LOGGED BY .

DATE DRILLED _____

DRILLER

DRILL METHOD _____

SAMPLING METHOD

GROUND ELEVATION _____

TOC ELEVATION _____

BORING DIAMETER

TOTAL DEPTH OF HOLE _____

WATER LEVEL

WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC. — **LOG OF BORING** D04-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
							SP	Same as above, but light olive brown (2.5Y 5/4), fine sand, moist, slightly consolidated
				Push				Sand (SP), pale brown (10YR 6/3), wet, no silt
65 ~~5~~								Same as above with trace silt
								SAN ANTONIO INTERBEDDED SAND & CLAY
				Push			CL	Silty clay (CL), dark greenish gray (5GY 4/1), very moist, organic matter common, trace wood, trace sand
10 ~~10~~							SP	Sand (SP), dark greenish gray (5GY 4/1), fine sand, wet, trace organic matter
								Same as above, but gray (5Y 5/1), no organic matter
				Push			SC	clayey sand (SC), greenish gray (5GY 5/1), 15% clay, 5% silt, 80% sand, wet
15 ~~15~~	CHEMICAL	260-S04-132					SP/SC	Same as above, but pale brown (10YR 6/3) Sand to clayey sand, gray (5Y 6/1), 5% silt, 10% clay, 85% sand, moist, bedding planes visible (1/16 inch), moderately consolidated
80 ~~20~~								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER 044-

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

WATER LEVEL

WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
				Push			SP	Sand (SP), pale brown (10YR 6/3), very fine to fine, wet, trace silt
								Same as above, but dark greenish gray (5GY 4/1)
85				Push				Same as above
								Same as above
90	CHEMICAL	260-S04-133						
	CHEMICAL	260-S04-134		Push			CL	Silty clay (CL), dark greenish gray (5GY 4/1), 10% silt, moist, trace organic matter, thin veins of piriate
95							SP	Sand (SP), dark greenish gray (5GY 4/1), very fine to fine sand, wet
							SC	Clayey sand (SC), dark greenish gray (5GY 4/1), very moist to wet
				Push			CL	Silty clay (CL), dark greenish gray (5GY 4/1), 10% silt, 90% clay, moist to very moist, trace sand, trace organic matter
								YERBA BUENA MUD
100								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER 044-

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

WATER LEVEL

WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-135			■		CL	silty sandy clay (CL), dark greenish gray (5GY4/1), trace to 10% sand
								TD = 101 Feet bgs
5 105								
10 110								
15 115								
20 120								

▼ Water Level

☒ Split Spoon

■ Sample Collected

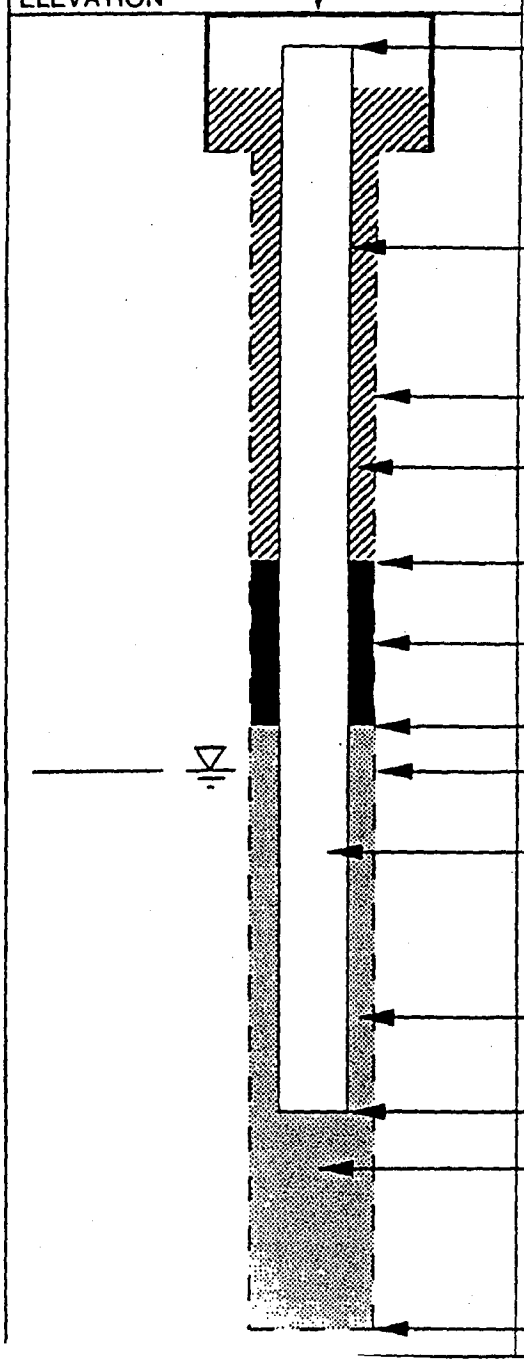
PROJECT _____
LOCATION
JOB NUMBER 044-
LOGGED BY .
DATE DRILLED _____
DRILLER
DRILL METHOD _____

SAMPLING METHOD
GROUND ELEVATION _____
TOC ELEVATION _____
BORING DIAMETER
TOTAL DEPTH OF HOLE _____
WATER LEVEL
WELL INSTALLED? (Y/N) _____

WELL ~~BORING~~ NO. D04-01

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Gregg Drilling Co.
PROJECT NO. 044 0260	BORING D04-01	DRILLING METHOD Hollow Stem Auger
SITE 4 ~~ELEVATION~~	DATE 5-14-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST WPW		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 14.17

GROUND ELEVATION

ELEVATION OF TOP OF WELL CASING: 13.91

RISER PIPE I.D.: 3 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 81.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 84.0

DEPTH TOP OF SCREEN 86.0

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~ 0.01 inch

I.D. OF SCREEN 3 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 96.0

DEPTH BOTTOM OF SAND PACK 96.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Bentonite

DEPTH OF HOLE (feet bgs) 101.0

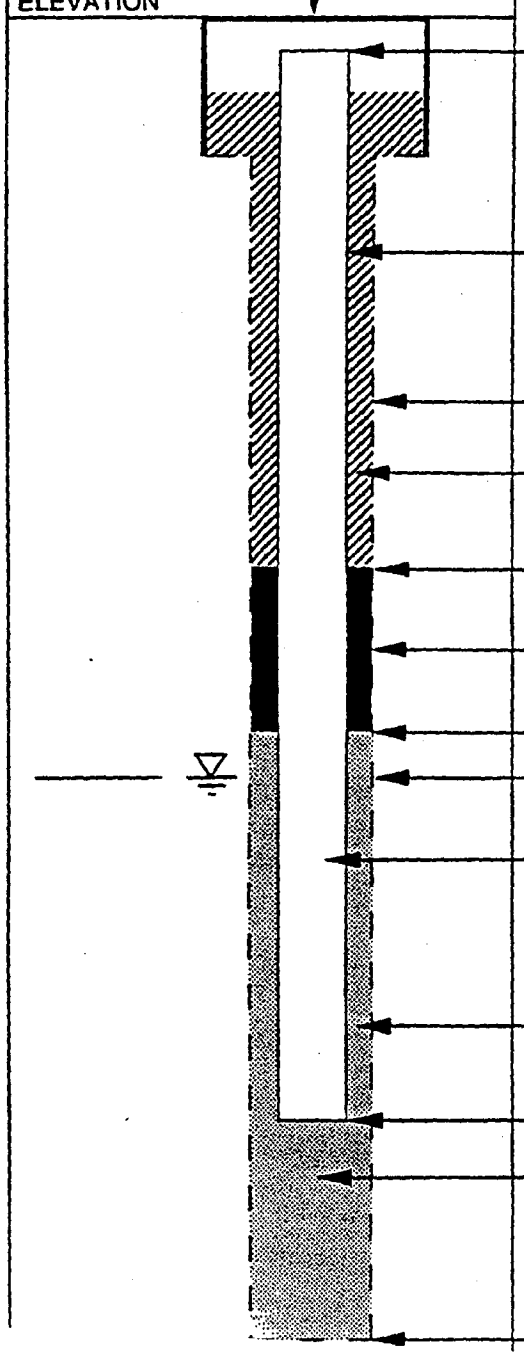
MF

WELL ~~BORING~~ NO. DØ4-Ø2

MONITORING WELL SHEET

PROJECT NAS Alameda RI
LOCATION Alameda, California
PROJECT NO. Ø44 Ø28Ø
BORING DØ4-Ø2
~~ELEVATION~~ SITE
DATE 3-2-95
FIELD GEOLOGIST WPW

DRILLER Soils Exploration Services, I
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: ?

ELEVATION OF TOP OF WELL CASING: 13.78

RISER PIPE I.D.: 3 inches
TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8.25 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 79.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 83.0
DEPTH TOP OF SCREEN 86.5

TYPE OF SCREEN: Schedule 4Ø PVC
SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch
I.D. OF SCREEN 3 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 96.5
DEPTH BOTTOM OF SAND PACK 97.0
TYPE OF BACKFILL BELOW OBSERVATION WELL: Bentonite

DEPTH OF HOLE (feet bgs) 102.0

MF

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-02

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
							GP	FILL Gravel with minor sand, silt, and, clay (GP)
5								
								MERRITT SAND
10	CHEMICAL	260-S04-210	Ø	15	☒		SC/SM	Clayey sand to silty sand (SC/SM), yellowish brown (10YR5/6), fine-grained, medium dense, moist
15								
20								

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER Ø44 Ø28Ø
LOGGED BY JEV
DATE DRILLED 2-9-95 to 3-2-95
DRILLER Soils Exploration Services, Inc.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split Spoon
GROUND ELEVATION
TOC ELEVATION 13.78 Feet
BORING DIAMETER 8.25 inches
TOTAL DEPTH OF HOLE 102 Feet bgs
WATER LEVEL Not Available
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-2

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-211	Ø	45			SP	Poorly-graded sand (SP), yellowish brown (10YR5/4), fine-grained, dense, moist
~~5~~ 25								
30 ~~10~~	CHEMICAL	260-S04-212	Ø					Same as above
	DUPE	260-S04-213	Ø	36/6 46/6				
35 ~~15~~								
40 ~~20~~								

Water Level

Split Spoon

Sample Collected

PROJECT	SAMPLING METHOD
LOCATION	GROUND ELEVATION
JOB NUMBER	TOC ELEVATION
LOGGED BY	BORING DIAMETER
DATE DRILLED	TOTAL DEPTH OF HOLE
DRILLER	WATER LEVEL
DRILL METHOD	WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING DB4-0

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-214	Ø	45			SP	Same as above, but dark yellowish brown (10YR4/4); fine- to medium-grained, with minor silt and clay
45 5								
50 10	CHEMICAL	260-SB4-215	Ø	36/6 55/6			SM	Silty sand (SM), light yellowish brown (2.5Y 6/3), fine-grained, dense, moist
55 15								
60 20								

Water Level

Split Spoon

Sample Collected

PROJECT

LOCATION

JOB NUMBER

LOGGED BY

DATE DRILLED

DRILLER

DRILL METHOD

SAMPLING METHOD

GROUND ELEVATION

TOC ELEVATION

BORING DIAMETER

TOTAL DEPTH OF HOLE

WATER LEVEL

WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-0

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-216	0	75/6			SP	Poorly-graded sand (SP), dark yellowish brown (10YR 4/6), fine-grained, dense, moist
65 / 5								
70 / 10								SAN ANTONIO INTERBEDDED SAND & CLAY
	CHEMICAL	260-S04-217	NA	Push 18			CL	Clay (CL), dark gray (5Y 4/1), stiff, moist, trace roots, trace organic matter
			NA	34				Same as above.
75 / 15							SC	clayey sand (SC), dense, moist
			NA	27/6 32/6			CL	Clay (CL), dark gray (5Y 4/1), stiff, moist, trace roots
							SP-SC	Poorly-graded sand with clay (SP-SC), fine-grained, 90% sand, 10% clay, trace silt, trace organic matter
80 / 20								

Water Level

Split Spoon

Sample Collected

PROJECT		SAMPLING METHOD	
LOCATION		GROUND ELEVATION	
JOB NUMBER		TOC ELEVATION	
LOGGED BY		BORING DIAMETER	
DATE DRILLED		TOTAL DEPTH OF HOLE	
DRILLER		WATER LEVEL	
DRILL METHOD		WELL INSTALLED? (Y/N)	

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-1

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-218	NA	>50/6 >50/6			SP	Poorly-graded sand (SP), olive gray (5Y4/2), fine-grained, dense, moist, trace silt, trace clay
85 ~~8~~				68/6 100/6				Same as above
			NA	68/6 57/6			CL	clay (CL), dark gray (5Y4/1), stiff, moist, trace roots
90 ~~10~~	CHEMICAL	260-S04-219					SP	Poorly-graded sand (SP), gray (5Y5/1) and olive gray (5Y4/2), very fine-to fine-grained, dense, moist
			NA	20			CL	clay (CL), dark gray (5Y4/1), stiff, moist, trace organic matter, trace silt, trace sand
			NA	100/6			SP	Poorly-graded sand (SP), olive gray (5Y4/2), fine-grained, moist, trace silt
95 ~~15~~			NA	34			CL	change to clay per driller clay (CL), olive gray (5Y4/2), stiff, moist
							SP	Poorly-graded sand (SP), dark gray (5Y4/1), fine-grained, dense, wet
			NA	Push			CL	clay (CL), dark gray (5Y4/1), 90% clay, 5% very fine-grained sand, 5% silt, stiff, moist, trace roots YERBA BUENA MUD
100 ~~20~~								Same as above, but trace sand, trace silt, root holes filled with very fine-grained sand

Water Level

Split Spoon

Sample Collected

PROJECT		SAMPLING METHOD	
LOCATION		GROUND ELEVATION	
JOB NUMBER		TOC ELEVATION	
LOGGED BY		BORING DIAMETER	
DATE DRILLED		TOTAL DEPTH OF HOLE	
DRILLER		WATER LEVEL	
DRILL METHOD		WELL INSTALLED? (Y/N)	

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-0

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-220	NA	Push			CL	Same as above
105								
110								
115								
120								

TD = 102 Feet bgs

Water Level

Split Spoon

Sample Collected

PROJECT _____
LOCATION
JOB NUMBER _____
LOGGED BY
DATE DRILLED _____
DRILLER
DRILL METHOD _____

SAMPLING METHOD
GROUND ELEVATION _____
TOC ELEVATION _____
BORING DIAMETER
TOTAL DEPTH OF HOLE _____
WATER LEVEL
WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-03

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
							GP	FILL Gravel (GP) with sand, silt, clay
5								
10	CHEMICAL	260-S04-221	0	33	☒		SM	MERRITT SAND Silty sand (SM), yellowish brown (10YR5/6), fine-grained, medium dense, moist, trace clay
15								
20								

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 4
JOB NUMBER 044 0280
LOGGED BY JEV
DATE DRILLED 2-8-95 to 2-22-95
DRILLER Soils Exploration Services, Inc.
DRILL METHOD Hollow-stem Auger

SAMPLING METHOD split spoon
GROUND ELEVATION
TOC ELEVATION 13.05 Feet
BORING DIAMETER 8.25 inches
TOTAL DEPTH OF HOLE 100 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-03

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-222	Ø	39	X		SP	poorly-graded sand (SP), dark yellowish brown (10YR 3/4), fine-grained, dense, moist
25 ~~5~~								
30 ~~10~~	CHEMICAL	260-S04-223	Ø	30/6 50/6	X			Same as above
35 ~~15~~								
40 ~~20~~								

Water Level

Split Spoon

Sample Collected

PROJECT _____ SAMPLING METHOD _____

LOCATION _____ GROUND ELEVATION _____

JOB NUMBER _____ TOC ELEVATION _____

LOGGED BY _____ BORING DIAMETER _____

DATE DRILLED _____ TOTAL DEPTH OF HOLE _____

DRILLER _____ WATER LEVEL _____

DRILL METHOD _____ WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-03

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	260-S04-224		26/6 50/6			SP	Same as above, but dark yellowish brown (10YR4/6)
45 ~~5~~								
50 ~~10~~	CHEMICAL	260-S04-225	0	41/6 50/6				Same as above
55 ~~15~~								
60 ~~20~~								

Water Level

Split Spoon

Sample Collected

PROJECT _____ SAMPLING METHOD _____

LOCATION _____ GROUND ELEVATION _____

JOB NUMBER _____ TOC ELEVATION _____

LOGGED BY _____ BORING DIAMETER _____

DATE DRILLED _____ TOTAL DEPTH OF HOLE _____

DRILLER _____ WATER LEVEL _____

DRILL METHOD _____ WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING DØ4-03

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	26Ø-SØ4-226	Ø	42/6 50/6	☒		SP	Same as above
~~5~~ 65								
~~10~~ 70	CHEMICAL	26Ø-SØ4-227	2	35/6 50/6	☒			same as above
	DUPE	26Ø-SØ4-228						
~~15~~ 75								Somewhat Changes to SP-SM
~~20~~ 80								

▼ Water Level	PROJECT	SAMPLING METHOD
	LOCATION	GROUND ELEVATION
☒ Split Spoon	JOB NUMBER	TOC ELEVATION
	LOGGED BY	BORING DIAMETER
■ Sample Collected	DATE DRILLED	TOTAL DEPTH OF HOLE
	DRILLER	WATER LEVEL
	DRILL METHOD	WELL INSTALLED? (Y/N)

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D04-03

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
								SAN ANTONIO INTERBEDDED SAND & CLAY
	CHEMICAL	260-S04-229	NA	26			SP	Same as above, but dark greenish gray (5GY4/1), saturated
							CL	Silty clay (CL), dark greenish gray (5G4/1), stiff, moist
			NA	NA				
85 ~~5~~			NA	NA			SP	Poorly-graded sand (SP), dark greenish gray (5GY4/1), very fine-grained, dense, wet.
			NA	NA			CL	Silty clay (CL) dark greenish gray (5G4/1), stiff, moist
							SP	Poorly-graded sand (SP), dark greenish gray (5GY4/1), fine grained, dense, wet
90 ~~10~~	CHEMICAL	260-S04-230	NA	24/6 50/6			CL	Silty clay (CL), dark greenish gray (5G4/1), stiff, moist
							SP	Poorly-graded sand (SP), dark greenish gray (5GY4/1), fine-grain, dense, wet
			NA	NA			SC	Clayey sand (SC), dark greenish gray (5GY4/1), loose, wet
							SP	Poorly-graded sand (SP), dark greenish gray (5G4/1), fine-grained, dense, moist
95 ~~15~~			NA	NA			CL	Clay (CL), dark greenish gray (5G4/1), stiff, moist, trace silt, trace organic matter
								YERBA BUENA MUD
			NA	40				
100 ~~20~~								TD = 100 feet bgs

Water Level

Split Spoon

Sample Collected

PROJECT		SAMPLING METHOD	
LOCATION		GROUND ELEVATION	
JOB NUMBER		TOC ELEVATION	
LOGGED BY		BORING DIAMETER	
DATE DRILLED		TOTAL DEPTH OF HOLE	
DRILLER		WATER LEVEL	
DRILL METHOD		WELL INSTALLED? (Y/N)	

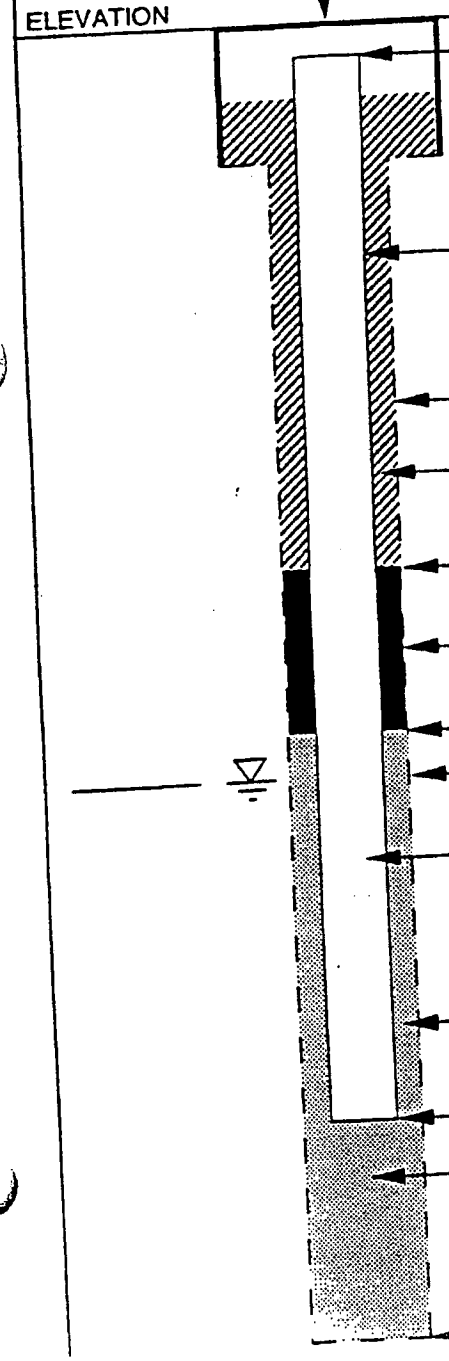
WELL ~~BORING~~ NO. DØ4-Ø3

MONITORING WELL SHEET

PROJECT NAS Alameda RI
PROJECT NO. Ø44 Ø28Ø
SITE 4
~~ELEVATION~~
FIELD GEOLOGIST JEV

LOCATION Alameda, California
BORING DØ4-Ø3
DATE 2-24-95

DRILLER Soils Exploration Services,
DRILLING METHOD Hollow Stem Auger
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: ?

ELEVATION OF TOP OF WELL CASING: 13.05

RISER PIPE I.D.: 3 inches
TYPE OF RISER PIPE: Schedule 4Ø PVC

BOREHOLE DIAMETER: 8.25 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 77.0

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 81.0
DEPTH TOP OF SCREEN 84.0

TYPE OF SCREEN: Schedule 4Ø PVC
SLOT SIZE ~~x LENGTH~~ Ø.Ø1 inch
I.D. OF SCREEN 3 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 94.0
DEPTH BOTTOM OF SAND PACK 95.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Bentonite

DEPTH OF HOLE (feet bgs) 100.0

MF

ERM-SOUTH WELL LOG

PROJECT ➤	1970.08
WELL NO.	372-MW-1
DATE ➤	1-20-95
LOCATION ➤	Bldg 372, Alameda NAS
LOGGED BY ➤	Greg Mahr
WEATHER ➤	Sunny - Rain
DRILLING METHOD ➤	HSA
DRILLED BY ➤	Wayne Environmental Drlg
SAMPLING METHOD ➤	Brass Tube - Grab
OVA ➤	—

LOCATION MAP

N →

372-3

372-2 372-1

MEASURING POINT ELEVATION ➤

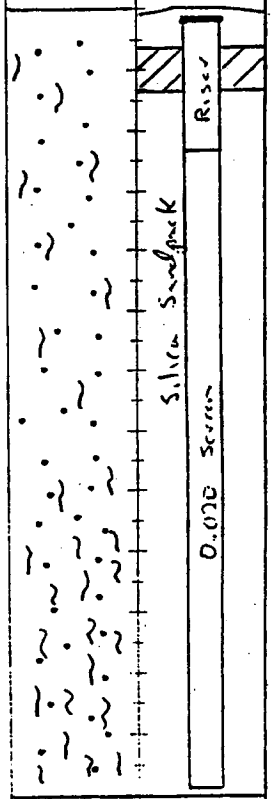
LAND SURFACE ELEVATION ➤

FILTER PACK ➤	Lonestar #3	TOP DEPTH 1.47'	BOTTOM DEPTH 13'	SEAL ➤ Bentonite	TOP DEPTH .47' / BOTTOM DEPTH 1.47
CASING ➤ TYPE	Sched 40 PVC	DIAMETER 4"	LENGTH 2.47'	WATER LEVEL INITIAL	3 ½' ☑ B.G.S. ☐ B.M.P. / BOREHOLE DIAMETER 8.25"
SCREEN ➤ TYPE	Sched 40 PVC	SLOT 0.020	DIAMETER 4" / LENGTH 10.0'	WATER LEVEL AT COMPLETION	3.10' ☑ B.G.S. ☐ B.M.P. / BOREHOLE DEPTH 13'

DEVELOPMENT ➤ METHOD | GALLONS PUMPED | PUMPING RATE | COMMENTS ➤

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	OVA (PPM)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS
						0			Concrete
D						1			
M						2			Silty Sands, Moderate Yellowish Brown, 10YR 5/4, Silt- Medium Grained, Angular (SM)
▼						3			
W				372 Mw1 3½-4		4			
						5			
						6			
						7			
						8			Clayey Sands, Light Olive Gray, 5Y 5/2, 50% Fines, (SC)
						9			
						10			
						11			
						12			
						13			

GRAPHIC LOG / WELL COMPLETION



10011 01/WELLLOG/121991-1

the ERM

ENVIRONMENTAL RESOURCES MANAGEMENT
ERM-WEST

FIELD WELL COMPLETION FORM

Job Name: Alameda NAS Owner: USN

Location: Bldg 372 Job #: 1970.08

Logged By: Greg Mohr Reviewed By: _____ Project Manager: William Spong

Well Number: 372-MW1 Driller: Wayne Environmental Drlg

Date of Installation: 1-20-95 Hours Drilled: 4

Equipment: 8.25 Inch Hollow Stem Auger _____ Inch Rotary Wash

Gallons of Water Used During Drilling: None Gallons: —

Method of Decontamination Prior to Drilling: Steam Cleaning

Well Permit #: _____ Issuing Agency: _____

DEVELOPMENT

Method of Development: _____

Development Began Date: _____ Time: _____

Depth to Water Before Development: _____ Feet

Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:

Total Water Removed During Development: _____ Gallons

Description of Turbidity at End of Development: ☐ Clear ☐ Mod. Turbid ☐ Slightly cloudy ☐ Very Muddy

Odor of Water: _____

Water Discharged To: ☐ Ground Surface ☐ Storm Sewers ☐ Drums ☐ Tank Truck ☐ Storage Tank ☐ Other

Depth to Water After Development: _____ Feet

Date/Time Well Development Complete: _____

Well Elevation: _____ Feet ..... Measuring Point (i.e. Top of Casing): _____

MATERIALS USED

4 Sacks of #3 Lonestar RMC Sand

1 Sacks of _____ Cement

5 Gallons of Grout Used

— Sacks of Powdered Bentonite

25 Pounds of Bentonite Pellets

2.47 Feet of 4 Inch PVC Blank Casing

10.0 Feet of 4 Inch PVC Slotted Screen

— Feet of — Inch Steel Conductor Casing

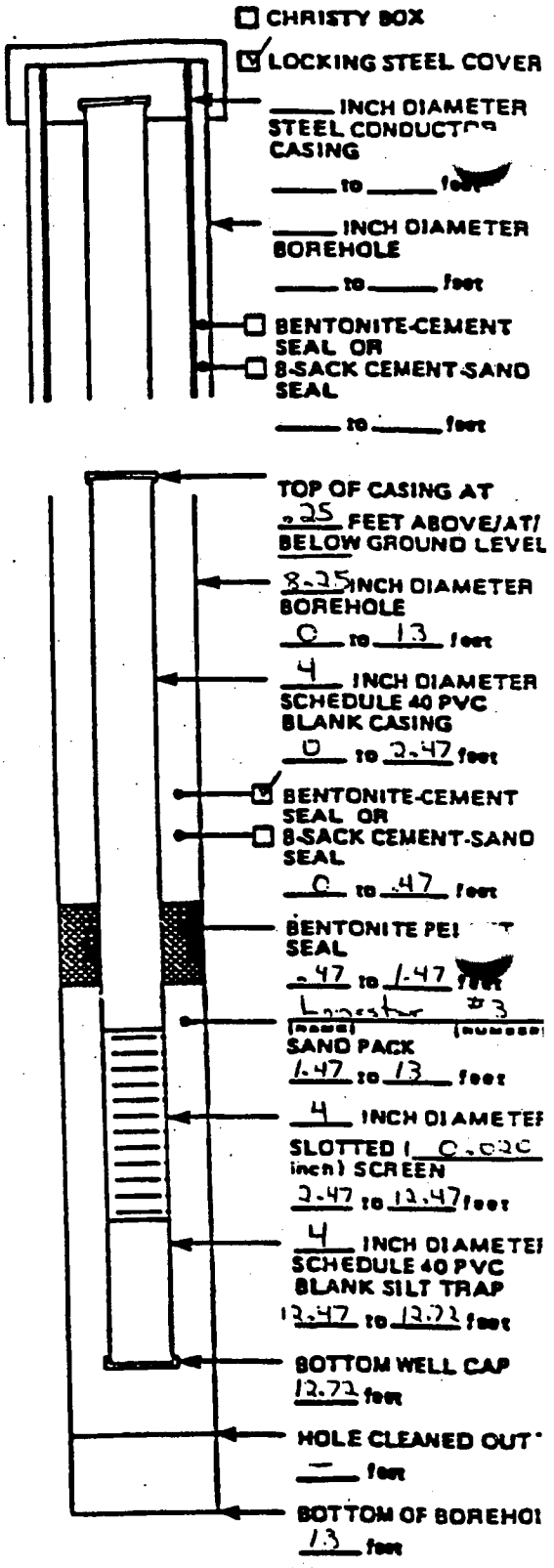
— Yard³ Cement-Sand (Redi-Mix) Ordered

— Yard³ Cement-Sand (Redi-Mix) Used

Concrete Pumper Used? ✓ No _____ Yes

Name _____

Well Cover Used: ✓ Locking Steel Cover
_____ Diversified Well Products Box
_____ Christy Box
_____ Other

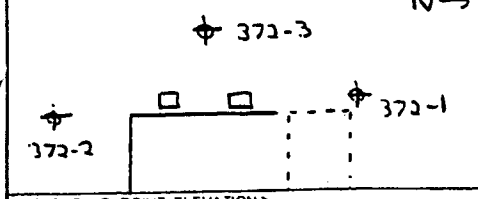


NOT TO SCALE

ADDITIONAL INFORMATION: _____

LOCATION MAP

N →

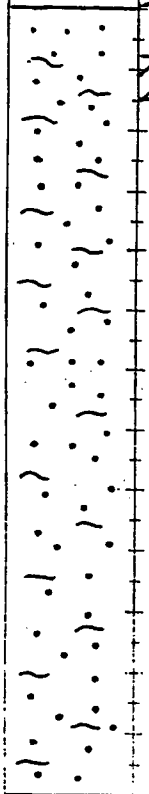


ERM-SOUTH WELL LOG

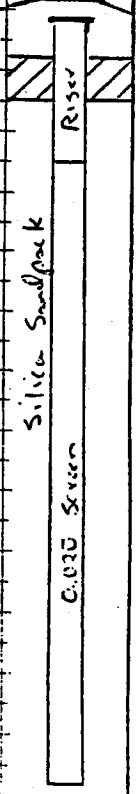
PROJECT ➤ 1970.08		WELL NO. 372-MW-3	
DATE ➤ 1-23-95	LOCATION ➤ Bldg 372, Alameda NAS		
LOGGED BY ➤ Greg Mohr	WEATHER ➤ Light Rain		
DRILLING METHOD ➤ HSA	DRILLED BY ➤ Wayne Environmental Bldg		
SAMPLING METHOD ➤ Brass Tube - Grab	OVA ➤ —		
MEASURING POINT ELEVATION ➤	FILTER PACK ➤ Lonestar #3	TOP DEPTH 1.53'	BOTTOM DEPTH 13.0'
LAND SURFACE ELEVATION ➤	SEAL ➤ Bentonite	TOP DEPTH .53'	BOTTOM DEPTH 1.53'
CASING ➤ TYPE Sched 40 PVC	DIAMETER 4"	LENGTH 2.53'	WATER LEVEL INITIAL 3 1/2' ☑ B.G.S. ☐ B.M.P.
BOREHOLE DIAMETER 8.25"			
SCREEN ➤ TYPE Sched 40 PVC	SLOT 0.020	DIAMETER 4"	LENGTH 10.0'
WATER LEVEL AT COMPLETION 3.26 ☑ B.G.S. ☐ B.M.P.	BOREHOLE DEPTH 13.0'		
DEVELOPMENT ➤ METHOD	GALLONS PUMPED	PUMPING RATE	COMMENTS ➤

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	OVA (PPM)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS
						0			Concrete
D						1			
M						2			Silty Sands, Moderate Yellowish Brown, 10YR 5/4, Silt- Medium Grained, (SM)
▼				372 MW-3 3-3 1/2		3			
W						4			
						5			
						6			
						7			
						8			Silty Sands, Moderate Yellowish Brown, 10YR 5/4, Silt- Medium Grained, Angular, (SM)
						9			
						10			
						11			
						12			
						13			

GRAPHIC LOG



WELL COMPLETION



The ERM

10011 01/WELLLOG/121931-1

ENVIRONMENTAL RESOURCES MANAGEMENT
ERM-WEST

FIELD WELL COMPLETION FORM

Job Name: Alameda NAS Owner: USN

Location: Bldg 372 Job #: 1970.08

Logged By: Greg Mohr Reviewed By: _____ Project Manager: William Spong

Well Number: 372-MW-3 Driller: Wayne Environmental Drlg

Date of Installation: 1-23-95 Hours Drilled: 4

Equipment: 8.25 Inch Hollow Stem Auger _____ Inch Rotary Wash

Gallons of Water Used During Drilling: None Gallons: —

Method of Decontamination Prior to Drilling: Steam Cleaning

Well Permit #: _____ Issuing Agency: _____

DEVELOPMENT

Method of Development: _____

Development Began Date: _____ Time: _____

Depth to Water Before Development: _____ Feet

Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:

Total Water Removed During Development: _____ Gallons

Description of Turbidity at End of Development: ☐ Clear ☐ Mod. Turbid ☐ Slightly cloudy ☐ Very Muddy

Odor of Water: _____

Water Discharged To: ☐ Ground Surface ☐ Storm Sewers ☐ Drums ☐ Tank Truck ☐ Storage Tank ☐ Other

Depth to Water After Development: _____ Feet

Date/Time Well Development Complete: _____

Well Elevation: _____ Feet ..... Measuring Point (i.e. Top of Casing): _____

MATERIALS USED

4 Sacks of #3 Lonestar RMC Sand

1 Sacks of _____ Cement

4 Gallons of Grout Used

— Sacks of Powdered Bentonite

25 Pounds of Bentonite Pellets

2.53 Feet of 4 Inch PVC Blank Casing

10.0 Feet of 4 Inch PVC Slotted Screen

— Feet of — Inch Steel Conductor Casing

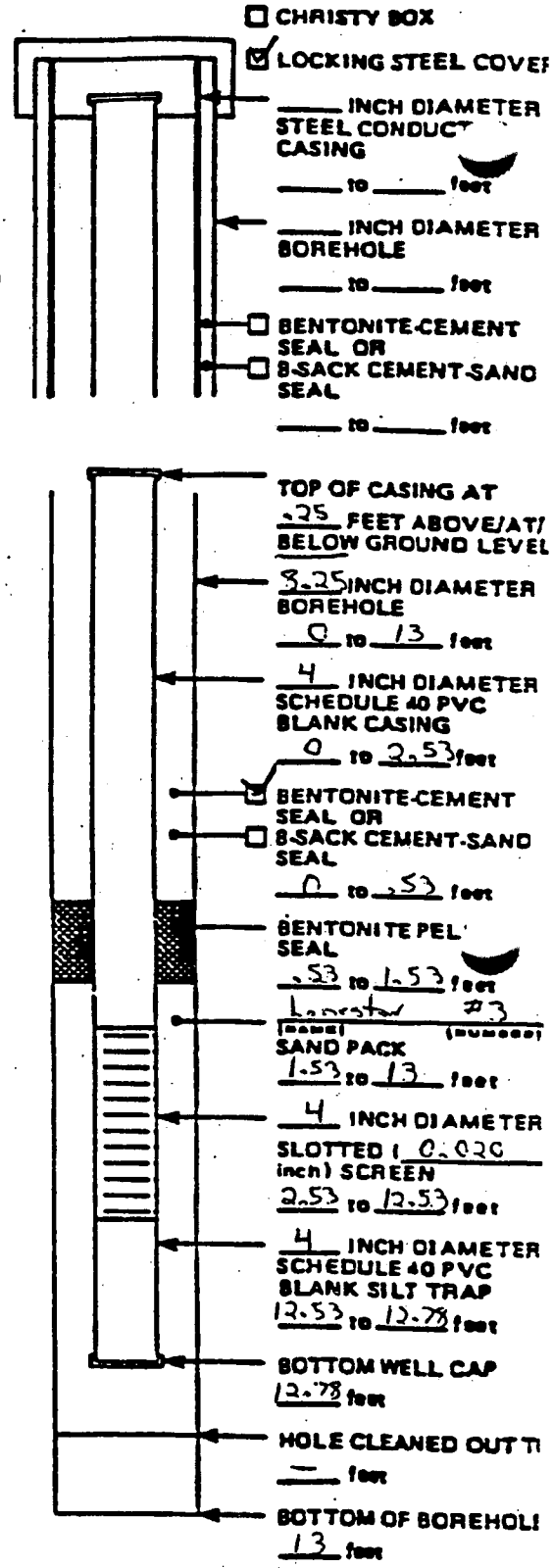
— Yard³ Cement-Sand (Redi-Mix) Ordered

— Yard³ Cement-Sand (Redi-Mix) Used

Concrete Pumper Used? ✓ No _____ Yes

Name _____

Well Cover Used: ✓ Locking Steel Cover
_____ Diversified Well Products Box
_____ Christy Box
_____ Other



NOT TO SCALE

ADDITIONAL INFORMATION: _____

LOG OF BORING BERCSO4-01	Drilling Date: 3/27-28/97 Drilling Method: Direct push Drill Rig Type: Precision XD1	Surface Elev. 10' msl Logged by: CN Checked by: JL	OGISO ENVIRONMENTAL

DEPTH	CORE	NUMBER	GEOLOGICAL DESCRIPTION & CLASSIFICATION	COMMENTS
0			5" Concrete	
		1	Fill Material, tan-light brn, m-grained, w rounded, moist (SP)	21" recovery
5		2	CC to light gray, v saturated increasing siltiness	Top of "Bay Sediments" 18" recovery
		3	CC to tan-light brn, v silty, saturated	30" recovery Top of "Merritt Sand"
10		4	Sand, yellow-tan, f-grained, gray inclusions (SC) Bay layer Increasing moisture	36" recovery
15		5		36" recovery
		6	Sand, light brn, f-grained, moist, loose (SP)	36" recovery
20		7		36" recovery
		8	Note: Total depth 3/27/97. Temporary overnight casing installed. 10' ponded water 0700 3/28/97	24" recovery
25			Terminate boring/core - 24' (refusal -1 ft/10 min) 08:10 3/28/97	
30			PROJECT No: NAS ALAMEDA, Alameda, CA	

LOG OF BORING BERCSO4-02	Drilling Date: 3/28/97 Drilling Method: Direct push Drill Rig Type: Precision XD1	Surface Elev. 10' msl Logged by: CN Checked by: JL	OGISO ENVIRONMENTAL

DEPTH	CORE	NUMBER	GEOLOGICAL DESCRIPTION & CLASSIFICATION Note: "False floor: + 3.5' agl"	COMMENTS
0			8" Concrete	
		1	Sand, dk brn, damp, loose (fill sand) Fill Material, tan-light brn, m-grained, w rounded, moist (SP)	28" recovery
5		2	Silt, blue-gray, v saturated	Top of "Bay Sediments" 18" recovery
		3	Sand, brn-tan, f grained, w rounded saturated, mottled decreasing moisture	30" recovery
10		4	Clay, brn, silty, stiff	Top of "Merritt Sand" 36" recovery
			Sand, yellow-tan, f grained, damp	
15		5		36" recovery
		6		36" recovery
20		7		30" recovery
		8	Increasing moisture	32" recovery
25		9		36" recovery
		10		
30			PROJECT No: NAS ALAMEDA, Alameda, CA	

LOG OF BORING BERCSO4-02	Drilling Date: 3/28/97 Drilling Method: Direct push Drill Rig Type: Precision XD1	Surface Elev. 10' msl Logged by: CN Checked by: JL	OGISO ENVIRONMENTAL

DEPTH	CORE	NUMBER	GEOLOGICAL DESCRIPTION & CLASSIFICATION continued...	COMMENTS
30		10		36" recovery
		11	Saturated	36" recovery
35		12		22" recovery
			Terminate boring/core - 36' (refusal 1'/10 min) 14:20 3/28/97	
10				
15				
20				
25				
30				

PROJECT No: NAS ALAMEDA, Alameda, CA

LOG OF BORING BERCSO4-03	Drilling Date: 3/28/97 Drilling Method: Direct push Drill Rig Type: Precision XD1	Surface Elev. 10' msl Logged by: CN Checked by: JL	OGISO ENVIRONMENTAL

DEPTH	CORE	NUMBER	GEOLOGICAL DESCRIPTION & CLASSIFICATION Note: "False floor: + 3.5' agl"	COMMENTS
0			Gvl, dk brn (0.5-1.5")	
		1	Fill Material, tan-light brn, m-grained, w rounded, moist (SP)	36" recovery
5		2	Increasing silt, blue-gray, v f-grained	Top of "Bay Sediments" 36" recovery
		3	increasing moisture	36" recovery
10				Top of "Merritt Sand"
		4	Sand, brn-tan, f grained, w rounded saturated, mottled	36" recovery
15		5	CC to yellow-brn increasing siltiness	36" recovery
		6	Increasing moisture	36" recovery
20		7	CC to red-brn decreasing moisture	32" recovery
		8		36" recovery
25		9		36" recovery
		10	Terminate boring/core - 31' (refusal - 1'/10 min) 10:20 3/28/97	24" recovery
30			PROJECT No: NAS ALAMEDA, Alameda, CA	

added 3

Boring Logs for DGS Site 04

Direct Push Boring	Direct Push Soil Gas Boring	Vacuum Excavation Boring	Hydro Punch Borings
S04-DGS-DP01	S04-DGS-SG01	S04-DGS-VE01	S04-DGS-DP01
S04-DGS-DP02	S04-DGS-SG02	S04-DGS-VE02	S04-DGS-DP05
S04-DGS-DP03	S04-DGS-SG04	S04-DGS-VE03	S04-DGS-DP06
S04-DGS-DP04	S04-DGS-SG05	S04-DGS-VE04	S04-DGS-DP09
S04-DGS-DP05	S04-DGS-SG07	S04-DGS-VE05	S04-DGS-DP10
S04-DGS-DP06	S04-DGS-SG08	S04-DGS-VE06	S04-DGS-DP11
S04-DGS-DP07	S04-DGS-SG10		S04-DGS-DP12
S04-DGS-DP08	S04-DGS-SG11		S04-DGS-DP13
S04-DGS-DP14	S04-DGS-SG13		S04-DGS-DP24
S04-DGS-DP15	S04-DGS-SG14		S04-DGS-DP25
S04-DGS-DP16	S04-DGS-SG16		S04-DGS-DP26
S04-DGS-DP17	S04-DGS-SG17		S04-DGS-DP27
S04-DGS-DP18	S04-DGS-SG19		S04-DGS-DP28
S04-DGS-DP19			S04-DGS-DP29
S04-DGS-DP20			S04-DGS-DP30
S04-DGS-DP21			S04-DGS-DP31
S04-DGS-DP22			S04-DGS-DP32
S04-DGS-DP23			S04-DGS-DP33
			S04-DGS-DP34
			S04-DGS-DP35
			S04-DGS-DP36
			S04-DGS-DP37
			S04-DGS-DP38
			S04-DGS-DP39
			S04-DGS-DP40
			S04-DGS-DP41
			S04-DGS-DP42
			S04-DGS-DP43
			S04-DGS-DP44
			S04-DGS-DP45
			S04-DGS-DP46
			S04-DGS-DP47
			S04-DGS-DP48
			S04-DGS-DP49
			S04-DGS-DP50
			S04-DGS-DP51

= added to spreadsheet

Point Name: CA04-01
Sample Identification: 030-CAP-036

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA04-DGZ-01	Date Started: 4-26-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.) ~3.0' bgs	Location Sketch:

Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
0.0					0.0 to 10.0' bgs, sand, poorly graded sand, gravelly sand dry, loose, no cementation, no odor, no visable staining, 10R 4/3, weak red.	SP	
1.0							
2.0							
3.0					sand, as above, wet @ 3.0' bgs		
4.0						SP	
5.0					sand, as above.		

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, gravelly sand.	SP	
	6.0							
	7.0							
	8.0							
						Sand as above, gravelly sand.	SP	
	9.0							
	10.0					Borehole terminated @ 10.0' bgs.		

Point Name: CA04-02
Sample Identification: 030-CAP-037

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA04-DG1-02	Date Started: 4-26-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B. J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~4.0' bgs.	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
15	0.0					0.0 to 10.0' bgs, sand, poorly graded sand, gravelly sand, dry, loose, no cementation, no odor, no visable staining, 10R 4/3 weak red.	SP	
	1.0							
	2.0							
	3.0							
	4.0				▼	Sand, as above, wet @ 4.0' bgs	SP	
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, gravelly sand.	SP	
	6.0							
	7.0							
	8.0					Sand, as above, gravelly sand.	SP	
	9.0							
	10.0					Sand, as above, gravelly sand.	SP	
						Borehole terminated @ 10.0' bgs.		

Point Name: CA04-03
Sample Identification: 030-CAP-038

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: GP-CA04-DG5.01	Date Started: 5-4-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: J. Carranza
Depth to Water (ft./bgs.) ~4.5'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
30	0.0					0.0 to 0.4' - concrete.		
						0.4 to 3.0' - no recovery, gravel-sand mixture, backfill debris material, no odor, no visible staining, no sample collected.	GW	0
	1.0							
	2.0							
	3.0					3.0 to 3.8' bgs, no recovery.		
						3.8 to 5.0' bgs, sand, gravel-sand mixture, 10YR, 3/1 very dark gray, moist, loose, no cementation, no odor, no visible staining.	GW	1
0850	4.0	030-CAP-038			?	sand, as above, wet @ ~4.5'		
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					5.0 to 6.0' – no recovery, appears to be sand/to gravel as above.	GW	
	6.0					Borehole terminated @ 6.0' bgs.		

Point Name: CA04-04
Sample Identification: 030-CAP-040
Sample Identification: 030-CAP-041

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: GP.CA04.DG5.03	Date Started: 5-4-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Camuza
Depth to Water (ft./bgs.): ~4.0' bgs.	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
5	0.0					0.0 to 0.5' – no recovery, asphalt & base material		
0925	0.5	030-CAP-040				0.5 to 2.0 – Sand, gravelly sand, poorly graded, 10YR 3/1, very dark grey, ~~moist~~ dry, loose, no cementation, no odor, no visible staining	SP GW	
	1.0							
	1.5					2.0 to 2.8 – no recovery – gravelly sand(?)	SP	
	2.0					2.8 to 4.0 – Sand, gravelly sand, poorly graded, 10YR 3/1, very dark grey, moist, loose, no cementation, no odor, no visible staining.	SP	
	3.0							
0930		030-CAP-041						
	4.0				▼	Borehole terminated @ 4.0' bgs		
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction

Point Name: CA04-05
Sample Identification: 030-CAP-058
Sample Identification: 030-CAP-059

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP.CA04.DG6-01	Date Started: 4.27.2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: ~	Driller: S. Navarro
Depth to Water (ft./bgs.)	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	0.0					0.0 to 10.0' bgs. - no soil samples logged or collected, hydropunch to 10.0' bgs, collect groundwater sample, install PVC screen @ 10.0' bgs, allow gw infiltration, co-locate @ borehole, advance hydropunch to 50' bgs sample interval.		
	5.0							
	10.0	@10'						
510		030-CAP-059				10.0 to 50.0' bgs, no soil samples logged or collected, hydropunch to 50.0' bgs, collect groundwater sample		
	15.0							
	20.0							
	25.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	25.0							
	30.0							
	35.0							
	40.0							
	45.0							
515		030-CAP-059						
	50.0					Borehole terminated @ 50.0', Borehole grouted on 4.27.00.		

Point Name: CA04-06
Sample Identification: 030-CAP-060
Sample Identification: 030-CAP-061
Sample Identification: 030-CAP-360

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA04-DG6-03	Date Started: 4-27-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulhulland
Outer Diameter of Boring: 2"OD.	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: S. Navsero
Depth to Water (ft./bgs.)	Location Sketch:

Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
0.0					0.0 to 10.0' – no soil samples logged or collected, hydro-punch to 10' bgs, collect groundwater sample.		
5.0							
10.0	@10'	@10'					
	030-CAP-060	1305 030-CAP-360			10.0 to 50.0' – no soil samples logged or collected, hydro punch to 50.0' bgs, collect groundwater sample		
15.0							
20.0							
25.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

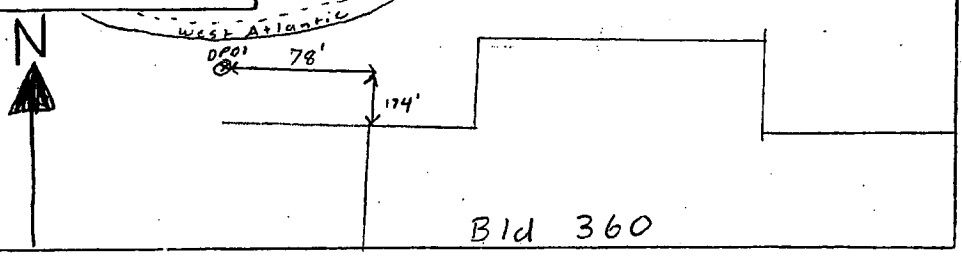
Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	25.0							
	30.0							
	35.0							
	40.0							
10	45.0							
		030-CNP-061						
	50.0					Borehole terminated @ 50.0' bgs., Borehole grouted on 4.27.00		

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP01	Date Started: 7/20/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/20/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Mark Cruickshank / K. Martin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision Drilling
Inner Diameter of Well Casing:	Driller: Eugene / Val
Depth to Water (ft./bgs.) 7' BGS	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
2					GRAVELY SAND w/ SILT; Light Yellowish Brown (10YR 6/4) Dry, loose, poorly sorted, trace organics, angular gravel gravel is 2cm average diameter, Silt-10%, Gravel-15%; Sand: 75% (Fine grained)	SP		
4					SANDY CLAY w/ GRAVEL; Dark yellowish Brown (10Y 4/4) Dry-wet, medium stiff, plastic, poorly sorted, gravel-15% (chert, angular), sand-40% (medium grained); Clay-45%	CL		
6								
8					Clay; Bluish Black (2 GLEY 10B 2.5/1) wet, plastic, well sorted, 100% clay	CH		
10					Sand; wet, loose, moderately sorted, trace organics and shell fragments, sand-5% (fine grained), sand-95% (medium grained)	SW		

X No NAPL DETECTED X

Ribbon NAPL Sample

NA

NA

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S04-DGS-DP01

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.S. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CLAYEY SAND; Dark Yellowish Brown (10YR 4/6) Iron Mottling; wet, slightly plastic, loose, Sand-85% (medium grained), Clay-15%, medium dense with Depth,	SC		
	12								
	14								
	16								
	18				NA	COLOR CHANGE @ 17.0' Clayey Sand; Brown (7.5YR 4/4) wet, slightly plastic, Dense, well graded Sand-85%, clay 15%	SC	NA	
	20								
	22								
	24					Sand; Yellowish Brown (10YR 5/6) wet, loose, nonplastic, moderatly sorted, Sand-5% (fine grained) Sand-95% (medium grained)	SW		
	26								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S04-DGS-PP01

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	28				N/A	Clayey Sand; Dark Yellowish Brown (10YR 4/6) wet, medium dense, slightly plastic, Sand - 80% (medium grained, Clay - 20%	SC	N/A	
	30								
	32								

TD = 31' BGS
Boring Back filled with CEMENT grout

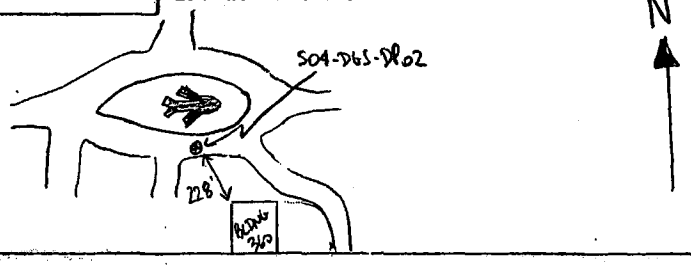
Sheet 1 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P[redacted]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP02	Date Started: 8/6/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) NA	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VOM (ppm)
	4, 8, 12, 16, 20	X		RIBBON NAPL SAMPLE *NO NAPL DETECTED*	NA	BORING ADVANCED W/ SACRAFICAL TIP, ∴ NO CORE WAS RECOVERED TOTAL DEPTH = 20' BORING BACKFILLED W/ CEMENT GROUT		NA	

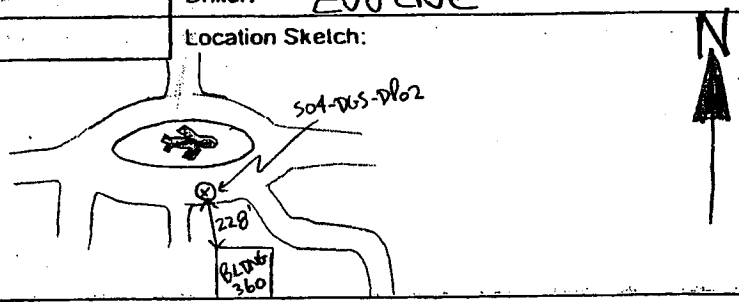
Sheet 2 of 2

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S04-DGS-DP02	Date Started: 7/2/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/2/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 6"	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
6				NA	SANDY GRAVEL W/ SILT; STRONG BROWN (7.5YR 5/6); DRY; M. DENSE; POORLY SORTED; GRAVEL - 50%; SAND - 30%, SILT - 20%, GRAVEL SUBROUNDED.	GM	NA	
					SILTY SAND; YELLOWISH BROWN (10YR 5/4); WET; LOOSE; POORLY SORTED, SILT - 25%, SAND - 75%	SM		
12					CLAYEY SAND W/ SILT; LIGHT OLIVE BROWN (2.5Y 5/6); WET; M. DENSE; SILT - 10%, CLAY - 20%, SAND (FINE TO M. GRAINED) - 70%, TRACE WOOD FRAGMENTS; MOTTLED TEXTURE; VARIABLE MOISTURE - DENSITY	SC		
18					SILTY SAND; DARK YELLOWISH BROWN (10YR 4/6); WET; LOOSE; POORLY SORTED, GRADATIONAL UPPER CONTACT; SILT - 20%, SAND - 80% @ 23.0' - 20% CLAY FOR 2"	SM		
24					BORING REFUSED @ 24' BGS TOTAL DEPTH = 24' BORING BACKFILLED W/ CEMENT GROUT			
32								

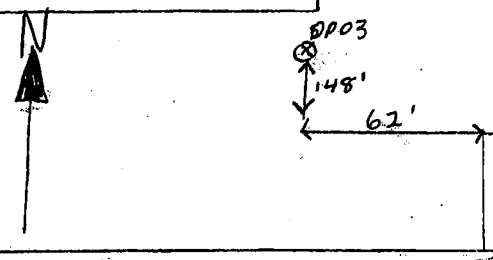
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P[illegible]
SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP03	Date Started: 6/25/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/25/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Mark Cruickshank
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 4.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	4			* NO NAPL DETECTED * RIBBON NAPL SAMPLES		SANDY GRAVEL W/ SILT ; Greenish Black (1GLEY 10Y2.5 Dry-Moist, loose, Nonplastic, sand-20%, Silt-10%, Gravel-60%, Fill material	GM	NA	
	8					Clayey Sand; Dark greyish green (1GLEY 10GY 4/1) wet, Nonplastic, Poorly sorted, Trace shell fragments clay-15%, Sand-70%, Gravel-10%	SC		
						clay; BLACK (1GLEY N2.5); wet, stiff, plastic	ML		
						Silty Sand; Yellowish Brown (10YR 4/4); wet, Loose moderatly sorted	SM		
	12					COLOR CHANGE @ 8.0' Dark Greenish Gray (GLEY 1 10Y 3/1) wet, loose, Non-plastic, poorly sorted			
						Sandy clay; Olive yellow (2.5Y 6/8) wet, stiff, plastic, mottled Texture	SC		
						COLOR CHANGE @ 11.5' Olive (5Y 4/4) wet, loose, Nonplastic, poorly sorted, Fine-Medium grained			
	16	Refusal @ 15'				Refusal @ 15'			
						Total Depth = 15'			
						Boring Backfilled w/ CEMENT grout			

SOIL SURFACE WAS MEASURE BELOW 6" OF ASPHALT.

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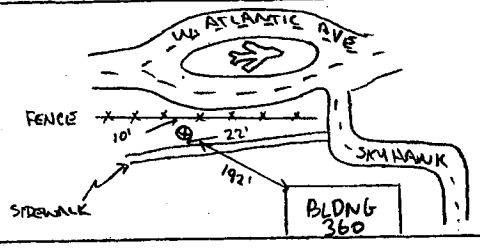
SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP04	Date Started: 8/6/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENIO
Depth to Water (ft./bgs.) 13'	Location Sketch:



N

Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
			RIBBON NAPL SAMPLE * NO NAPL RECOVERED	NA	GRAVELY SAND; YELLOWISH BROWN (10YR 5/4); DRY; LOOSE; HIGHLY ORGANIC, SILT-90%, GRAVEL-10%	OL SP	NA	
4					SAND; BROWN (10YR 4/3); MOIST; LOOSE; POORLY SORTED; SAND (FINE-M. GRAINED)-90%, GRAVEL-10%, TRACE SHELL FRAGMENTS			
8					CLAYEY SAND; BROWN (10YR 4/3); V. MOIST; LOOSE; NON PLASTIC; POORLY SORTED; SAND 70%, CLAY-20%, GRAVEL 10%, TRACE SHELL FRAGMENTS, CLAY RICH SEAMS.	SC		
12					CLAY; DK. GREENISH GREY (7GY 4/1); V. MOIST-WET @ 13.0', M. STIFF; PLASTIC; WELL SORTED	CH		
16					SAND; BROWN (7.5YR 4/4); WET; M. DENSE; POORLY SORTED; CLAY-5%, SAND-95%, IRON STAINED; MOTTLED W/ GREY SANDS.	SC		
20					TOTAL DEPTH = 19'			

BORING BACKFILLED W/ CEMENT GROUT.

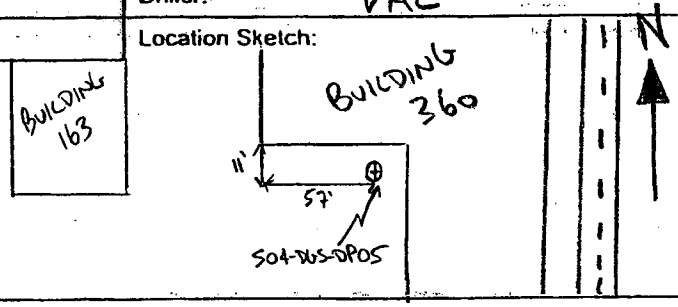
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA [redacted]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP05	Date Started: 8/2/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/2/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 4'	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.) 6.0'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
				RIBBON NAPL SAMPLE	NA	CONCRETE			
	8					SAND W/ SILT; BROWN (7.5YR 5/3); MOIST; V. LOOSE; NON PLASTIC; WEAKLY SORTED; SAND (F.-M. GRAINED) - 90%, SILT - 10%, WET @ 6.0'	SM		
	16					CLAYEY SAND; BROWN (7.5YR 4/4); WET; LOOSE; NON PLASTIC; SAND (F.-M. GRAINED - 85%, CLAY - 15%	SC	NA	
	24					COLOR CHANGE @ 11.0' - YELLOWISH RED (5YR 4/6) IRON STAINED; MOTTLED; M. DENSE 13'-16' - TRACE WOOD FRAGMENTS DECREASED CLAY W/ DEPTH			
	32			* NO NAPL DETECTED *		TOTAL DEPTH = 30' BORING BACKFILLED W/ CEMENT GROUT.			

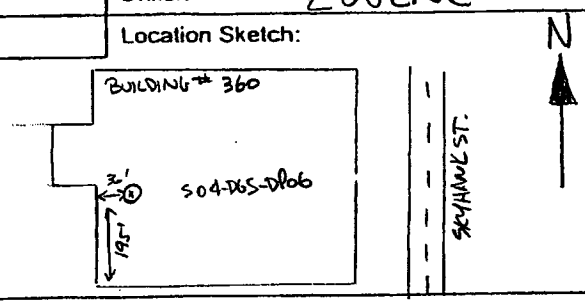
Sheet 1 of 1

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

oring Number: S04-D6S-DP06	Date Started: 8/8/01
rilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/8/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
uter Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
ner Diameter of Well Casing:	Driller: EUGENE
epth to Water (ft./bgs.) NA	Location Sketch:



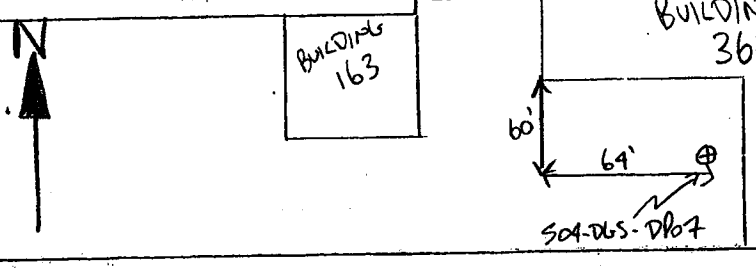
ne	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	8			RIBBON NAPL SAMPLE	NA	BORING ADVANCED W/ SACRAFICIAL TIP		NA	
	16								
	24								
	32			* NO NAPL DETECTED *		TOTAL DEPTH = 30' BORING BACKFILLED W/ CEMENT GROUT			

CTO- 385
Bldg./Site:
Project Name: ALAMEDA PILOT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S04- DGS- DP07	Date Started: 8/3/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/3/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch:



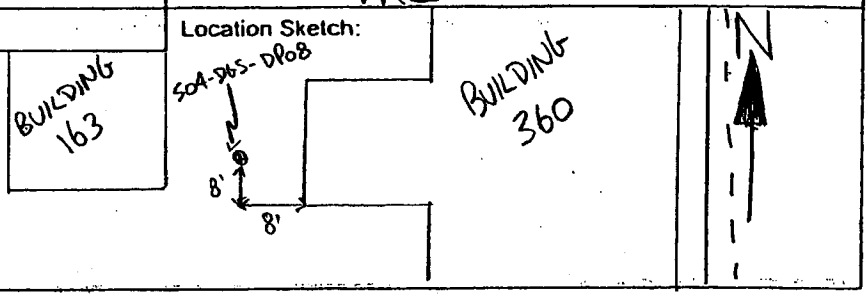
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PM (ppm)
	8			RIBBON NAPL SAMPLE	NA	N 8" OF CONCRETE - BORING ADVANCED W/ A DISPOSABLE TIP. NO SOIL RECOVERED FOR LOGGING.		NA	
	16								
	24								
	32			* NO NAPL DETECTED*		TOTAL DEPTH = 30' BORING BACKFILLED W/ CEMENT GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP08	Date Started: 8/3/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/3/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch:



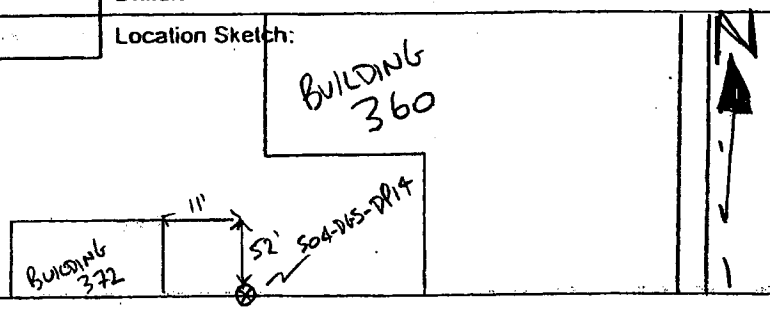
Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
8			RIBBON NAPL SAMPLES	NA	~ 8" OF CONCRETE - BORING ADVANCED W/ A DISPOSABLE TIP, NO SOIL RECOVERED FOR LOGGING		NA	
16								
24								
32			*NO NAPL DETECTED*		TOTAL DEPTH = 30' BORING BACKFILLED W/ CEMENT GROUT.			

CTO- 385
Bldg./Site:
Project Name: ALAMEDA F[redacted]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S04- DGS- DP 14	Date Started: 7/24/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/24/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MARK CRUICKSHANK
Outer Diameter of Boring: 8"	Drilling Subcontractor: BOART LONGYEAR
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.) 10'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						CONCRETE			
						CLAYEY SAND; BROWN (7.5YR 4/4); MOIST; LOOSE; SLT. PLASTIC; SAND 80%, CLAY - 20%	SC		
	8					SANDY CLAY; STRONG BROWN (7.5YR 5/6); MOIST-WET; FIRM; MED. PLASTIC; SAND - 50%, CLAY 50%.	CL		
1105				385-S04 052		HYDROPUNCH GW 385-S04-052 FROM 10-12' BGS DO- 0.25 mg/L CND- 2988 µS/cm PH- 6.61 TRB- 1305 NTU ORP- -99.6 mV TMP- 24.44°C	SC		
	16					CLAYEY SAND; STRONG BROWN (7.5YR 5/6); WET; LOOSE; POORLY SORTED; M. PLASTIC; SAND- 70%, CLAY- 30%			
	24				NA	COLOR CHANGE @ 17' - DARK BROWN (7.5YR 4/4); LOOSE.		NA	
1210				385-S04 053		HYDROPUNCH GW 385-S04-053 FROM 25-27.0' BGS DO - 0.69 mg/L TRB- 917.7 NTU ORP- -172.8 mV CND- 3392 µS/cm PH- 6.79 TMP- 24.51°C			
	32								
1415				385-S04 054					
	40								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S04-DGS-DP74

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

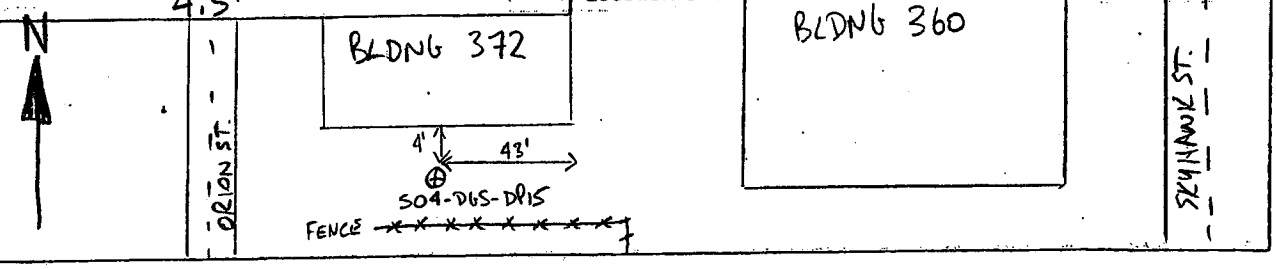
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						HYDROPUNCH GW 385-S04-054 FROM 35-37' BGS CND - 3253 µS/cm ORP - -5403.4 mV DO - 0.61 mg/L TRB - 320.8 NTU TMP - 24.47°C PH - 6.76			
1515	48			385-S04 055	N/A	COLOR CHANGE @ 26.0' - STRONG BROWN (7.5YR 4/6); WET; M.DENSE; MOTTLED TEXTURE	SW	N/A	
1615	56			385-S04 056		COLOR CHANGE @ 41.0' - DARK BROWN (7.5Y 4/4); CLAY - 20%			
						SAND; DARK GREYISH BROWN (2.5Y 4/2); WET; M.DENSE; MOD. SORTED; NON PLASTIC			
						HYDROPUNCH GW 385-S04-055 FROM 45-47' BGS CND - 2915 µS/cm ORP - -582 mV DO - 0.41 mg/L TRB - 187.5 NTU TMP - 23.50°C PH - 6.86			
						HYDROPUNCH GW 385-S04-056 FROM 55-57' BGS CND - 3861 µS/cm PH - 6.91 TRB 1025.4 TMP - 24.12°C ORP - -576.6 mV DO - 0.47 mg/L			
						TOTAL DEPTH = 57' BORING BACKFILLED W/ CONCRETE GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P[illegible]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP15	Date Started: 8/7/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/7/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 4.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
	2				N/A	SAND w/ SILT; DARK BROWN (10YR 3/4); MOIST; LOOSE; POORLY SORTED/GRADED; NON PLASTIC; SAND (FINE-M. GRAINED) - 85%, CLAY - 5%, SILT - 10%, FROM 1-2' - 35% GRAVEL WET @ 4.5'	SM	N/A	
1105	4			385-S04-057					
				HYDRO PUNCH					
1125	6			385-S04-058					
	8					TOTAL DEPTH = 6.5' BORING BACKFILLED w/ CEMENT GROUT.			

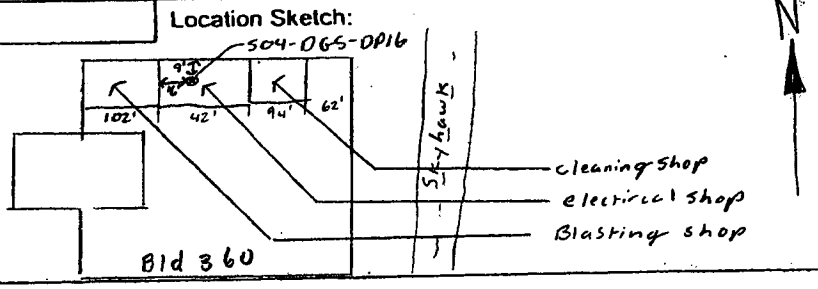
Sheet 1 of 1

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S04-OGS-DP16	Date Started: 6/20/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/20/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 6.0'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					CEMENT			
1107			385-S04-059		Sand w/ shells; Olive (5Y 5/6) slightly moist, loose, well sorted, trace shell fragments, Fabric in Sand	SM		
2								
1110			385-S04-060					
4								
1116			385-S04-061	NA			NA	
			HYDRO PUNCH					
1151			385-S04-062		COLOR CHANGE @ 6.0' Reddish Black (2.5YR 2.5/1) wet, loose, wellsorted, Trace shell fragments			
6								
8					COLOR CHANGE @ 7.0' Sand Olive 5Y (5/6) wet, loose, well sorted			
10					ELEVATED FLOOR N 4.0' HIGH, SOIL SURFACE MEASURED BELOW FLOOR			

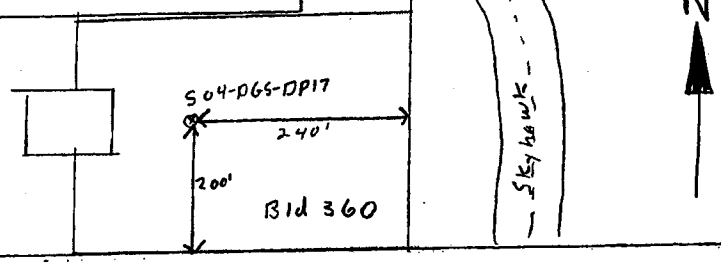
TOTAL DEPTH = 9'
BORING BACKFILLED W/ CEMENT GROUT

CTO-385
Bldg./Site: Site 4
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

oring Number: S04-DGS-DP17	Date Started: 6/20/01
rilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/20/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
uter Diameter of Boring: 4"	Drilling Subcontractor: Precision
ner Diameter of Well Casing:	Driller: Eugene
epth to Water (ft./bgs.) 7.0'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PM (ppm)
	2					Silt; Dark Brown (7.5YR 3/4) Slightly moist, medium DENSE, Nonplastic, well sorted trace Shell Fragments	ML		
907	4			385 S04-063	NA	Sand; Olive 5Y (5/6) Slightly moist, loose, well sorted, Sand-100%, trace shell fragments, gradational contact.	SM	NA	
915	6			385-S04 064		@ 5.0' color change Reddish Black (2.5YR 2.5/1) @ 6.0' Return to original color. Olive 5Y (5/6) @ 7.0' wet			
	8								
	10					Total Depth = 9.0' BGS			

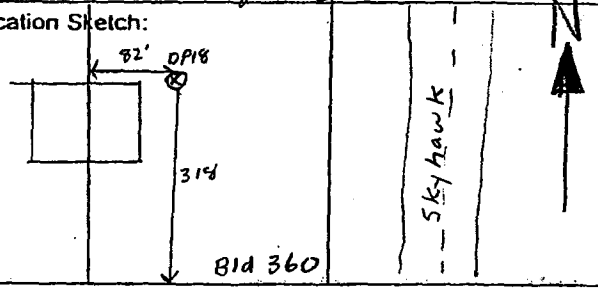
Boring Backfilled with CEMENT grout
SOIL SURFACE MEASURED FROM BELOW ELEVATED FLOOR N 4'

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 1
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04- DGS- DP18	Date Started: 6/19/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/19/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 3.5'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
				NA	Gravely Sand w/ silt; Yellow 2.5Y 7/6 Dry, loose, Nonplastic, poorly sorted, Gravel - 25% (Angular), silt - 10%, sand - 65%	SP	NA	
2					Sandy gravel; Dark Yellowish Brown 10YR 4/4 Dry, medium Dense, Non plastic, poorly sorted Sand - 35%, gravel - 60% (angular), clay - 5%	GC		
1400			395 S04-066					
4					Sand; Very Dark grey (2.5Y 3/1) wet, loose, well sorted, fine grained	SW		
6	Refusal				Refusal @ 5.5'			
8								
10					SOIL SURFACE MEASURED BELOW 4' ELEVATED CONCRETE FLOOR. Total Depth 5.5'			

Borehole Backfilled with CEMENT GROUT

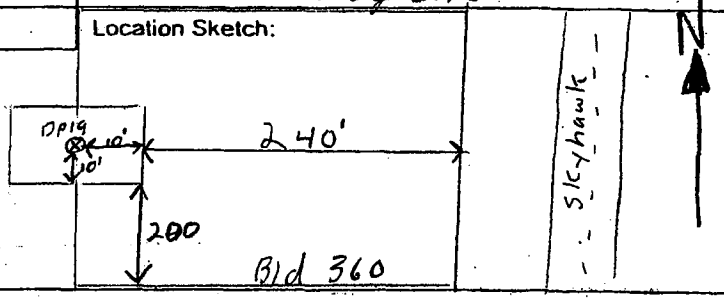
Sheet 1 of 1

CTO-385
Bldg./Site: Site 4
Project Name: ALAMEDA P[illegible]
SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Boring Number: S04-DGS-DP19	Date Started: 6/19/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/19/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 6.0'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility (type, dia.)	Description	USCS soil symbol	Well construction	OVM (ppm)
	2					Gravelly Sandy Silt; Dry, loose, Nonplastic, Gravel - 30% (sub angular - subrounded) Sand - 30% (fine grained), silt - 40%	GM		
1648	4			385-S04 009		Sand; light olive Brown (2.5YR 5/4) Slightly moist, Medium Dense, well sorted, No grading, Trace shell fragments 100% sand	SW		
1650	6			385-S04 010	NA	COLOR CHANGE @ 4', BLACK (10YR 2/1) slightly moist, medium Dense, well sorted 100% sand		NA	
	8					COLOR CHANGE @ 6.0' Brown (2.5YR 5/4) wet, Medium Dense, well sorted 100% sand			
	10					SOIL SURFACE MEASURED FROM BELOW 4' ELEVATED CONCRETE FLOOR. Total Depth = 9.0'			

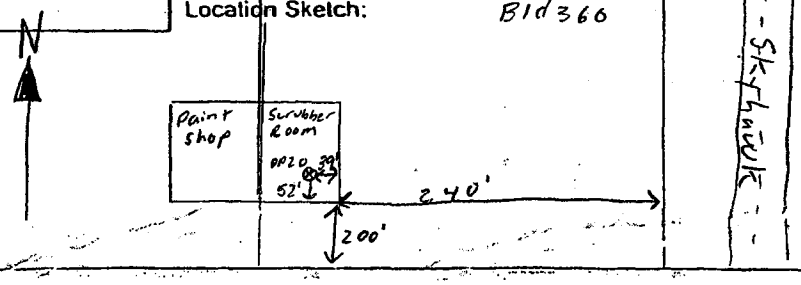
Borehole Backfilled with CEMENT grout

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 4
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP20	Date Started: 6/19/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/19/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 6.0'	Location Sketch: Bld 366



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
2					SILTY GRAVELY SAND, Yellowish Brown (10YR5/6) Dry, Medium Dense, Nonplastic, poorly sorted, Gravel - 30% (rounded), Sand - 30%, silt - 40%	SM		
1514 4			385504 072		Sand, Olive (5Y 4/3) Slightly Moist, loose, Nonplastic, well sorted, fine grained, Sand - 98%, shell fragments - 2%			
1516 6			385504 073		@ 6.0' groundwater	SW		
8								
10					SOIL SURFACE MEASURED BELOW 4' ELEVATED CONCRETE FLOOR. Total Depth = 9.0'			

Borehole Backfilled with cement grout

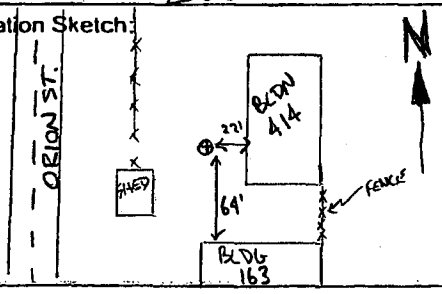
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA [redacted] SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number:	S04-DGS-DP21	Date Started:	7/9/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger		Date Completed:	7/10/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum		Logged By:	LAURA GENIN
Outer Diameter of Boring:	4"	Drilling Subcontractor:	PRECISION
Inner Diameter of Well Casing:		Driller:	EUGENE
Depth to Water (ft./bgs.)	4.5'	Location Sketch:	



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PM (ppm)
						ASPHALT			GP
	4					SANDY GRAVEL; LIGHT BROWN; DRY; LOOSE; POORLY SORTED; GRAVEL - SUB ANGULAR - 0.5-2cm - 60%, SAND 40%	SM / SW		
						SILTY SAND; DARK BROWN; SLT. MOIST; LOOSE; WELL SORTED; SILT - 30%, SAND - 68% (FINE GRAINED) SHELL FRAGMENTS - 2%	GP		
1610	8			385-S04-075	NA	SAND; OLIVE (5Y 5/6); DRY; LOOSE; WELL SORTED; SAND - 90%, SHELLS - 10%. WATER @ 4.5'	SW	NA	
	12			385-S04-076,076A		GRAVEL W/ SAND; LIGHT PINK; DRY; LOOSE; POORLY SORTED; GRAVEL - (SEDIMENTARY) - 80% SAND - 20% (FINE - M. GRAINED)			
1720 0830	16					SAND; BLACK; WET; LOOSE, WELL SORTED; FINE GRAINED; NO SHELLS			

TOTAL DEPTH = 14
BORING BACKFILLED W/ CONCRETE GROUT.

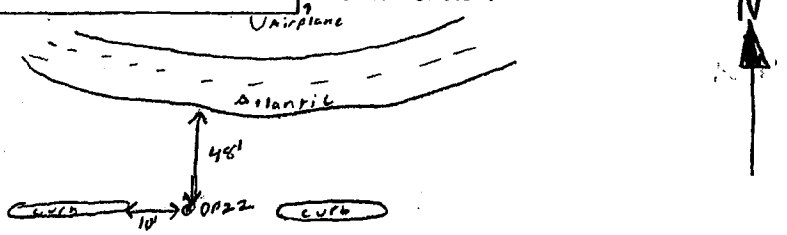
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-DP22	Date Started: 8/15/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/15/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Mike Barnes
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 7'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					Asphalt & Base Rock	AS		
2				NA	GRAVEL SAND w/ SILT/CLAY, Brown (10YR 4/3) Slightly moist, nonplastic, poorly sorted, Sand - 55%, gravel - 25% (subangular), clay - 10%, silt - 10%	SP	NA	
4					SILTY SAND; L. OLIVE BROWN (2.5Y 5/6); MOIST; SLIGHTLY DENSE; NON PLASTIC; MOD. SORTED, SAND - 85%, SILT - 15%	SM		
6					COLOR CHANGE @ 6.0; Dark Greenish grey (1GLEY 10GY 3/1) Moist, Medium Dense, Non-Plastic, Moderatly sorted, Sand - 85%, silt - 15%			
8			385S04 136		Silty clay; Greenish Black (1GLEY 5G 2.5/1) wet, Medium stiff, Plastic clay - 80%, silt - 20%	CH		
10					Total Depth = 9' BGS			

1000

Boring Backfilled with cement grout

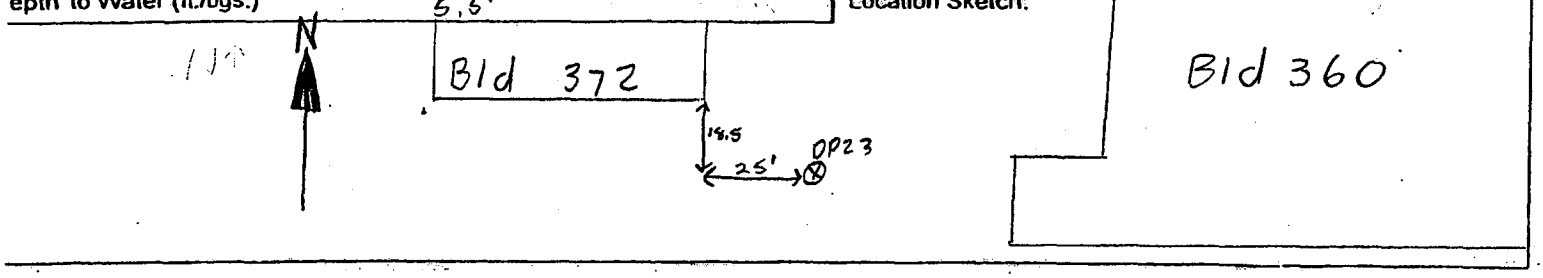
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P[redacted]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

oring Number: S04- DGS- DP23	Date Started: 8/16/01
rilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/16/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk Martin
uter Diameter of Boring: 4"	Drilling Subcontractor: Precision
ner Diameter of Well Casing:	Driller: Eugene
epth to Water (ft./bgs.) 5.5'	Location Sketch:



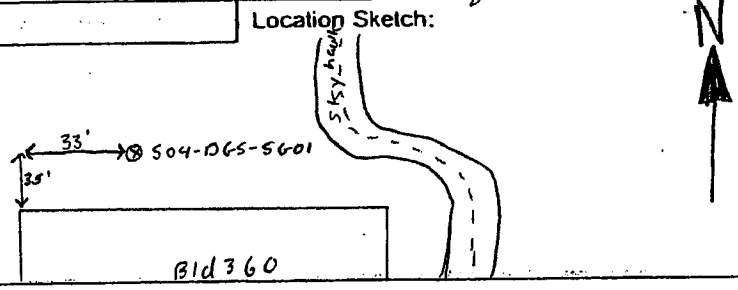
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						Silty Sand- Dark Brown (10YR 3/2) slightly moist, loose, nonplastic, well sorted, trace organics, Gravel- 5%, silt - 20%, sand-75%	SM		
	2					Silty sand; Light olive Brow (2.5Y 5/3); moist, loose, well sorted, silt -20%, sand-80%	SM		
	4				NA	Silty clay; olive gray (5Y 5/2) wet, slightly plastic, clay -80%, Silt 20%	CL	NA	
930				385-S04 139		Silty sand; Dark olive Brown (2.5Y 4/3) moist, loose, well sorted silt-20%, sand-80% (fine-medium grained)	SM		
	6					SOIL SURFACE MEASURED BELOWN 1' CONCRETE			
						TOTAL DEPTH = 5'			
						BORING BACKFILLED W/ CONCRETE GROUT			
	8								
	10								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 4
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

oring Number: S04- DGS- SG01	Date Started: 7/5/01
rilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk Martin
uter Diameter of Boring: 4"	Drilling Subcontractor: Precision
ner Diameter of Well Casing:	Driller: Eugene
epth to Water (ft./bgs.) 5-6'	Location Sketch:



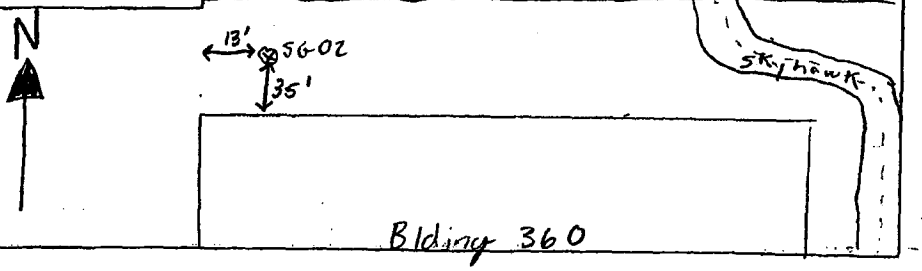
Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					Asphalt	AS		
337					Silty Sand with clay; Very Dark Grayish Brown (10YR 3/2) moist, M, DENSE, PLASTIC, moderately sorted Silt - 25%, Clay - 10%, Sand - 65%	SM		
2			385-S04 142		COLOR CHANGE @ 1.5' - OLIVE BROWN (2.5Y 4/4)			
4				NA			NA	
6					groundwater @ 5.5'			
					SILTY CLAYEY SAND; Dark Greenish Gray (GLEY1 10Y 3/1) wet, moderately sorted, nonplastic Silt - 20%, Clay - 15%, Sand - 65%	SC		
8					Silty Sand - Very Dark grayish Brown (10YR 3/2) wet, non-plastic, moderately sorted Silt - 20%, Sand - 80% (fine grained)	SM		
10					Total Depth = 9' BGS Borehole backfilled with cement grout			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 4
Project Name: ALAMEDA P[illegible]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-SG02	Date Started: 7/5/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						Asphalt	AS		
0 24	1			385 S04 143	NA	silty sand; Very Dark Gray (5Y 3/1) moist, Medium Dense, non-plastic, silt-30%, sand-70% (fine grained)	SM	NA	
	2					COLOR CHANGE Olive Brown 2.5Y 4/4 moist, moderatly sorted, silt-25%, sand-75% (fine grained)			
	3								
	4								
	5					Total Depth 3'			

Borehole Backfilled with Cement Grout

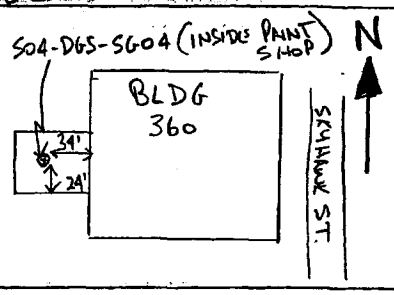
Sheet 1 of 1

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

ring Number: S04-D6S-SG04	Date Started: 7/9/01
illing Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
uter Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
ner Diameter of Well Casing:	Driller: EUGENE
epth to Water (ft./bgs.)	Location Sketch:



me	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
A12	1			385-S04-147		SILTY SAND; V. DK. GREYISH BROWN (10YR 3/2); SLT. MOIST; DENSE; FINE GRAINED; SAND-78%, SILT-20%, SHELLS-2%.	SM		
	2					SAND; OLIVE (5Y 5/4); SLT. MOIST; LOOSE; FINE GRAINED SAND 95%, SHELLS-5%.	SP		

SOIL SURFACE MEASURED BELOW N 4' BELOW ELEVATED CONCRETE FLOOR.

TOTAL DEPTH = 2'

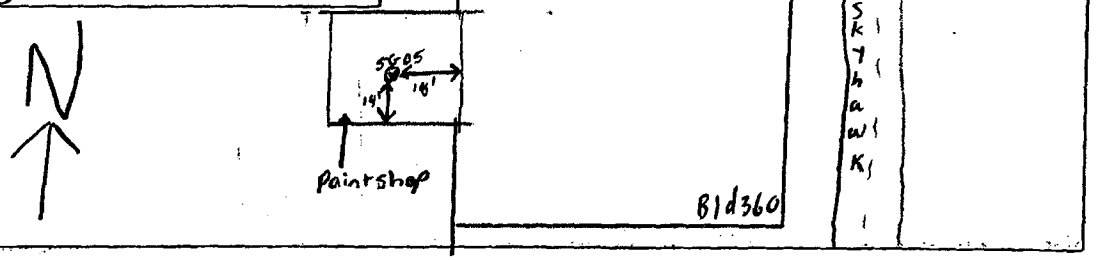
BORING BACKFILLED W/ CEMENT GROUT.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 4
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04- DGS- SG05	Date Started: 7/9/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Jose
Depth to Water (ft./bgs.) 5.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
933	2			3G5-S04 .4%	NA	Silty Sand Brown (7.5YR 4/4) very slightly moist, medium dense, silt - 25%, sand - 70% (fine grained) shell fragments - 5%	SM	NA	0
	4 6 8					Sand Very Dark gray (5Y 3/1) moist, loose, well sorted, Sand - 98% (fine grained), shells - 2% @ 6.0' Decrease in shell fragments 100% sand (fine grained)	SW		
	10					Total Depth = 9.0' BGS Borehole Backfilled with cement grout			

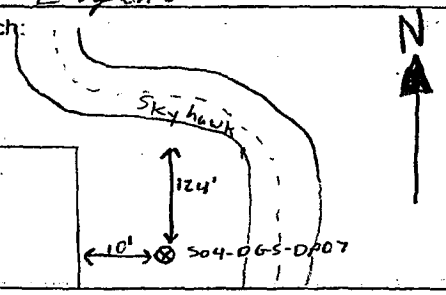
Soil Surface 5' Below elevated Floor

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 4
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-SG07	Date Started: 6/5/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk Martin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) NA	Location Sketch:



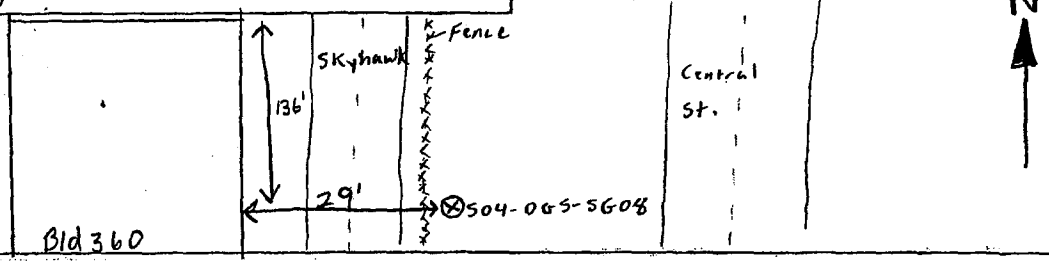
Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					Concrete	AS		
1					Silty Sand w/ clay; Very Dark Grey 10YR 3/1 Slightly Moist, medium Dense, Nonplastic, moderately graded	SM		
1418			385-S04 1&2	NA	Silty clayey sand; Brown (10YR 4/3) moist, nonplastic, mottling, trace shell fragments Silt-20%, Clay-15%, Sand-65%	SC	NA	
2					Silty sand; olive Brown, (2.5Y 4/4) moist, moderately sorted, fine grained	SM		
3								
					TOTAL DEPTH = 3' BORING BACKFILLED W/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 4
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-SG08	Date Started: 6/7/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/7/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S Martin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 3	Location Sketch:



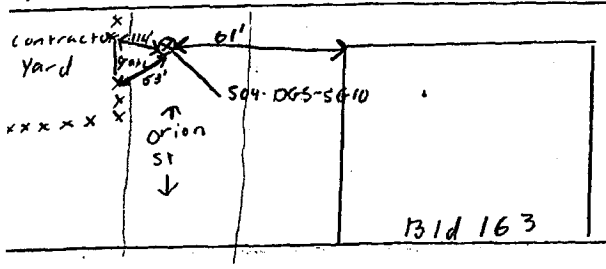
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PM (ppm)
						Concrete	AS		
1435	2			385504 153	NA	Silty sand; Olive Brown 2.5Y 4/4 moist, non-plastic, moderately graded silt-20%, sand-80% (fine grained)	SM	NA	
	4					COLOR CHANGE Dark grayish Brown (2.5Y 3/2) wet, Non-plastic, moderately sorted	SM		
	6					SAND w/SILT/CLAY; Strong Brown (7.5YR 4/6) MOIST, M. DENSE, Rusty Red mottling silt-10%, sand-80%, clay-10%	GC		
						Silty sand; Dark grayish Brown (10YR 4/2) moist, moderatly sorted, silt-20%, sand-80% (fine grained)	SM		
	8					CLAYEY SAND w/SILT; Black (GLEY 1 N2.5/1) moist, moderatly sorted clay-20%, silt-10%, sand-70% (fine grained)	SC		
	10					TOTAL DEPTH = 9' BORING BACKFILLED w/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 4
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04- DGS- SG10	Date Started: 7/5/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.)	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					Concrete			
1			385 S04 157	NA	GRAVELY SILTY Sand; Dark Yellowish Brown (10YR 4/6) Slightly moist - dry, LOOSE, POORLY SORTED Silt - 15%, sand - 65% (fine grained) gravel - 20%	GM	NA	0
2								0
3					TOTAL DEPTH = 3' BORING BACKFILLED W/ CEMENT GROUT			

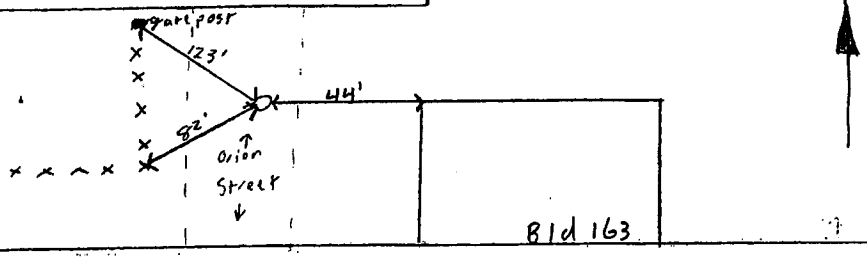
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site: Site 4
Project Name: ALAMEDA [redacted]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

oring Number: S04-DGS-SG11	Date Started: 7/5/01
rilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/5/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
uter Diameter of Boring: 4"	Drilling Subcontractor: Precision
nner Diameter of Well Casing:	Driller: Eugene
epth to Water (ft./bgs.) 6'	Location Sketch:



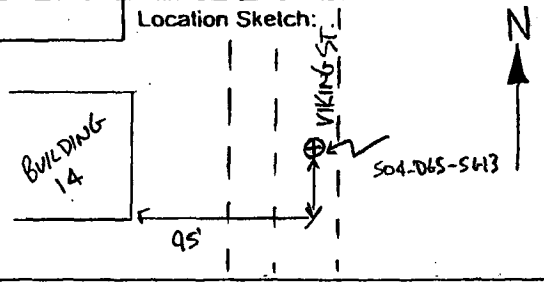
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PID (ppm)
540	2			395504 158	N/A	GRAVELY SAND W/ SILT, Dark Brown (10YR 4/3) poorly sorted Silt - 10%, Gravel - 40% (angular-subangular) Sand - 50% (fine-Medium grained) INCREASED GRAVEL, DECREASED SILT W/ DEPTH	SP	N/A	
	4								
	6					Silty Sand; Black (GLEY 1 N 2.5) wet, well sorted, fine grained, Brick Debris	SM		
	8								
	10					TOTAL DEPTH = 9' BORING BACKFILLED W/ CEMENT GROUT SOIL SURFACE MEASURED BELOW A 1' OF CONCRETE			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-SG13	Date Started: 7/9/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: JOSE
Depth to Water (ft./bgs.)	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					ASPHALT			
1			385-S04-162	NA	SANDY GRAVEL W/ CLAY; DARK RED (2.5YR 3/6); SLT. MOIST; LOOSE; POORLY SORTED; NON PLASTIC; SAND - 40%, GRAVEL - 50%, CLAY - 10%, CHERT FRAGMENTS, IRON STAINING.	GC	NA	
2					SAND; PALE OLIVE (3Y 6/3); SLT. MOIST; LOOSE; WELL SORTED; SAND - 95% FINE GRAINED; GRAVEL - 5% - WELL ROUNDED - 0.5cm.	SW		
					TOTAL DEPTH = 2'			
					BORING BACKFILLED W/ CEMENT GROUT			

1403

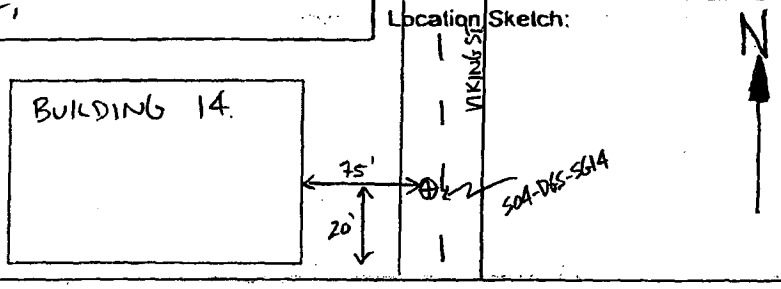
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P[redacted]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

oring Number: S04-DGS-SG14	Date Started: 7/9/01
illing Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
uter Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
ner Diameter of Well Casing:	Driller: JOSE
epth to Water (ft./bgs.) 5'	Location Sketch:



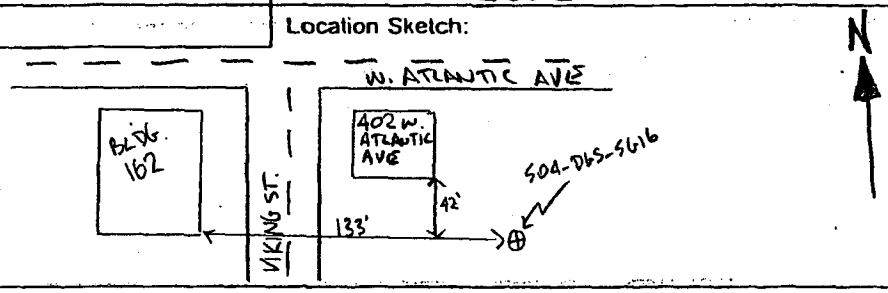
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VOM (ppm)
1330	2			385-S04 163	NA	ASPHALT GRAVELY CLAYEY SAND; STRONG BROWN (7.5YR 4/6); SLT. MOIST; M. DENSE; V. SLT. PLASTIC; ANGULAR; GRAVEL- 25%, CLAY- 25%, SAND- 50%	SP SW	NA	
	4					SAND; PALE OLIVE (5Y 6/3); SLT. MOIST; LOOSE; FINE GRAINED; WELL SORTED, RARE ROUNDED GRAVEL W/ DEPTH.			
	6					CLAYEY SAND; BLUISH BLACK (GLEY1 3/5B); WET; LOOSE; WELL SORTED; SAND (F.G.)- 50%, CLAY - 50%, VARIABLE %'S OF SAND/ CLAY THRUOUT.	SC		
	8								
	10					TOTAL DEPTH = 9' BORING BACKFILLED W/ CEMENT GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

oring Number: S04- DGS - SG16	Date Started: 7/9/01
illing Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
uter Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
ner Diameter of Well Casing:	Driller: JOSE
epth to Water (ft./bgs.)	Location Sketch:



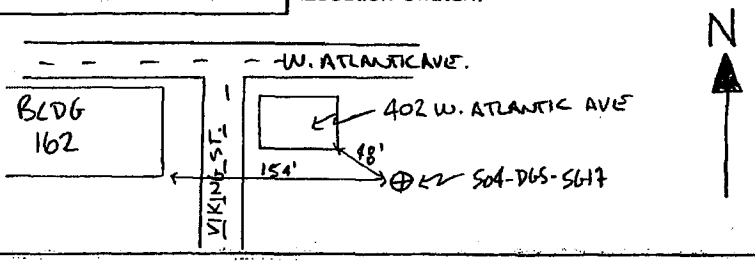
ne	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
1207	1			385-S04-167	NA	GRAVELY SAND; BROWN (7.5YR 4/4); V. SLT. MOIST; SLT. DENSE; ANGULAR; POORLY SORTED; SAND- 65%. GRAVEL- 35%. COLOR CHANGE @ 1.5'- LT. OLIVE BROWN (2.5Y 5/3); DECREASED GRAVEL, SHELL FRAGMENTS- 2%, SLT. MOIST; LOOSE	SP	NA	
	2								
	3					TOTAL DEPTH = 3' BORING BACKFILLED W/ CEMENT GROUT			
	4								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P[illegible]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-SG17	Date Started: 7/9/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/9/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: JOSE
Depth to Water (ft./bgs.) 4.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
134	0–2			385-S04-168	NA	GRAVELY SAND; BROWN (7.5YR 4/4); SLT. MOIST; LOOSE; POORLY SORTED; ANGULAR; GRAVEL-0.5-3cm-35% SAND-65%. COLOR CHANGE @ 0.5'- LT. OLIVE BROWN (7.5Y 5/3); DECREASED GRAVEL, SHELL FRAGMENT TO 2% WET @ 4.5'	SP	NA	
	2–4								
	4–6					CLAY W SAND & GRAVEL; OLIVE BROWN (2.5Y 4/4); WET; SOFT; SLT. PLASTIC; POORLY SORTED; SAND-20% GRAVEL-20%-ROUNDED-TO 3cm, CLAY-60%	CL		
	6–8					GRAVELY SAND; OLIVE BROWN (2.5Y 4/4); WET; LOOSE; ANGULAR-SUBANGULAR, POORLY SORTED; GRAVEL-40%, SAND-60% COLOR CHANGE @ 6.0'- DK. GREENISH GREY (10GY 4/10Y) INCREASED CLAY TO 10%	SP		
	8–10					SOIL DEPTH MEASURED BELOW ~1' OF ASPHALT			

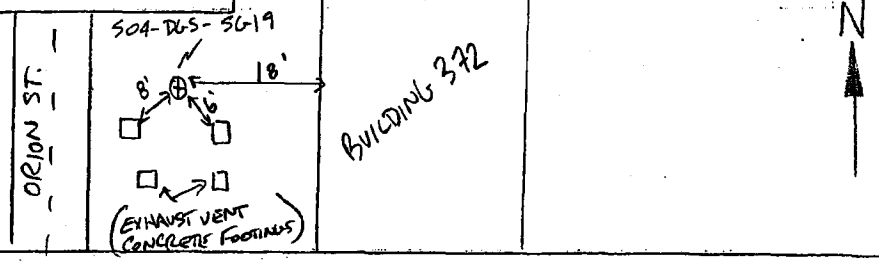
TOTAL DEPTH = 7'
BORING BACKFILLED W/ CEMENT GROUT.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

oring Number: S04- DGS- SG19	Date Started: 9/6/01
rilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
uter Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
nner Diameter of Well Casing:	Driller: EUGENE
epth to Water (ft./bgs.) 2'	Location Sketch:



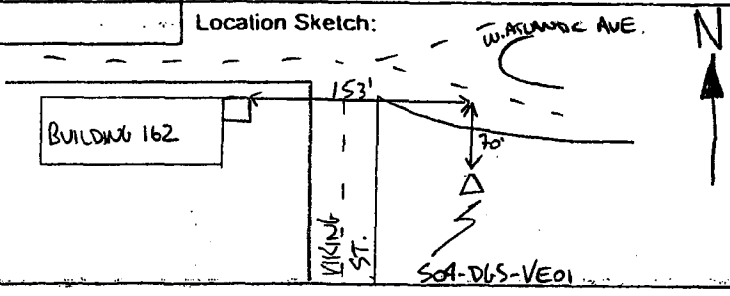
ne	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT W/ BASE ROCK.			
	2					SANDY GRAVEL W/ CLAY & SILT; BROWN (7.5YR 4/4); SLT. MOIST; LOOSE; POORLY SORTED; GRAVEL- 50%, SAND- 30%, SILT- 10%, CLAY 10%. WET @ 2.0' BGS	GM		
	4				N/A		SM	N/A	
	6					SILTY SAND; V. DARK GREY (5Y 3/1); WET; LOOSE; NON PLASTIC; WELL SORTED; SAND (F.G.) - 78%, SILT- 20%, GRAVEL- 2% (WELL ROUNDED) STRONG ODOR.			
	8					TOTAL DEPTH = 6' BORING BACKFILLED W/ CONCRETE GROUT			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04- DGS- VE01	Date Started: 8/6/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 16 x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
	2					SAND; DARK YELLOWISH BROWN (10YR 4/6); MOIST; LOOSE; SAND (FINE GRAINED) - 95%, GRAVEL - 5% - 0.5cm ROUNDED; BEDDING MATERIAL.	SP		
	4				N/A	GROUNDWATER PARAMETERS TRB - 542 NTU CND - 12.5 mS/cm DO - 2.59 mg/L TMP - 22.4°C PH - 6.59		N/A	
	6					PIPE ENCOUNTERED @ 8' - 36" CONCRETE			
1100	8			385-S04 137					
1100	10			WATER SAMPLE 385-S04-138					

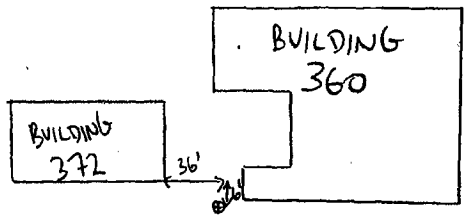
TOTAL DEPTH = 10'
BORING BACKFILLED W/ CLEAN FILL MATERIAL & FINISHED W/ AN ASPHALT CAP.

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04-DGS-VE02	Date Started: 8/7/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/7/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller: STEVE
Depth to Water (ft./bgs.) 5'	Location Sketch:



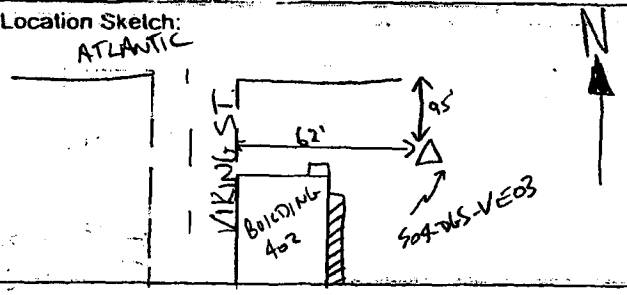
	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE			
	2					SAND; DARK YELLOWISH BROWN (10YR 4/6); SLT. MOIST; LOOSE; NON PLASTIC; SAND (F.G.) - 95%, SHELL FRAGMENTS - 5%	SP		
	4					@ 5.5' BGS - CONCRETE PIPE (16" DIAMETER) ENCOUNTERED.			
0810				385-S04-140		- NO FIELD PARAMETERS COLLECTED DUE TO LACK OF WATER.			
1345	6			385-S04-191					
						TOTAL DEPTH = 6' BORING BACKFILLED W/ CLEAN-FILL MATERIAL W/ A CONCRETE PLUG.			
	8								
	10								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA P[redacted]T SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S04- DGS- VE03	Date Started: 8/21/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/21/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MIKE BARNES
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing: NA	Driller:
Depth to Water (ft./bgs.) 7' BGS	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						ASPHALT			
	2, 4				NA	SAND W/ SILT; DARK YELLOWISH BROWN (10YR 4/6); MOIST; M. DENSE; SAND(F.G.)- 80%, GRAVEL- 10%, SILT- 10% @ 7.0' BGS STRONG PETROL ODOR, WET GROUND WATER PARAMETERS pH- 8.12 DO- 7.79 mg/L CND- 616 mS/cm ORP- 75 mV TMP- 16.26°C TRB- 1362 NTU	SP	NA	
	6, 8					CLAYEY SAND W/ SILT; DARK YELLOWISH BROWN (10YR 4/6); WET; SOFT; MED. PLASTICITY; SAND- 65%, CLAY- 25%, SILT- 10%, @ 9'11" PIPELINE ENCOUNTERED	SC		
0920	10, 12			385-S04-212,213		TOTAL DEPTH = 13' BORING BACKFILLED W/ CLEAN FILL MATERIAL W/ AN ASPHALT CAP.			

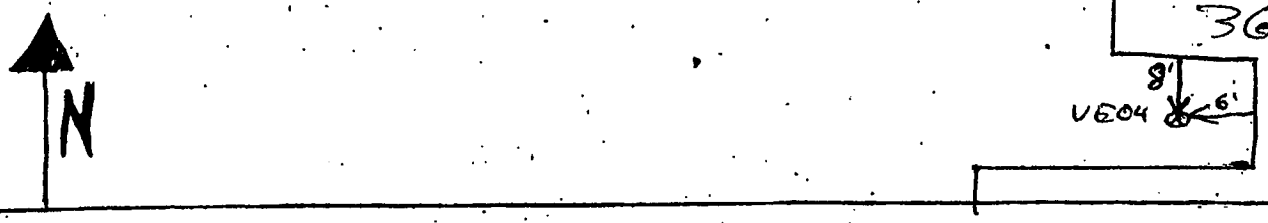
Sheet ____

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

g Number: S04-DGS-VE04	Date Started: 4/26/02
rilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4/26/02
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
uter Diameter of Boring:	Drilling Subcontractor: Millers Pipeline
ner Diameter of Well Casing:	Driller:
epth to Water (ft./bgs.) n/a	Location Sketch:



Vacuum Extraction | Soil | GW Sample

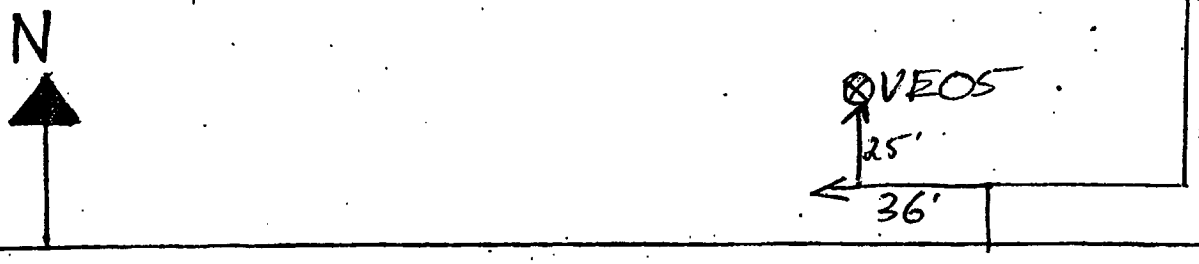
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	V.B. utility type, dia. / Blow count (per 6 inches)	Description	USCS soil symbol	Well construction
						Sand; DK. Olive Brown (2.5Y 3/3); moist; poorly graded; loose; trace clays; 5% silt; trace shell frags; fine to medium grained sand	SP	
	2							
				385	3.25'	- Pipe found @ 3' bgs (Terra Cotta)		
150				S04	3.75'			
	4			305				
				385	5-5.5'			
05				S04				
				306				
	6			385	5-7' Screens			
				S04				
25				307		Total Depth: 7' (5'-7')		
						Boring backfilled w/ basecrock + cold patch		
	8					* Parameters not taken due to lack of H_2O		
	10							

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

g Number: S04-D65-VE05	Date Started: 4/26/02
illing Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4/26/02
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
uter Diameter of Boring:	Drilling Subcontractor: Miller Pipeline
ner Diameter of Well Casing:	Driller:
pth to Water (ft./bgs.) n/a	Location Sketch:



Vacuum Extraction | Soil | GW Samples

Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.O. utility type, etc.	Description	USCS soil symbol	Well construction
					Gravelly Sand: Dark Olive Brown (2.5Y 3/3); Moist; loose; mod. graded; 10% Gravel (Sub-angular 0-1.5cm); fine to med grained sand	SP	
2			385				
05			504		Pipe found @ 3' bgs (Terra Cotta)		
			308				
4					*Parameters Not Taken Due to Lack of H_2O		
			385				
			504				
10			309				
6							
			385				
			504				
45			310				
8					Total Depth: 8'		
					Boring backfilled w/ baserock / Cold patch		
10							

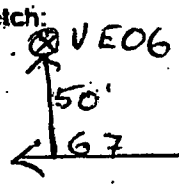
Sheet _____

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

Number: S04-D65-VE06	Date Started: 4/26/02
ling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4/26/02
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk S. Martin
er Diameter of Boring:	Drilling Subcontractor: Miller Pipeline
er Diameter of Well Casing:	Driller:
th to Water (ft./bgs.) n/a	Location Sketch:



N

BIDG.#
360

Vacuum Extraction / GCO Sample / Soil

Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
2					Sand; Dark Olive Brown (2.5Y 3/3); moist; poorly graded; loose; trace clays; 5% silt; trace shell frags; fine to med. grained sand	SP	
					- Terra Cotta pipe found @ 3' bgs		
			385-S04-311		Soil Sample Collect @ 3'-3.5'		
4					Total Depth: 4.5' (Refusal)		
					Boring backfilled w/ basecrack / Cold Patch		
6							
8							
10							

SITE 11

Site 11 Boring Log Table of Contents

Boring ID	Date Drilled	Investigation
MW-11-01	6/26/1991	Phase 1 & 2A
MW-11-02	6/26/1991	Phase 1 & 2A
MW-11-03	6/25/1991	Phase 1 & 2A
MW-11-04	6/25/1991	Phase 1 & 2A
B-11-05	6/26/1991	Phase 1 & 2A
B-11-06	6/25/1991	Phase 1 & 2A
B-11-07	6/24/1991	Phase 1 & 2A
M11-05	8/16/1994	Follow On 1994
B11-08	8/16/1994	Follow On 1994
B11-09	8/16/1994	Follow On 1994
B11-10	8/12/1994	Follow On 1994
B11-11	8/16/1994	Follow On 1994
B11-12	8/16/1994	Follow On 1994
B11-13	8/16/1994	Follow On 1994
B11-14	8/16/1994	Follow On 1994
D11-01	11/1/1994	Follow On 1994
CPT-S7B-01	7/14/1996	Follow On 1994
CPT-S7B-02	7/14/1994	Follow On 1994
CPT-S11-02	7/14/1996	Follow On 1994
FP-CA11-DG1-01	5/1/2000	Corrective Action Area Investigation
FP-CA11-DG1-02	5/1/2000	Corrective Action Area Investigation
FP-CA11-DG1-03	5/1/2000	Corrective Action Area Investigation
FP-CA11-DG1-04	5/1/2000	Corrective Action Area Investigation
FP-CA11-DG1-05	5/1/2000	Corrective Action Area Investigation
FP-CA11-DG1-06	5/5/2000	Corrective Action Area Investigation
FP-CA11-DG1-07	5/5/2000	Corrective Action Area Investigation
FP-CA11-DG1-08	5/8/2000	Corrective Action Area Investigation
FP-CA11-DG1-09	5/1/2000	Corrective Action Area Investigation
FP-CA11-DG1-10	5/1/200	Corrective Action Area Investigation
FP-CA11-DG1-11	5/1/2000	Corrective Action Area Investigation
FP-CA11-DG1-12	5/2/200	Corrective Action Area Investigation
FP-CA11-DG1-13	5/2/2000	Corrective Action Area Investigation
FP-CA11-DG4-01	4/28/2000	Corrective Action Area Investigation
FP-CA11-DG4-03	4/28/2000	Corrective Action Area Investigation
FP-CA11-DG4-05	5/2/2000	Corrective Action Area Investigation
FP-CA11-DG4-09	5/2/2000	Corrective Action Area Investigation
HP-CA11-DG9-02	4/28/2000	Corrective Action Area Investigation
HP-CA11-DG9-03	4/28/2000	Corrective Action Area Investigation
HP-CA11-DG9-04	4/28/2000	Corrective Action Area Investigation
HP-CA11-DG9-05	4/28/2000	Corrective Action Area Investigation
HP-CA11-DG9-06	4/28/2000	Corrective Action Area Investigation
S11-DGS-DP01	8/1/2001	Data Gap Sampling 2001
S11-DGS-DP101	8/29/2001	Data Gap Sampling 2001
S11-DGS-DP103	8/30/2001	Data Gap Sampling 2001
S11-DGS-DP109	8/30/2001	Data Gap Sampling 2001

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER MW-11-01
DATE STARTED 6/26/91 COMPLETED 6/26/91
ELEVATION 12.35 FEET, TOP OF CASING

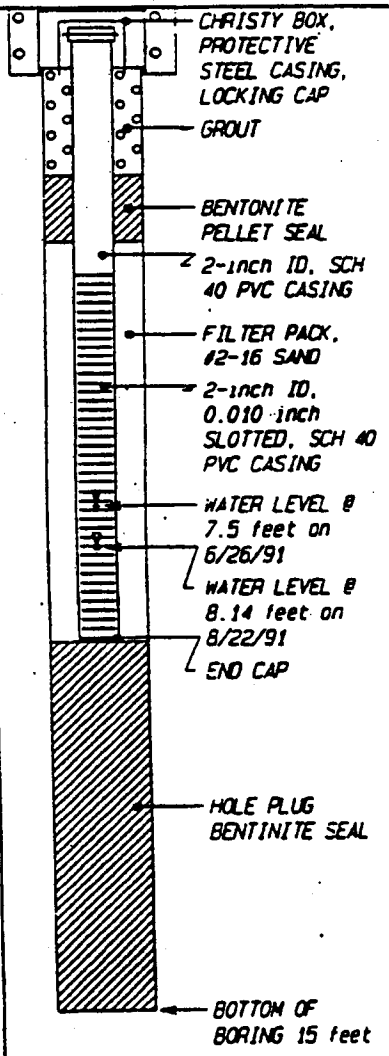
CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
GEOLOGIST KAREN KRAMER

Depth in feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID meter units	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						CN	CONCRETE
		CHEM	8	1.0		SC	clayey SAND (SC), dark yellowish brown (10YR 4/4) medium dense, moist, 30-40% fines, fine to medium sand, 5-10% gravel, low to moderate est K, abundant 2" clay fragments
			14				
2		CHEM	23	3.1		SP	SAND (SP), dark yellowish brown (10Y 4/4), moist, 5 to 10% fines, high est K
			25				
			37				
			24	1.0			
4		GEO-TECH	30				
			41				
		CHEM	29	0			@ 5.0 feet-as above, moist
			30				
6			34	0		CL	CLAY (CL), pale olive (5Y 6/3), dense, moist, fines, low est K, shell fragments and gravel at uppermost contact
			29				
		GEO-TECH	34	0		SC	clayey SAND (SC), dark yellowish brown, medium dense, moist to wet, 30-50% fines, 5-10% gravels fine to medium sand, low to moderate est K, some shell fragments
8			13				
			10	0			
			9				
			7				clayey SAND (SC), dark olive (5Y 3/3), wet, 30-40% fines, fine to coarse sand, 10-15% gravel, high est K, some shell fragments
10			1	0		CL	
			0				
			0				CLAY (CL), dark olive (5Y 3/3), soft, moist, fines, low est K, beedding planes separated by silts and fine sand
			1	0			
			6				
12			8				@ 12.0 feet-as above, burrows present associated with sand
		GEO-TECH	15			SC	clayey SAND (SC), dark olive (5Y 3/3), dense, moist, 25-30% fines, fine to medium sand, moderate est K, shell fragments along bedding planes
			50/6"				
14		CHEM	21	1.0			
			50/4"				clayey SAND (SC), light olive brown (2.5Y 5/6), dense, moist to wet, 30-40% fines, fine to medium sand, moderate est K
16							TOTAL DEPTH 15 feet
18							

Fill

BS

MS



REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40
HOLE DIAMETER 8.35 INCHES
TOTAL DEPTH OF BORING 15 FEET

DRILLING CONTRACTOR/DRILLER EXP. GEOSER./J. COLLINS
BIT TYPE HOLLOW STEM AUGER
WELL COMPLETION DEPTH 9.5 FEET

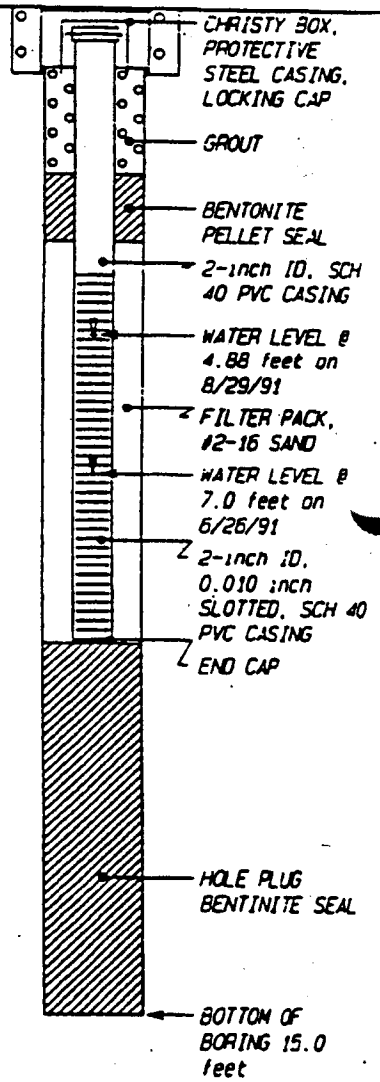
JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER MW-11-02 CLIENT PRC/US NAVY
DATE STARTED 6/26/91 COMPLETED 6/26/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
REF. ELEVATION 12.03 FEET, TOP OF CASING GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID meter units	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						CN	CONCRETE
		CHEM	48	3.1		SP	SAND (SP), yellowish brown (10YR 5/4), loose, moist, 5-10% fines, fine to medium sand, 5-10% fine gravel, high est K, some shell fragments
2			50/6"				
			47	5.2		SW	
			50/6"			SP	@ 1.5 feet-as above, except no gravel, moist
			20	1.0			gravelly SAND (SW), dense, moist, 30-35% fines, fine to medium sand, 20-25% fine gravel, moderate est K
4		GEO-TECH	27				
			28				SAND (SP), yellowish brown (10YR 5/4), moderate est K
		CHEM	19	1.0			
			28			SW	SAND (SP), yellowish brown (10YR 5/4), dense, moist, 5-10% fines, fine to medium sand, high est K
6			30			SC	
			19	1.0		SP	
			9	0		SW	gravelly SAND (SW) and clayey SAND (SC), yellowish brown, dense, moist, 20-40% fines, fine to coarse sand, 0-40% gravels, moderate est K
			8			CL	
8		GEO-TECH	5	0			
			5			SC	@ 6.5 feet-as above, SAND (SP) & gravelly SAND (SW)
			6			CL	
		CHEM	1	5.2			gravelly SAND (SW), dark olive (5Y 3/4), medium dense, wet, 30-35% fines, 30-35% gravels
10			2				
			4				CLAY (CL), dark olive (5Y 3/4), soft, wet, fines, moderate est K, thin sand interbeds
			11	5.2			
			50/5"			SP SC	CLAY (CL), @ 8 feet-as above, moist, no sands
12							clayey SAND (SC), @ 8.5 feet-as above
		GEO-TECH	40				
			50/5"	3.1		SC	CLAY (CL), @ 9.5 feet-as above, some sand and ~~sands and~~ shells
14		CHEM	39	3.1			@ 11.5 feet-as above, black sand with shells
			50/4"				clayey SAND (SC), mottled yellowish brown (10YR 5/7), dense, moist, 30-40% fines, fine to medium sand, moderate est K
16							TOTAL DEPTH 15 feet
18							

WELL DIAGRAM



REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR/DRILLER EXP. GEOSER./J. COLLINS
HOLE DIAMETER 8.35 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 15 FEET WELL COMPLETION DEPTH 9.5 FEET

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

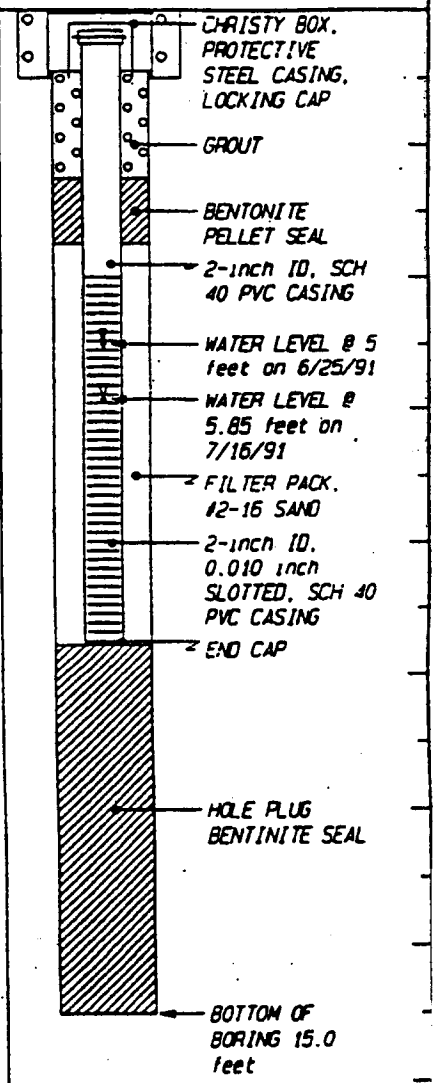
365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER MW-11-03
DATE STARTED 6/25/91 COMPLETED 6/25/91
ELEVATION 11.41 FEET, TOP OF CASING

CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
GEOLOGIST KAREN KRAMER

Feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID meter units	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		CHEM		0.9		AS	ASPHALT
			35	0.9		SW	gravelly SAND (SW), light olive brown (2.5Y 5/3), dense, moist, 20 to 25% fines, fine to medium sand, 25 to 30% fine to coarse gravel, moderate est K
			50/5"			SP	
2			19				SAND (SP), light olive brown (2.5Y 5/3), very dense, moist, 5 to 10% fines, fine to medium sand, 0 to 5% fine gravel, high est K
		GEO-TECH	37				
			50/5"				
		CHEM	36	2.0			@ 3.5 feet-as above, very moist
4			33				
			35				
			7	0.9			@ 5 feet-as above, olive brown (2.5Y 4/4), wet
			25				
6			30				
		GEO-TECH	7	0.9			@ 7 feet-as above, trace shell fragments
			15				
			20				
		CHEM	6				@ 8 feet-as above, dark olive gray (5Y 3/2), wet, 25 to 30% fines
			5				
			4				
			1	4.7		SC	@ 9.5 feet-2 inches of clayey SAND (SC), dark olive gray (5Y 3/2), moist to wet, 30 to 40% fines, fine to medium sand, low to moderate est K
10			0			CL	
			1				CLAY (CL), dark olive gray (5Y 3/2), soft, moist, fines, low est K, silty partings
			8				
			24			SP	SAND (SP), black, dense, moist, some shell fragments
12			50/4"	0.9		SC	
		GEO-TECH	27				clayey SAND (SC), olive (5Y 5/4), very dense, moist, 30 to 35% fines, fine to medium sand, moderate est K
			50/5"	6.6			
14		CHEM	25	2.8			clayey SAND (SC), olive brown (2.5Y 4/4), with light gray mottling, 30 to 40% fines, fine to medium sand, low to moderate est K, mottling associated with root material
			50				
16							TOTAL DEPTH 15 feet
18							

WELL DIAGRAM



REGISTERED GEOLOGIST JERRY T. WICKHAM 3766 STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40
HOLE DIAMETER 8.35 INCHES
TOTAL DEPTH OF BORING 15 FEET

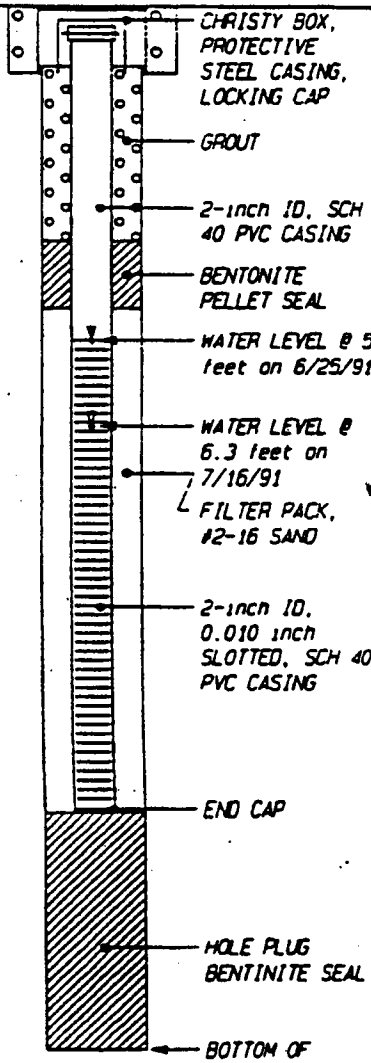
DRILLING CONTRACTOR/DRILLER EXP. GEOSER./J. COLLINS
BIT TYPE HOLLOW STEM AUGER
WELL COMPLETION DEPTH 9.5 FEET

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER MW-11-04
DATE STARTED 6/25/91 COMPLETED 6/25/91
ELEVATION 11.97 FEET, TOP OF CASING

CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
GEOLOGIST KAREN KRAMER

feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID meter units	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
		CHEM	48	0.9		AS	ASPHALT
			50/5"			SW	gravelly SAND (SW), dark olive (5Y 2.5/3), medium dense, 20 to 30% fines, fine to coarse sand, 30 to 50% gravel, low to moderate est K
2		GEO-TECH	50/2"	0.9			@ 0.5 feet-as above, yellowish brown (10YR 5/4)
							@ 1.5 feet-as above, 10 to 20% gravel
		CHEM	18	0.9			
			50/6"			SP	SAND (SP), yellowish brown (10YR 5/4), dense, moist, 5 to 10% fines, fine to medium sand
			13	0.9			
			24				
6			28				
			15	0.9			
			27				SAND (SP), dark olive (5Y 3/1), dense, wet, 20 to 30% fines, sand, 5 to 10% fine gravel in layers, layers, moderate est K, shell fragments in gravel layers
			36				
8			6	0.9			
		GEO-TECH	12				
			15				
		CHEM	1				
10			1				
			1			CL	CLAY (CL), dark gray (5Y N4/4), soft, moist to wet, fines, low est K, gradational contact over approximately 6 inches with overlying sand
			7	2.8			
			14				
12			48			SP	SAND (SP), black, dense, moist, 5 to 10% fines, abundant shell fragments
			20	0.9			
		GEO-TECH	44				SAND (SP), yellowish brown (10YR 5/6), dense, moist, 5 to 10% fines, fine to medium sand, moderate est K
			44				
14		CHEM	35	0.9			
			34				
			52				
							TOTAL DEPTH 15.5 feet
16							
18							



REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40
HOLE DIAMETER 8.35 INCHES
TOTAL DEPTH OF BORING 15.5 FEET

DRILLING CONTRACTOR/DRILLER EXP. GEOSER./J. COLLINS
BIT TYPE HOLLOW STEM AUGER
WELL COMPLETION DEPTH 12 FEET

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

:ING/WELL NUMBER B-11-05
'E STARTED 6/26/91 COMPLETED 6/26/91
E/ATION 11.35 FEET

CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
GEOLOGIST KAREN KRAMER

Depth feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						CN	CONCRETE	
		CHEM	13	0		SP	SAND (SP), dark yellowish brown (10YR 4/6), loose, moist, 20 to 25% fines, fine to medium sand, 10 to 15% fine gravel, moderate est K, probable fill	
			16	52				
			16					
2		GEO-TECH	14	0				
			28					
			37					
4		CHEM	17				@ 3.5 feet-as above, dense, 5 to 10% fines, no gravel, moderate est K	
			38					
			40					
		CHEM	9	0			@ 5 feet-as above, dark olive gray (5Y 3/2), wet	DEPTH TO WATER=5 feet
			16					
6			25					
			8	0			@ 6.5 feet-as above, some shell fragments, oily sheen on water from the hole	
		GEO-TECH	20					
			21					
8			2	1			@ 8 feet-2 inch clay layer with shell fragments	
			11	40				
			2			CL	CLAY (CL), dark olive gray (5Y 3/2), soft, moist, fines, low est K	
10			1				NO RECOVERY - 9.5 to 11 feet	
			1					
			2					
			18	3.1		SC	clayey SAND (SC), black, dense, moist, 30 to 40% fines, fine to medium sand, moderate est K, mottled with light gray clay	
12			21					
			50				@ 11.5 feet-as above, light gray	
		GEO TECH	23					
			50					
14		CHEM	32					
			50/5"				TOTAL DEPTH 15 feet	
16								
18								

REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40
-OLE DIAMETER 8.35 INCHES
'OTAL DEPTH OF BORING 15 FEET

DRILLING CONTRACTOR EXPLORATION GEOSERVICES
BIT TYPE HOLLOW STEM AUGER
DRILLER JOHN COLLINS

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER B-11-06 CLIENT PRC/US NAVY
DATE STARTED 6/25/91 COMPLETED 6/25/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
ELEVATION 11.61 FEET GEOLOGIST KAREN KRAMER

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
		CHEM	15	0.9		AS	ASPHALT	
			37	2.8		SW	gravelly SAND (SW), yellowish brown (10YR 5/4), dense, moist, 20 to 25% fines, fine to medium sand, 20 to 30% gravel, moderate est K	
			44			SP		
2			27	0.9			@ .5 to 1.5 feet-as above, yellowish red (5YR 5/8)	
		GEO-TECH	43					
			41				SAND (SP), yellowish brown (10YR 5/4), dense, moist, 5-10% fines, fine to medium sand, high est K	
4		CHEM	16	2.8				
			38					
			40					
			12	2.8			@ 5.0 feet-as above, wet, faint laminations	
			28					▼ DEPTH TO WATER=5.5 feet
5			32					
			7				SAND (SP), dense, wet, 10-15% fines, fine to medium sand, high est K, gravelly at base, trace shells	
		GEO-TECH	12	2.8				
			20					
8		CHEM	4	2.8			silty SAND (SP), dark gray, abundant shell fragments	
			12					
			7			CL	CLAY (CL), dark gray, medium dense, wet, fines, low est K	
			1	4.7				
10			0				@ 10.0 feet-as above, some partings of silty sand	
			1					
			3					
			7			SC	clayey SAND (SC), black, medium dense, moist, 30-40% fines, medium sand	
12			30					
			23	2.8			@ 12.0 feet-as above, dark yellowish brown to olive, dense, wet, 30-40% fines, fine to medium sand	
		GEO-TECH	35					
			33				clayey SAND (SC), dark yellowish brown (10YR 4/4), dense, wet, 30-40% fines, fine to medium sand, moderate est K	
14		CHEM	10	4.7				
			28					
			31					
							TOTAL DEPTH 15.5 feet	
16								
18								

REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.35 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 15.5 FEET DRILLER JOHN COLLINS

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER B-11-07
DATE STARTED 6/24/91 COMPLETED 6/24/91
ELEVATION 12.66 FEET

CLIENT PRC/US NAVY
PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
GEOLOGIST RICH HALKET

Depth in feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						CN	CONCRETE	
		CHEM	45			SM	silty SAND (SM), light olive brown (2.5Y 5/4), dense, moist, 15 to 20% fines, very fine to fine sand, moderate est K, possible petroleum odor	
			50/4"	1564				
2			42			ML	gravelly SILT (ML), light olive brown (2.5Y 5/4), hard, dry, fines, 5 to 10% sand, 15 to 20% fine gravel	
			50	57				
			15			SP	SAND (SP), light olive brown (2.5Y 5/4), medium dense, moist, 0 to 5% fines, fine sand, moderate est K	
4			14					
			20					
			14	98.2		CL GW	gravelly CLAY (CL) and GRAVEL (GW), dark gray (2.5Y N4/), CL, stiff, moist, fines, 5 to 10% sand, 10 to 15% fine gravel, low est K; GW, dense, wet, 15% to 20% fine to coarse sand, fine gravel, moderate to high est K, some shell fragments, gravel interbeds are 2"-6" thick	▼ DEPTH TO WATER= 5.5 feet
			27					
			32					
6			4	7.4				
		GEO-TECH	13					
			14					
		CHEM	3					
8			0					
			10	5.7				
		GEO-TECH	4			CL GW	@ 9.0 feet-as above, with sand (SP), gray (2.5Y N4/), dense, wet, very fine to fine sand, moderate est K, sand interbeds are 2"-3" thick	
			3					
10			4	7.4				
			4					
			8			SC	clayey SAND (SC), mottled brown/grey (2.5Y 4/4-2.5Y N5/), very dense, moist, 25-30% very fine to fine sand, low est K, trace plant debris	
12			19					
			8					
		GEO-TECH	27					
			48	4.1			@ 13 feet-as above	
		CHEM	20					
14			38					
			50/5"					
							TOTAL DEPTH 15 feet	
16								
18								

Fill
MS

REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40
HOLE DIAMETER 8.35 INCHES
TOTAL DEPTH OF BORING 15.0 FEET

DRILLING CONTRACTOR EXPLORATION GEOSERVICES
BIT TYPE HOLLOW STEM AUGER
DRILLER JOHN COLLINS

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M11-05

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7B11-031	NA	26			SW	FILL Gravelly sand (SW), light brown, fine to medium sand, dense, dry
	CHEMICAL	280-S7B11-032		22			SP	Sand (SP), dark brown, fine sand, dense, dry
				14				Same as above, wet at 5.5 Feet bgs
5	CHEMICAL	280-S7B11-033						
							CL	Clay
							SP	Gravelly sand (SP), grayish brown, fine sand, dense MERRITT SAND
10				12			SM/SC	Silty clayey sand (SM/SC), gray to light brow medium sand, dense
								Same as above
								TD = 14 Feet bgs
15								
20								

Water Level

Split Spoon

Sample Collected

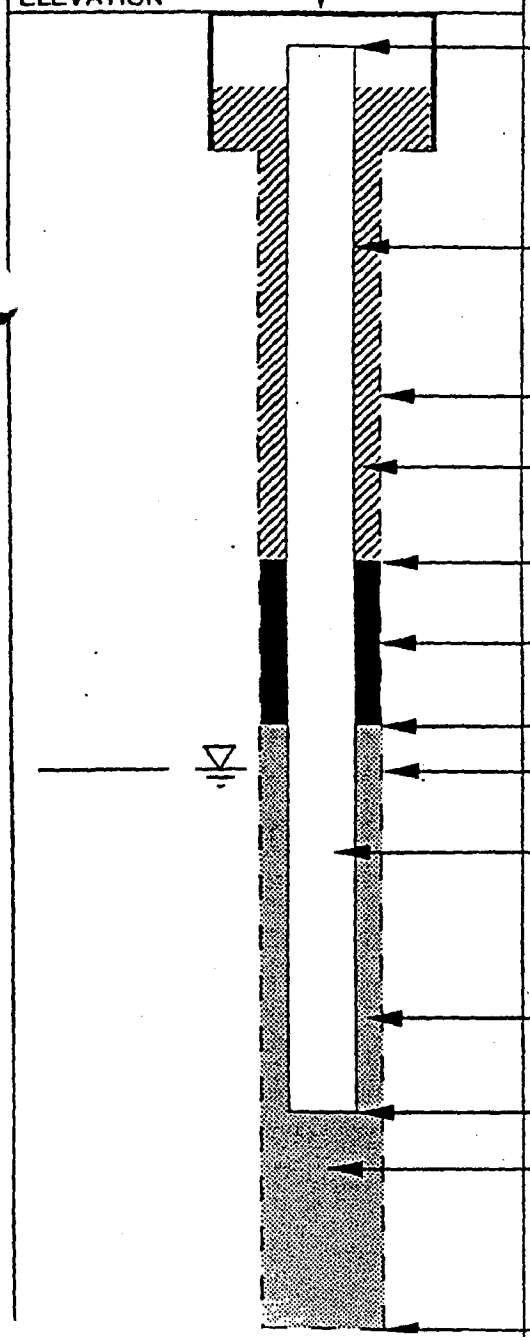
PROJECT NAS Alameda RI
LOCATION Site 11
JOB NUMBER 044-0280
LOGGED BY JEV
DATE DRILLED 8-16-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 12.74 Feet
TOC ELEVATION 12.31 Feet
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 14 Feet bgs
WATER LEVEL 6 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. M11-05

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. 044 0280	BORING M11-05	DRILLING METHOD Hollow Stem Auger
~~ELEVATION~~ SITE 11	DATE 8-16-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST JEV		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 12.74

ELEVATION OF TOP OF WELL CASING: 12.31

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8.5 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 1.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 2.5

DEPTH TOP OF SCREEN 4.0

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~ 0.01 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/16 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 14.0

DEPTH BOTTOM OF SAND PACK 14.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE (feet bgs) 14.0

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B11-08

Page 1 of 1

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7B11-001	0	13			SP (FILL)	Sand (SP), light brown, fine sand, damp
	CHEMICAL	280-S7B11-002	0	29				Same as above
5	CHEMICAL	280-S7B11-003	0	15				Same as above with some silt at bottom, wet at 5 Feet bgs
10								
15								
20								

TD = 6 Feet bgs

Borehole abandoned as follows:

6.0 to 0.0 feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI

LOCATION Site 78/11

JOB NUMBER 044-0280

LOGGED BY JEV

DATE DRILLED 8-16-94

DRILLER Woodward Drilling Co.

DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon

GROUND ELEVATION 12.58 Feet

TOC ELEVATION Not Applicable

BORING DIAMETER 8.5 inches

TOTAL DEPTH OF HOLE 6 Feet bgs

WATER LEVEL 5 Feet bgs

WELL INSTALLED? (Y/N) N

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B11-09

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7B11-004	0	10			SW	FILL Gravelly sand (SW), light brown, fine to medium sand, dense
	CHEMICAL	280-S7B11-005	0	13				Same as above
			0	15			SP	Sand (SP), dark brown, dense, slightly moist Same as above with trace pebbles, wet at 5 Feet bgs
5	CHEMICAL DUPE	280-S7B11-006 280-S7B11-007						
10								
15								
20								

TD = 6 Feet bgs

Borehole abandoned as follows:

6.0 to 0.0 feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI

LOCATION Site 78/11

JOB NUMBER 044-0280

LOGGED BY JEV

DATE DRILLED 8-16-94

DRILLER Woodward Drilling Co.

DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon

GROUND ELEVATION 12.49 Feet

TOC ELEVATION Not Applicable

BORING DIAMETER 8.5 inches

TOTAL DEPTH OF HOLE 6 Feet bgs

WATER LEVEL 5 Feet bgs

WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B11-10

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7811-002	0	24	NA		SP	FILL Sand (SP), tan, fine to medium sand, loose, dry, trace silt
	CHEMICAL	280-S7811-009	1.5	11				Same as above
	CHEMICAL	280-S7811-010	0.5	6				Same as above, wet at 4.75 Feet bgs
5								TD = 5 Feet bgs
10								
15								
20								

Borehole abandoned as follows:
5.0 to 0.0 feet bgs: Neat Cement

Water Level
Split Spoon
Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 11
JOB NUMBER 044-0280
LOGGED BY DEK
DATE DRILLED 8-12-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 12.30 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 5 Feet bgs
WATER LEVEL 4.5 Feet bgs
WELL INSTALLED? (Y/N) N

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B11-11

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7B11-011	Ø	65			SW	FILL Gravelly sand (SW), rust redbrown, fine to medium sand, dense, dry
	CHEMICAL	280-S7B11-012	Ø	63			SP	Sand (SP), light brown, fine sand, dense, dry, trace pebbles
5	CHEMICAL	280-S7B11-013	Ø	27				Same as above, wet at 5.5 Feet bgs
10								
15								
20								

TD = 6 Feet bgs

Borehole abandoned as follows:

6.Ø to Ø.Ø feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI

LOCATION Site 11

JOB NUMBER 044-Ø28Ø

LOGGED BY JEV

DATE DRILLED 8-16-94

DRILLER Woodward Drilling Co.

DRILL METHOD Hollow Stem Auger

SAMPLING METHOD Split Spoon

GROUND ELEVATION

TOC ELEVATION Not Applicable

BORING DIAMETER 8.5 inches

TOTAL DEPTH OF HOLE 6 Feet bgs

WATER LEVEL 5.5 Feet bgs

WELL INSTALLED? (Y/N) N

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B11-12

Page 1/1

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7B11-014	NA	33			SW	FILL Gravelly sand (SW), light red brown, fine to medium sand, dense, dry
	CHEMICAL	280-S7B11-015	11	23				Same as above
5	CHEMICAL	280-S7B11-017	0	11			SP	Sand (SP), light brown, fine sand, dense, slightly moist, wet at 5 Feet bgs
10								
15								
20								

TD = 6 Feet bgs

Borehole abandoned as follows:

6.0 to 0.0 feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI

LOCATION Site 11

JOB NUMBER 044-0280

LOGGED BY JEV

DATE DRILLED 8-16-94

DRILLER Woodward Drilling Co.

DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon

GROUND ELEVATION

TOC ELEVATION Not Applicable

BORING DIAMETER 8.5 inches

TOTAL DEPTH OF HOLE 6 Feet bgs

WATER LEVEL 5 Feet bgs

WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B11-13

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7811-018	Ø	39			SW	FILL Gravelly sand (SW), red brown and gray, medium to coarse sand, dense, dry
	CHEMICAL	280-S7811-019	Ø	46				Same as above
5	CHEMICAL	280-S7811-020	Ø	17			SP	Sand (SP), light brown, fine sand, dense, moist, wet at 5 feet bgs

TD = 6 Feet bgs

Borehole abandoned as follows:
6.Ø to Ø.Ø feet bgs : Neat Cement

10

15

20

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 11
JOB NUMBER Ø44-Ø28Ø
LOGGED BY JEV
DATE DRILLED 8-16-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 6 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) N

ok

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B11-14

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7B11-021	Ø	53			SW	FILL Gravelly sand (SW), red brown, fine to medium sand, dense, dry
	CHEMICAL	280-S7B11-022	1.9	43			SP	Sand (SP), light brown, fine sand, dense, damp
5	CHEMICAL	280-S7B11-023	Ø	18				Same as above, wet at 5 Feet bgs
10								
15								
20								

TD = 6 Feet bgs

Borehole abandoned as follows:
6.Ø to Ø.Ø feet bgs: Neat Cement

Water Level
Split Spoon
Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 11
JOB NUMBER Ø44-Ø28Ø
LOGGED BY JEV
DATE DRILLED 8-16-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 6 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) N

pk

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D11-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
							SP-SM	FILL Silty sand (SP-SM), tan, 25% fine sand, 10% very fine sand, 55% medium sand, 10% silt, loose, dry
5			Ø	27	☒		SM	Silty sand (SM), but orangish brown, 60% medium sand, 20% fine sand, 20% silt, medium dense, wet, trace black staining ▽
10			Ø	6	NA		CL	Clay (CL), black, soft, wet, slight organic odor BAY SEDIMENTS
								MERRITT SAND
15			Ø	34	NA		SM	Clayey silty sand (SM), orange brown, 40% medium sand, 25% fine sand, 30% silt, 5% clay, medium dense, wet
								sheen on drilling mud from formation
20								

▼ Water Level
☒ Split Spoon
■ Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 11
JOB NUMBER 044-0280
LOGGED BY DEK
DATE DRILLED 11-1-94
DRILLER Tonto Drilling Services Co.
DRILL METHOD Mud Rotary

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION 13.1 Feet
BORING DIAMETER 7.25 inches
TOTAL DEPTH OF HOLE 61.5 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) Y

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D11-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	32/6 50/6	☒		SM	Same as above, but brownish red mottling, 30% fine sand, 35% medium sand, dense, moist
25 ~~5~~			Ø	50/6	☒			Same as above, but orange brown with no mottling, wet
30 ~~10~~			Ø	32/6 50/6	☒			Same as above, but 45% medium sand, 10% coarse sand, 20% fine sand, 20% silt
35 ~~15~~			Ø	43/6 54/6	☒			Same as above, but dark red mottling 60% medium sand, 10% fine sand, 10% very fine sand
								Sheen on drilling mud
40 ~~20~~								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____

LOCATION

JOB NUMBER 044-

LOGGED BY .

DATE DRILLED _____

DRILLER

DRILL METHOD _____

SAMPLING METHOD

GROUND ELEVATION _____

TOC ELEVATION _____

BORING DIAMETER

TOTAL DEPTH OF HOLE _____

WATER LEVEL

WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D11-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	29/6 50/4	☒		SM/ SC	Grades to clayey silty sand (SM/SC), 30% fine sand, 10% very fine sand, 20% medium sand, 20% silt, 20% clay, dense to very dense, moist, small inclusions of gray medium sand
45 ~~5~~			Ø	50/5	☒		SP-SM	Grades to silty sand (SP-SM), light grayish tan, 30% fine sand, 50% medium sand, 10% very fine sand, 10% silt, very dense, moist to wet, inclusions of brownish red silty sand
50 ~~10~~			Ø	50/3	☒			Same as above, but light tannish brown, 70% medium sand, 20% fine sand, wet
55 ~~15~~			Ø	50/6	☒			Same as above.
60 ~~20~~								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____

LOCATION

JOB NUMBER 044-

LOGGED BY .

DATE DRILLED _____

DRILLER

DRILL METHOD _____

SAMPLING METHOD

GROUND ELEVATION _____

TOC ELEVATION _____

BORING DIAMETER

TOTAL DEPTH OF HOLE _____

WATER LEVEL

WELL INSTALLED? (Y/N) _____

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING D11-01

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
			Ø	5Ø/5	☒		SP-SM	Same as above
								TD = 61.5 Feet bgs
65 ~~5~~								
70 ~~10~~								
75 ~~15~~								
80 ~~20~~								

▼ Water Level

☒ Split Spoon

■ Sample Collected

PROJECT _____

LOCATION

JOB NUMBER 044-

LOGGED BY .

DATE DRILLED _____

DRILLER

DRILL METHOD _____

SAMPLING METHOD

GROUND ELEVATION _____

TOC ELEVATION _____

BORING DIAMETER

TOTAL DEPTH OF HOLE _____

WATER LEVEL

WELL INSTALLED? (Y/N) _____

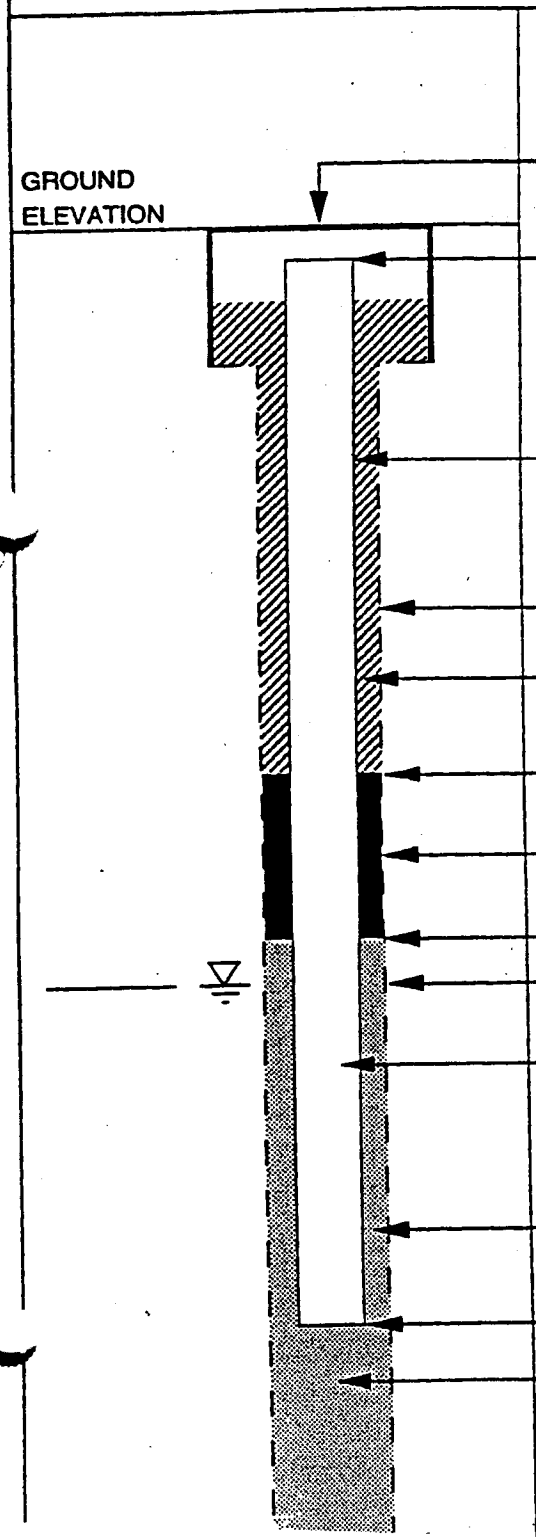
WELL ~~BORING~~ NO. D11-01

MONITORING WELL SHEET

PROJECT NAS Alameda RI
PROJECT NO. 044 0280
SITE 11
~~ELEVATION~~
FIELD GEOLOGIST DEK

LOCATION Alameda, California
BORING D11-01
DATE 11-1-94

DRILLER Tonto Drilling Services Co.
DRILLING METHOD Mud Rotary
DEVELOPMENT METHOD Surge/Bail/Pump



(feet MLLW)

ELEVATION OF GROUND SURFACE: ?

ELEVATION OF TOP OF WELL CASING: 13.10

RISER PIPE I.D.: 3 inches
TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 41.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK (feet bgs) 45.5
DEPTH TOP OF SCREEN 50.0

TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE ~~x LENGTH~~ 0.01 inch
I.D. OF SCREEN 3 inches

TYPE OF SAND PACK: #2/12 Monterey Sand

DEPTH BOTTOM OF SCREEN (feet bgs) 60.0
DEPTH BOTTOM OF SAND PACK 61.5

TYPE OF BACKFILL BELOW OBSERVATION WELL: #2/12 Monterey Sand

DEPTH OF HOLE (feet bgs) 61.5

TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery Watsn
On Site Loc:CPT-S7B-0~~26~~ -01
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/96 15:54
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	17.62	0.32	1.83	0.02	clayey silt to silty clay	UNDFND	UNDFD	8	1.7
0.50	1.64	81.16	0.90	1.11	0.07	sand to silty sand	>90	>48	19	UNDEFINED
0.75	2.46	90.98	1.29	1.42	0.12	silty sand to sandy silt	>90	>48	29	UNDEFINED
1.00	3.28	86.76	1.15	1.33	0.17	sand to silty sand	80-90	46-48	21	UNDEFINED
1.25	4.10	63.50	0.73	1.15	0.21	silty sand to sandy silt	70-80	44-46	20	UNDEFINED
1.50	4.92	31.30	0.33	1.05	0.26	silty sand to sandy silt	50-60	40-42	10	UNDEFINED
1.75	5.74	37.92	0.25	0.65	0.31	silty sand to sandy silt	50-60	40-42	12	UNDEFINED
2.00	6.56	21.96	0.30	1.35	0.35	sandy silt to clayey silt	UNDFND	UNDFD	8	2.1
2.25	7.38	3.96	0.03	0.69	0.40	sensitive fine grained	UNDFND	UNDFD	2	.3
2.50	8.20	4.86	0.09	1.91	0.45	silty clay to clay	UNDFND	UNDFD	3	.4
2.75	9.02	10.28	0.10	0.99	0.50	clayey silt to silty clay	UNDFND	UNDFD	5	.9
3.00	9.84	47.86	1.35	2.82	0.54	sandy silt to clayey silt	UNDFND	UNDFD	18	4.7
3.25	10.66	77.62	2.81	3.62	0.58	clayey silt to silty clay	UNDFND	UNDFD	37	7.7
3.50	11.48	151.80	4.89	3.22	0.60	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.1
3.75	12.30	168.60	4.16	2.47	0.62	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
4.00	13.12	83.64	2.43	2.90	0.64	sandy silt to clayey silt	UNDFND	UNDFD	32	8.2
4.25	13.94	121.92	3.68	3.02	0.66	sandy silt to clayey silt	UNDFND	UNDFD	47	12.1
4.50	14.76	101.52	3.59	3.54	0.68	sandy silt to clayey silt	UNDFND	UNDFD	39	10.0
4.75	15.58	111.28	3.97	3.57	0.71	sandy silt to clayey silt	UNDFND	UNDFD	43	11.0
5.00	16.40	139.26	3.83	2.75	0.73	silty sand to sandy silt	80-90	42-44	44	UNDEFINED
5.25	17.22	106.94	2.50	2.34	0.75	silty sand to sandy silt	70-80	42-44	34	UNDEFINED
5.50	18.04	155.86	3.98	2.55	0.77	silty sand to sandy silt	80-90	44-46	50	UNDEFINED
5.75	18.86	207.20	3.07	1.48	0.79	sand to silty sand	>90	44-46	50	UNDEFINED
6.00	19.69	194.06	2.57	1.33	0.81	sand to silty sand	80-90	44-46	46	UNDEFINED
6.25	20.51	232.72	2.38	1.02	0.84	sand	>90	44-46	45	UNDEFINED
6.50	21.33	212.20	3.04	1.43	0.86	sand to silty sand	>90	44-46	>50	UNDEFINED
6.75	22.15	249.16	3.52	1.41	0.88	sand to silty sand	>90	44-46	>50	UNDEFINED
7.00	22.97	258.08	4.36	1.69	0.90	sand to silty sand	>90	44-46	>50	UNDEFINED
7.25	23.79	226.44	4.05	1.79	0.92	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	194.76	2.81	1.44	0.94	sand to silty sand	80-90	44-46	47	UNDEFINED
7.75	25.43	245.92	4.95	2.01	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	247.16	4.67	1.89	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	228.82	3.08	1.35	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	227.40	3.14	1.38	1.03	sand to silty sand	80-90	44-46	>50	UNDEFINED
8.75	28.71	184.64	3.10	1.68	1.05	sand to silty sand	80-90	42-44	44	UNDEFINED
9.00	29.53	201.84	2.25	1.12	1.07	sand	80-90	42-44	39	UNDEFINED
9.25	30.35	190.52	1.98	1.04	1.09	sand	80-90	42-44	36	UNDEFINED
9.50	31.17	159.08	2.70	1.70	1.12	sand to silty sand	70-80	42-44	38	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

rator :Montgomery Watsn On Site Loc:CPT-S7B-~~02B~~-01 Page No. 2

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	196.62	3.67	1.86	1.14	sand to silty sand	80-90	42-44	47	UNDEFINED
10.00	32.81	182.02	1.79	0.98	1.16	sand	80-90	42-44	35	UNDEFINED
10.25	33.63	186.02	4.20	2.26	1.18	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.50	34.45	248.40	2.52	1.02	1.20	sand	>90	44-46	48	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

(;tor :MONTGOMERY WATSO
On site Loc:CPT-S7B-02
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/94 3:45
Cone Used :407
Water table (meters) : 3

DEPTH ters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.50	0.01	2.76	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	3.30	0.06	1.73	0.07	sensitive fine grained	UNDFND	UNDFD	2	.3
0.75	2.46	4.78	0.11	2.38	0.12	clay	UNDFND	UNDFD	5	.4
1.00	3.28	6.30	0.08	1.23	0.17	sensitive fine grained	UNDFND	UNDFD	3	.6
1.25	4.10	10.18	0.33	3.26	0.21	silty clay to clay	UNDFND	UNDFD	7	.9
1.50	4.92	51.04	0.92	1.79	0.26	silty sand to sandy silt	60-70	42-44	16	UNDEFINED
1.75	5.74	58.02	0.61	1.04	0.31	silty sand to sandy silt	60-70	42-44	19	UNDEFINED
2.00	6.56	45.88	0.25	0.55	0.35	silty sand to sandy silt	50-60	42-44	15	UNDEFINED
2.25	7.38	18.62	0.21	1.13	0.40	sandy silt to clayey silt	UNDFND	UNDFD	7	1.8
2.50	8.20	4.84	0.01	0.11	0.45	sensitive fine grained	UNDFND	UNDFD	2	.4
2.75	9.02	4.36	0.02	0.46	0.50	sensitive fine grained	UNDFND	UNDFD	2	.3
3.00	9.84	3.96	0.03	0.64	0.54	sensitive fine grained	UNDFND	UNDFD	2	.3
3.25	10.66	19.14	0.13	0.68	0.58	sandy silt to clayey silt	UNDFND	UNDFD	7	1.8
3.50	11.48	28.12	0.13	0.47	0.60	silty sand to sandy silt	<40	36-38	9	UNDEFINED
3.75	12.30	44.52	1.44	3.23	0.62	clayey silt to silty clay	UNDFND	UNDFD	21	4.3
4.00	13.12	92.62	3.19	3.44	0.64	sandy silt to clayey silt	UNDFND	UNDFD	35	9.1
4.25	13.94	131.72	4.11	3.12	0.66	sandy silt to clayey silt	UNDFND	UNDFD	>50	13.0
[illegible]	14.76	96.74	3.09	3.19	0.68	sandy silt to clayey silt	UNDFND	UNDFD	37	9.5
[illegible]	15.58	78.40	2.05	2.61	0.71	sandy silt to clayey silt	UNDFND	UNDFD	30	7.7
5.00	16.40	63.22	1.64	2.59	0.73	sandy silt to clayey silt	UNDFND	UNDFD	24	6.2
5.25	17.22	106.84	3.24	3.03	0.75	sandy silt to clayey silt	UNDFND	UNDFD	41	10.5
5.50	18.04	121.50	4.58	3.77	0.77	sandy silt to clayey silt	UNDFND	UNDFD	47	12.0
5.75	18.86	126.64	4.26	3.37	0.79	sandy silt to clayey silt	UNDFND	UNDFD	49	12.5
6.00	19.69	163.68	5.32	3.25	0.81	sandy silt to clayey silt	UNDFND	UNDFD	>50	16.2
6.25	20.51	233.12	5.17	2.22	0.84	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
6.50	21.33	233.12	3.91	1.68	0.86	sand to silty sand	>90	44-46	>50	UNDEFINED
6.75	22.15	175.62	2.54	1.45	0.88	sand to silty sand	80-90	44-46	42	UNDEFINED
7.00	22.97	167.62	2.28	1.36	0.90	sand to silty sand	80-90	42-44	40	UNDEFINED
7.25	23.79	197.30	2.31	1.17	0.92	sand	80-90	44-46	38	UNDEFINED
7.50	24.61	232.94	4.53	1.94	0.94	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	179.24	2.94	1.64	0.96	sand to silty sand	80-90	42-44	43	UNDEFINED
8.00	26.25	205.52	3.78	1.84	0.99	sand to silty sand	80-90	44-46	49	UNDEFINED
8.25	27.07	247.16	4.92	1.99	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	264.24	5.85	2.22	1.03	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
8.75	28.71	215.38	3.10	1.44	1.05	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.00	29.53	225.56	3.25	1.44	1.07	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.25	30.35	208.00	3.56	1.71	1.09	sand to silty sand	80-90	42-44	50	UNDEFINED
9.50	31.17	166.96	2.26	1.36	1.12	sand to silty sand	70-80	42-44	40	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

*[illegible]te: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO ENVIRONMENTAL DRILLING

'or :MONTGOMERY WATSO On Site Loc:CPT-S7B-02 Page No. 2

DEPTH (eters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	179.32	2.57	1.43	1.14	sand to silty sand	80-90	42-44	43	UNDEFINED
10.00	32.81	262.32	5.62	2.14	1.16	sand to silty sand	>90	44-46	>50	UNDEFINED
10.25	33.63	325.48	8.46	2.60	1.18	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
10.50	34.45	219.36	5.36	2.44	1.20	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.75	35.27	202.78	4.16	2.05	1.22	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
11.00	36.09	104.18	1.15	1.10	1.24	sand to silty sand	60-70	40-42	25	UNDEFINED
11.25	36.91	78.96	2.19	2.77	1.27	sandy silt to clayey silt	UNDFND	UNDFD	30	7.6
11.50	37.73	125.74	4.15	3.30	1.29	sandy silt to clayey silt	UNDFND	UNDFD	48	12.3
11.75	38.55	169.38	4.93	2.91	1.31	silty sand to sandy silt	70-80	42-44	>50	UNDEFINED
12.00	39.37	51.70	1.25	2.41	1.33	sandy silt to clayey silt	UNDFND	UNDFD	20	4.9
12.25	40.19	73.22	2.25	3.07	1.35	sandy silt to clayey silt	UNDFND	UNDFD	28	7.0
12.50	41.01	125.80	5.78	4.59	1.37	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
12.75	41.83	250.58	1.98	0.79	1.40	sand	80-90	42-44	48	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

* Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

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TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO
On Site Loc:CPT-S11-02
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/96 08:40
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	172.80	1.91	1.11	0.02	sand to silty sand	>90	>48	41	UNDEFINED
0.50	1.64	304.28	3.58	1.18	0.07	sand	>90	>48	>50	UNDEFINED
0.75	2.46	237.12	1.95	0.82	0.12	sand	>90	>48	45	UNDEFINED
1.00	3.28	155.40	1.15	0.74	0.17	sand	>90	>48	30	UNDEFINED
1.25	4.10	107.46	0.72	0.67	0.21	sand to silty sand	>90	46-48	26	UNDEFINED
1.50	4.92	77.30	0.54	0.70	0.26	sand to silty sand	70-80	44-46	19	UNDEFINED
1.75	5.74	17.06	0.55	3.22	0.31	clayey silt to silty clay	UNDFND	UNDFD	8	1.6
2.00	6.56	13.64	0.58	4.28	0.35	clay	UNDFND	UNDFD	13	1.3
2.25	7.38	6.28	0.40	6.29	0.40	clay	UNDFND	UNDFD	6	.5
2.50	8.20	13.90	0.38	2.76	0.45	clayey silt to silty clay	UNDFND	UNDFD	7	1.3
2.75	9.02	11.78	0.33	2.80	0.50	silty clay to clay	UNDFND	UNDFD	8	1.1
3.00	9.84	11.46	0.29	2.51	0.54	clayey silt to silty clay	UNDFND	UNDFD	5	1.0
3.25	10.66	18.02	0.08	0.47	0.58	sandy silt to clayey silt	UNDFND	UNDFD	7	1.7
3.50	11.48	13.56	0.29	2.16	0.60	clayey silt to silty clay	UNDFND	UNDFD	6	1.2
3.75	12.30	89.14	1.68	1.88	0.62	silty sand to sandy silt	70-80	42-44	28	UNDEFINED
4.00	13.12	92.94	2.38	2.56	0.64	sandy silt to clayey silt	UNDFND	UNDFD	36	9.2
4.25	13.94	115.36	3.52	3.05	0.66	sandy silt to clayey silt	UNDFND	UNDFD	44	[illegible]
4.50	14.76	83.62	2.30	2.75	0.68	sandy silt to clayey silt	UNDFND	UNDFD	32	[illegible]
4.75	15.58	105.60	3.04	2.88	0.71	sandy silt to clayey silt	UNDFND	UNDFD	40	10.[illegible]
5.00	16.40	141.26	3.17	2.24	0.73	silty sand to sandy silt	80-90	42-44	45	UNDEFINED
5.25	17.22	178.72	5.08	2.84	0.75	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
5.50	18.04	158.34	4.75	3.00	0.77	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.7
5.75	18.86	220.14	5.34	2.43	0.79	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
6.00	19.69	228.72	4.13	1.81	0.81	sand to silty sand	>90	44-46	>50	UNDEFINED
6.25	20.51	255.80	3.89	1.52	0.84	sand to silty sand	>90	44-46	>50	UNDEFINED
6.50	21.33	239.40	4.01	1.67	0.86	sand to silty sand	>90	44-46	>50	UNDEFINED
6.75	22.15	290.20	4.53	1.56	0.88	sand to silty sand	>90	46-48	>50	UNDEFINED
7.00	22.97	254.50	3.59	1.41	0.90	sand to silty sand	>90	44-46	>50	UNDEFINED
7.25	23.79	276.02	5.50	1.99	0.92	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	238.50	4.89	2.05	0.94	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	189.46	3.51	1.85	0.96	sand to silty sand	80-90	42-44	45	UNDEFINED
8.00	26.25	218.26	2.68	1.23	0.99	sand	80-90	44-46	42	UNDEFINED
8.25	27.07	218.26	4.02	1.84	1.01	sand to silty sand	80-90	44-46	>50	UNDEFINED
8.50	27.89	238.88	3.51	1.47	1.03	sand to silty sand	>90	44-46	>50	UNDEFINED
8.75	28.71	220.44	2.09	0.95	1.05	sand	80-90	44-46	42	UNDEFINED
9.00	29.53	222.32	2.64	1.19	1.07	sand	80-90	44-46	43	UNDEFINED
9.25	30.35	210.58	3.60	1.71	1.09	sand to silty sand	80-90	42-44	>50	UNDEFINED
9.50	31.17	215.08	4.17	1.94	1.12	sand to silty sand	80-90	42-44	>50	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

*** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.0[illegible]

E TONTO ENVIRONMENTAL DRILLING

erator :MONTGOMERY WATSO On Site Loc:CPT-S11-02 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	200.96	4.04	2.01	1.14	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.00	32.81	242.32	3.96	1.63	1.16	sand to silty sand	80-90	44-46	>50	UNDEFINED
10.25	33.63	277.60	4.01	1.44	1.18	sand to silty sand	>90	44-46	>50	UNDEFINED
10.50	34.45	220.44	4.19	1.90	1.20	sand to silty sand	80-90	42-44	>50	UNDEFINED
10.75	35.27	219.54	2.78	1.26	1.22	sand	80-90	42-44	42	UNDEFINED
11.00	36.09	83.96	2.77	3.30	1.24	sandy silt to clayey silt	UNDFND	UNDFD	32	8.1
11.25	36.91	172.04	4.56	2.65	1.27	silty sand to sandy silt	70-80	42-44	>50	UNDEFINED
11.50	37.73	225.18	4.36	1.93	1.29	sand to silty sand	80-90	42-44	>50	UNDEFINED
11.75	38.55	208.28	2.84	1.36	1.31	sand to silty sand	80-90	42-44	50	UNDEFINED
12.00	39.37	167.94	2.09	1.24	1.33	sand to silty sand	70-80	42-44	40	UNDEFINED
12.25	40.19	111.98	2.12	1.89	1.35	silty sand to sandy silt	60-70	40-42	36	UNDEFINED
12.50	41.01	72.58	2.66	3.67	1.37	clayey silt to silty clay	UNDFND	UNDFD	35	7.0
12.75	41.83	102.80	3.84	3.74	1.40	sandy silt to clayey silt	UNDFND	UNDFD	39	10.0
13.00	42.65	107.56	4.49	4.18	1.42	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED

Dr - All sands (Janiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

Boring Logs for DGS Site 11

Direct Push Boring	Direct Push Soil Gas Boring	Vacuum Excavation Boring	Hydro Punch Borings	Hand Auger Boring
S11-DGS-DP01			S11-DGS-DP101	S11-DGS-HA01
S11-DGS-DP101			S11-DGS-DP102	S11-DGS-HA02
S11-DGS-DP103			S11-DGS-DP103	S11-DGS-HA03
S11-DGS-DP109			S11-DGS-DP104	
			S11-DGS-DP105	
			S11-DGS-DP107	
			S11-DGS-DP108	
			S11-DGS-DP109	

Point Name: CA11-01
Site Identification: 030-CAP-127

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA11-DG1-01	Date Started: 5.1.2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.): ~4.5'	Location Sketch:

Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
0.0					0.0 to 10.0' bgs, sand, gravelly sand, 10YR 4/1, dark greenish gray, dry, loose, no cementation, no odor detected,	SP		0.0
1.0								
2.0								
3.0								
4.0					Sand, as above, wet @ 4.5' bgs.	SP		0.0
4.5								
5.0					Sand w/ gravel.			

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet @ 4.5' bgs	SP	0.
	6.0							
	7.0							
	8.0							
	9.0					Sand, as above, wet @ 4.5' bgs.	SP	0.1
	10.0					Borehole terminated @ 10.0' bgs.		

Name: CA11-02
Site Identification: 030-CAP-128

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA11-DG1-02	Date Started: 5-1-2000
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B. J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~ 4.5' bgs	Location Sketch:

	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
112	0.0					0.0 to 4.0' bgs, Sand, poorly graded sand, 10Y 4/1, dark greenish grey, dry, loose, no cementation, no odor	SP	6.
	1.0							
	2.0							
	3.0							
	4.0					Sand, as above, dry.		
	4.5				▼	4.0 to 6.0' - no recovery, water table assumed to be @ 4.5' bgs	SP	C
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	6.0					6.0 to 10.0' bgs, Sand, poorly graded sand, 10YR 4/1, dark greenish gray, wet, loose, no cementation, no visible staining, no odor.	SP	
	7.0							
	8.0					Sand, as above, gravelly sand	SP	
	9.0							
	10.0					Borehole terminated @ 10.0' bgs.	SP	

Point Name: CA11-03
Sample Identification: 030-CAP-129

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA11-DG1-03	Date Started: 5-1-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.): ~4.5'	Location Sketch:

	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
A5	0.0					0.0 to 10.0' bgs, Sand, poorly graded sand, 10YR 4/1, dark greenish gray, dry, loose, no cementation, no odor detected	SP	
	1.0							
	2.0							
	3.0							
	4.0					Sand, as above, dry,	SP	
	4.5					Sand, as above, wet @ 4.5'		
						odor detected @ ~5.0' bgs, color changes (not stained)	SP	

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					from 10YR 4/1, to 5YR 3/4, reddish brown sand, as above, gravelly sand,	SP	0.
	6.0							
	7.0							
	8.0					sand, as above, gravelly sand,	SP	0.
	9.0							
	10.0					Borehole terminated @ 10.0' bgs.		

oint Name: CA11-04
ple Identification: 030-CAP-130

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP.CA11.DG1-04	Date Started: 5-1-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~4.6'	Location Sketch:

	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
25	0.0					0.0 to 10.0' bgs, sand, poorly sorted sand, 10YR 5/1, dark greenish gray, dry, loose, no cementation,	SP	
	1.0							
	2.0							
	3.0							
	4.0					sand, as above, dry,		
	4.5				▼	sand, as above, wet @ 4.5', faint odor	SP	
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet, no product odor, no staining	SP	
	6.0							
	7.0							
	8.0					Sand, as above, wet, no product odor, no staining	SP	
	9.0							
	10.0					Borehole terminated @ 10.0' bgs.		

Point Name: CA11-05
ple Identification: 030-CAP-131

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA11-DG7-05	Date Started: 6-1-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.S. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~4.5' bgs	Location Sketch:

Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
0.0					0.0 to 10.0' bgs, sand, poorly graded sand, gravelly sand, 10YR, dark greenish gray, dry, loose, no cementation, no odor, no visible staining.	SP	
1.0							
2.0							
3.0							
4.0					Sand, as above, dry	SP	
4.5					Sand, as above, wet @ ~4.5'		
5.0							

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Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, gravelly sand, as above, wet, no odor, no visable staining	SP	0
	6.0							
	7.0							
	8.0					Sand, as above, wet no odor, no visable staining.	SP	0.
	9.0							
	10.0					Borehole terminated @ 10.0' bgs.		

Point Name: CA11-06
Sample Identification: 030-CAP-132

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA11-DG1-006	Date Started: 5-5-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.5'	Location Sketch:

Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
0.0					0.0 to 10.0' bgs, sand, gravelly sand, poorly graded, 10YR 5/2, grayish brown, dry, loose, no cementation, no odor, no visable staining	SP	
1.0							
2.0							
3.0					Sand, as above, dry, no odor, no visable staining	SP	
4.0							
5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0							
	5.5					Sand, as above, wet @ 5.5' bgs	SP	
	6.0							
	7.0					@ 7.2' bgs, sand color changes to 5BG 3/1, dark greenish gray, no odor, no visible staining	SP	
	8.0							
	9.0							
						Sand, as above, no odor, no visible staining	SP	
	10.0					Borehole terminated @ 10.0' bgs.		

Project Name: CA11-07
Sample Identification: 030-CAP-133

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: EP-CA11-DGI-07	Date Started: 5.5.2000
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) 6.8'	Location Sketch:

	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
103	0.0					0.0 to 10.0' bgs - sand - gravelly sand - poorly graded, 10YR 5/2, grayish brown, dry, loose, no cementation, no odor, no visable staining.	SP ~~GW~~	0
	1.0							
	2.0							
	3.0							
	4.0					sand, as above, no odor, no visable staining	SP	

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

DG1.07

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, no odor, no visable staining	SP	0.
	6.0							
	6.8				▼	sand, as above, wet @ 6.8' bgs.	SP	0
	7.0							
	8.0							
	9.0							
						Sand, as above, no odor, no visable staining	SP	0.
	10.0					Borehole terminated @ 10.0' bgs.		

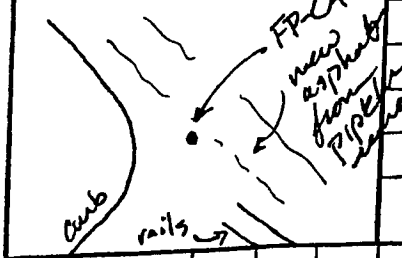
Point Name: CA11-08
Sample Identification: 030-CAP-134
Sample Identification: 030-CAP-366

Tetra Tech EM Inc.

BOREHOLE LOG

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.:	BOREHOLE ID: FP-CA11-DG1-08
CLIENT:	DEPTH TO WATER: 4.5-5' bgs
SITE: Alameda Point	LOGGED BY: [signature]
SUBSITE: CAA 11	DRILLING DATE(S): 5/8
DRILLING CO.: Precision	DRILLING METHOD: Geoprobe
PERSONNEL: Juan M.	SAMPLING METHOD:

SAMPLE INTERVAL TOP	BOTTOM	RECOVERED	BLOWS/6 IN. SAMPLE	TIME	PID READING	LABORATORY ANALYSIS	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION
				0913			1		Concrete ~4" sand; fine sand; well sorted; go tan to lt. brown dry, loose, no fines
							2		
							3		
				0914			4		sand; fine sand; well sorted; tan to lt brown moist; medium dense, no fines
				0915	▽		5		wet/sat @ 5' bgs
							6		sand; fine sand; well sorted; brown; medium dense; color change @ ▽
							7		sand; fine to med sand; gray to blue gray; wet;
				0918			8		
				0920			9		
				0924			10		
							1		• Set casing to 10' bgs
							2		• TD boring 10' bgs
							3		• no odors or staining present
							4		
							5		
							6		
							7		
							8		
							9		
							0		

S:\Geosciences Discipline\Field Forms\CAD Files\ BOREHOLE LOG FORM.dwg 02/23/2000 FORDD DN

Sheet 1 of 2

'oint Name: CA11-09
ample Identification: 030-CAP-135

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

5.1.2000, FP-CA11-DG1-09, Geoprobe, Precision, J. Carlos

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
1315	0.0					0.0 to 10.0' bgs, sand, gravelly sand, 10YR 4/1 dark greenish gray, dry, loose, no cementation, no odor, no visible staining.	SP	
	1.0							
	2.0							
	3.0							
	4.0					Sand, as above, with what appears to be as asphalt chips used as backfill,	SP	
	5.0					Color changes to 10B 2.5/1, bluish black, no odor detected, wet @ 5.0' bgs.		
	6.0							
	7.0					Sand, w/ "asphalt chips" as above	SP	

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	7.0							
	8.0					Sand, as above, w/asphalt, no odor, no visable staining.	SP	0
	9.0							
	10.0					Sand, as above. Borehole terminated @ 10.0' bgs.	SP	0.

oint Name: CA11-10
mple Identification: 030-CA9-136

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

5-1-2000, FP-CA11-DG1-10, Inspector, Precision, J. Carlos

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type / dia.	Description	USCS soil symbol	Well construction
340	0.0					0.0 to 10.0' bgs, Sand, gravelly sand, poorly graded sands, 10YR 4/1, dark greenish gray, dry, loose, no cementation, no odor, no visible staining	SP	0
	1.0							
	2.0							
	3.0							
	4.0					sand, as above, wet @ 5.0' bgs.	SP	0
	5.0							
	6.0					sand, as above, no odor, no visible staining, gravelly sand.	SP	0
	7.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	7.0							
						Sand, as above, gravelly sand.	SP	0
	8.0							
	9.0							
						Sand, as above, gravelly sand	SP	0.
	10.0					Borehole terminated @ 10.0' bgs.		

Point Name: CA11-11
Sample Identification: 030-CAP-137

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA11-DG1-11	Date Started: 5-2-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.): ~5.0' bgs	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	construction
100	0.0					0.0 to 10.0' bgs, sand, poorly graded sand, gravelly sand, 7.5YR 5/3, brown, dry, loose, no consistence, no odor, no visible staining	SP	
	1.0							
	2.0							
	3.0							
	4.0					Sand, as above, wet @ ~5.0' bgs	SP	
	5.0				▼			

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	V.B. / utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet @ 5.0' bgs.	SP	
	6.0							
	7.0					Sand, @ 7.2' bgs, color changes to 5BG 4/1, dark greenish gray, no odor, no visible staining.	SP	
	8.0							
	9.0							
	10.0					Sand, as above, no odor, no visible staining Borehole terminated @ 10.0' bgs.	SP	

Point Name: CA11-12
Sample Identification: 030-CAP-138

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP. CA11. DG1. 12	Date Started: 5.2.2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mullholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.0' bgs	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered Interval	Drive Interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	construction
10	0.0					0.0 to 10.0' bgs, sand, gravelly sand, poorly graded sand, 7.5YR 5/3, brown, dry, loose, no cementation, no odor, no visible staining.	SP	
	1.0							
	2.0							
	3.0					sand, as above, dry	SP	
	4.0							
	5.0					Sand, as above, wet @ 5.0' bgs	SP	

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Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	
	5.0					Sand, as above, wet @ 5.0' bgs., no odor, no visable staining	SP		0
	6.0								
	7.0					Sand, as above, sand color changes to 5BG+/-, dark greenish gray, no odor, no visable staining	SP		0
	8.0								
	9.0								
	10.0					Sand, as above, no odor, no visable staining Borehole terminated @ 10.0' bgs.	SP		c

oint Name: CA11-13
ample Identification: 030-CAP-139

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: FP-CA11-DG2-13	Date Started: 5-2-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulhulland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.0' bgs.	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	construction
45	0.0					0.0 to 10.0' bgs, sand, poorly graded sand, gravelly sand, 7.5YR 5/3, brown, dry, loose, no cementation, no odor, no visible staining.	SP	
	1.0							
	2.0							
	3.0							
	4.0					Sand, as above, wet @ 5.0' bgs	SP	
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	V.B. / utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet @ 5.0' bgs	SP	
	6.0							
	7.0							
	8.0					@ 7.5' bgs, sand as above, changes color to 5BG 4/1, dark greenish gray, no odor, no visable staining.	SP	
	9.0							
	10.0					Borehole terminated @ 10.0' bgs.	SP	

Point Name: CA11-14
Sample Identification: 030-CAP-141
Sample Identification: 030-CAP-142
Sample Identification: 030-CAP-151

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: GP-CA11-DG4-01	Date Started: 4-28-2000
Drilling Method: (Circle one) HSA Continuous Core GeoProbe Hand Auger	Date Completed: 4-28-2000
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.): ~5.0'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Construction
1350	0.0					0.0 to 0.5 – concrete.		
	1.0					0.5 to 8.0', sand, gravelly sand, 10YR 3/4, dark yellowish brown, dry, loose, no cementation, no odor, no visable staining.	SP	
	2.0							
	3.0							
1310	4.0	030-CAP-141				sand, as above, dry	SP	
	5.0				▼	sand, as above, wet @ 5.0' bgs.		

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet @ 5.0' bgs.	SP	
315	6.0	030-CAP. 142				@ 6.0', sand changes color to 10YR 4/1, dark greenish grey		
	7.0	030-CAP 151				Sand, as above:	SP	
	8.0					Borehole terminated @ 8.0' bgs., grouted on 4-28-00.		

Point Name: CA11-15
Sample Identification: 030-CAP-143
Sample Identification: 030-CAP-144
Sample Identification: 030-CAP-152

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: GP-CA11-DG4-03	Date Started: 4-28-2000
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4-28-2000
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.): ~6.0'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered Interval	Drive interval	Blow count (per 6 inches) / V.S. utility type, dia.	Description	USCS soil symbol	Construction
45	0.0					0.0 to 0.5'- concrete		
						0.5 to 8.0'- sand, gravelly sand, 10YR 3/4, dark yellowish brown, dry, loose, no cementation, no odor, no visable staining	SP	0
	1.0							
	2.0							
910	3.0	030-CAP-143				sand, as above, dry	SP	0.
	4.0							
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. / utility type, dia.	Description	USCS soil symbol	Well construction
	5.0						SP	
1425	6.0				030·CAP·152	Sand, as above, wet @ 6.0' bgs.		
1415	7.0	030·CAP·144						
	8.0					Sand, as above, wet.	SP	
						Borehole terminated @ 8.0' bgs, grouted on 4-28-00		

Point Name: CA11-16
ample Identification: 030-CAP-145
ample Identification: 030-CAP-146
ample Identification: 030-CAP-153
ample Identification: 030-CAP-368
ple Identification: 030-CAP-369

Sheet 1 of 2

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: GP-CA11-DG4-05	Date Started: 5.2.2000
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.S. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.0'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered Interval	Drive Interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Construction
24	0.0					0.0 to 8.0' bgs, sand, poorly graded sand, gravelly sand, 7.5YR 5/3, brown, dry, loose, no cementation, no odor, no visible staining	SP	
	1.0							
840	2.0							
	2.5	030-CAP 145						
845	3.0	030 CAP 146						
	3.5	030 CAP 368				030-CAP-368 submitted but not analyzed. @ 0845.		
	4.0	030 CAP 369				Sand, as above, dry. no odor, no visible staining	SP	
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. stability type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet @ 5.0' bgs	SP	
0850	6.0	030-CAP-146			030-CAP-153 (0857)			
0855	7.0					Sand, as above, sand changes color to 10G 3/1 @ 7.2' dark greenish gray, strong product odor from groundwater sample.	SP	
	7.2	030-CAP-368			030-CAP-369 (0900)			
	8.0					~~Borehole terminated @ 8.0' bgs.~~ possible product observed in groundwater, drill to 10' bgs, install piezometer		
	9.0							
	10.0					Borehole terminated @ 10.0' bgs	SP	

Point Name: CA11-17
Sample Identification: 030-CAP-149
Sample Identification: 030-CAP-150
Sample Identification: 030-CAP-155

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: GP.CA11.DG4.09	Date Started: 5.2.2000
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 5.2.2000
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.0' bgs	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Instruction	OVM (ppm)
1320	0.0					0.0 to 8.0', Sand, poorly graded sand, gravelly sand, 7.5YR 3/3, brown, dry, loose, no cementation, no odor, no visible staining	SP		0.0
	1.0								
	2.0								
	3.0								
1930		030-CAP-149							
	4.0					Sand, as above, dry, no odor, no staining	SP		0.0
	5.0				▼	Sand, as above, wet @ 5.0' bgs			

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Low count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0					Sand, as above, wet @ 5.0' bgs.	SP	0.
935	6.0	030-CAP-150			030-CAP-155 (0945)			
	7.0					@ 7.2 ~~soil~~ sand changes color to 10G 3/1, dark greenish gray, strong product odor from soil, no visible sheen from groundwater	SP	6.1
	8.0					Borehole terminated @ 8.0' bgs, grouted on 5-2-00.		

Point Name: CA11-21
Sample Identification: 030-CAP-167

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA11-DG9-02	Date Started: 4-28-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: –	Driller: J. Carlos
Depth to Water (ft./bgs.) ~6.5'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, etc.	Description	USCS soil symbol	Well construction
45	0.0					0.0 to 8.0', sand, gravelly sand, 10YR 4/4, dark yellowish brown, dry, loose, no cementation, no odor, no visible staining	SP	
	1.0							
	2.0							
	3.0							
	4.0					sand, as above, dry	SP	
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. / utility type, dia.	Description	USCS soil symbol	Well construction
	5.0							
1110	5.5				▼	Sand, as above, wet @ 5.5' bgs.	SP	C
						odor detected from groundwater.		
	6.0	030-CAP-167				Sand, as above, color changes to 10YR 4/1, dark greenish gray @ 6.6'	SP	O
	7.0							
							SP	O
	8.0					Borehole terminated @ 8.0' bgs. Borehole grouted on 4-28-00.		

Point Name: CA11-22
Sample Identification: 030-CAP-168

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA11-DG9-03	Date Started: 4-28-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed:
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mullblad
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.): ~5.5'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Obstruction
1115	0.0					0.0 to 8.0' bgs, sand, gravelly sand, 10YR 4/4, dark yellowish brown, dry, loose, no cementation, no odor no visible staining	SP	0.
	1.0							
	2.0							
	3.0							
	4.0					Sand, as above, dry	SP	0.
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. / utility type, dia.	Description	USCS soil symbol	Well construction
	5.0							
1030	5.5	030·CAP·168			▼	Sand; as above, wet @ 5.5'bgs.	SP	C
	6.0					Sand, as above, color changes to 10YR 4/1, dark greenish gray @ 6.8'		
	7.0						SP	O
	8.0					Borehole terminated @ 8.0'bgs, grouted on 4.28.00.		

Point Name: CA11-23
Sample Identification: 030-CAP-169

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP.CA11.DG9.04	Date Started: 4.28.00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4.28.00
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mullalland
Outer Diameter of Boring: 2" OD.	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.5'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Construction
130	0.0					0.0 to 8.0' bgs, sand, gravelly sand, 10YR 4/4, dark yellowish brown, dry, loose, no cementation, no odor, no visable staining	SP	0.
	1.0							
	2.0							
	3.0							
	4.0					sand, as above, dry	SP	0
	5.0							

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SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.S. utility type, dia.	Description	USCS soil symbol	Well construction
	5.0							
1936	5.5				▼	Sand, as above, wet @ 6.5' bgs	SP	
	6.0							
	7.0	030-CAP-169						
	8.0					Sand, as above.	SP	
						Borehole terminated @ 8.0' bgs. Borehole grouted on 4-28-00.		

Point Name: CA11-24
Sample Identification: 030-CAP-170

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA11-DG9-05	Date Started: 4-28-00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4-28-00
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: —	Driller: J. Carlos
Depth to Water (ft./bgs.) ~5.5'	Location Sketch:

Time	Depth (ft) bgs	Sample type and No.	Recovered Interval	Drive Interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Construction
1330	0.0					0.0 to 8.0' bgs, sand, gravelly sand, 10YR 4/4, dark yellowish brown, dry, loose, no cementation, no odor, no visible staining	SP	0.
	1.0							
	2.0							
	3.0							
	4.0					sand, as above, dry	SP	0
	5.0							

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RONMENTAL CONSULTING SERVICES
RIBE & ASSOCIATES
EESHORE AVENUE, SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610-3614
510-832-2233

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Time	Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. / utility type, dia.	Description	USCS soil symbol	Well construction
	5.0							
845	5.5					sand, as above, wet @ 5.5' bgs.	SP	0
	6.0							
		030-GAP-170				sand, as above, color changes to 10YR 4/1, dark greenish gray @ 6.6'		
	7.0							
							SP	0
	8.0					Borehole terminated @ 8.0' bgs. Borehole grouted on 4-28-00.		

Sheet 1 of 1

Point Name: CA11-25
Sample Identification: 030-CAP-171

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

Bldg./Site:
Project Name:

Boring Number: HP-CA11-DG9-06	Date Started: 4.28.00
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 4.28.00
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: B.J. Mulholland
Outer Diameter of Boring: 2" OD	Drilling Subcontractor: Precision
Inner Diameter of Well Casing: ~	Driller: J. Carles
Depth to Water (ft./bgs.): ~55' bgs.	Location Sketch:

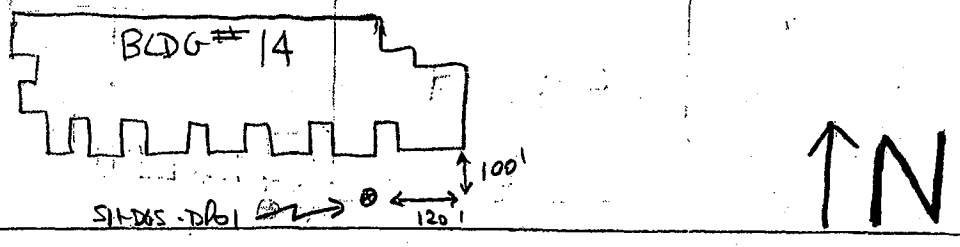
Depth (ft) bgs	Sample type and No.	Recovered interval	Drive interval	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	OVM (ppm)
0.0					0.0 to 8.0' bgs, sand, gravelly sand, 10YR 4/4, dark yellowish brown, dry, loose, no cementation, no odor, no visible staining	SP	0.0
1.0							
2.0							
3.0					sand, as above, dry	SP	0.0
4.0							
5.0							

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 21
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S11-DGS-DP01	Date Started: 8/1/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/1/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 4.7'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
					Asphalt	As		
1					Clayey Sand olive yellow (2.5Y 6/8) Dry, Dense, Nonplastic, poorly sorted, well graded, angular-subangular, Clay-20%, Sand-70%, gravel-10%	SC		
2				NA	Sand; pale olive 5Y 6/3 Slightly moist, loose, Nonplastic, well sorted, No grading, Sand-100% (fine grained)	SP	NA	
3								
4					@ 3.5' gravelly layer. Sand-90%, gravel-10% (well rounded, 0.5cm diameter)			
5			385 521 004		@ 4.5 gravely layer Sand-90%, gravel-10% (well rounded, 0.5cm diameter)			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S11-DGS-DP01

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

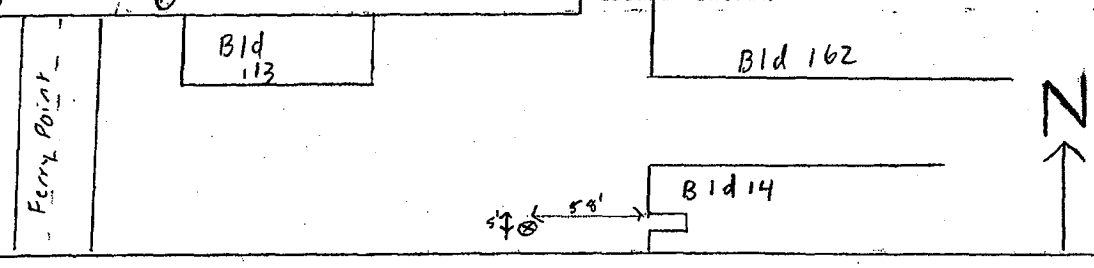
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
				385		Temp 23.54 °C			
				S21		Turb 1.4 NTU			
				005		DO 4.31 mg/L			
	6			H_2O		ORP 32.1 mV			
						PH 6.95			
						CND 807 MS/cm			
	7								
						TOTAL DEPTH = 7'			
						BORING BACKFILLED W/ CEMENT GROUT		NA	
					NA				

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 11
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S11- DGS- DP101	Date Started: 9/18/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/18/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Mark Cruickshank
Outer Diameter of Boring: NA	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: WAL
Depth to Water (ft./bgs.) 6'	Location Sketch:



Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well-construction	OVM (ppm)
4					Sand; Yellowish Brown (10YR 5/8) Dry, loose, Nonplastic, fine-medium grained	SP		
830 8			385-S11 134	NA	Gravelly sand; Dark greenish grey (1GLEY 5GY 3/1) wet, very loose, poorly sorted, gravel- 15%, sand- 80% (fine-medium grained), trace shells	SW		
12					Silty clay; Dark Grey (GLEY 1 N3/) wet, soft, plast, moderatly well sorted	CH	NA	
840 16			385-S11 136		clayey sand; moist, medium dense, slightly plastic, Poorly sorted Clay-15%, sand-80%, locally mottled and Iron Stained, local sections decrease in Density and increase is moisture,	SC		
20					Sand with clay Dark Yellowish Brown (10YR 4/6) moist, medium dense, non-plastic, Poorly sorted Clay-5%, sand-95%, Rare Iron staining and mottled grey sand	SP		

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site: Site 11
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

511-DGS-DP101

Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.E. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
0900				385-511-37	NA			NA	
	24								
							SP		
	28								
	32								
	36								
						Clayey sand; Dark Yellowish Brown (10YR 4/6) wet→moist with Depth, loose→medium dense with Depth clay-20%, sand-80% (fine-medium grained) staining and mottling with Depth	SC		
	40								
1010				385-511-38					
	44								

Total Depth = 43' BGS
Borehole Backfilled with cement grout

Data File:Urib04
Operator:Chris
Cone ID:465
Customer:Hogentogler & Co

08-29-01 13:11
Location:Alameda Point
Job Number:s11-dgs-dp101
Units:English

epth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
2.66	259.4	3.710	-0.50	1.430	8	sand to silty sand
2.82	248.1	3.350	-0.50	1.350	8	sand to silty sand
2.99	234.5	3.050	-0.50	1.301	9	sand
3.15	219.6	2.540	-0.50	1.157	9	sand
3.31	203.9	2.120	-0.50	1.040	9	sand
3.48	193.1	1.800	-0.50	0.932	9	sand
3.64	188.4	1.640	-0.50	0.871	9	sand
3.81	180.6	1.610	-0.50	0.892	9	sand
3.97	171.3	1.530	-0.20	0.893	9	sand
4.13	157.8	1.430	-0.20	0.906	9	sand
4.30	139.9	1.240	-0.20	0.886	8	sand to silty sand
4.46	129.2	1.050	-0.20	0.813	8	sand to silty sand
4.63	127.0	1.000	-0.20	0.787	8	sand to silty sand
4.79	122.5	0.950	-0.20	0.776	8	sand to silty sand
4.95	120.8	0.890	-0.20	0.737	8	sand to silty sand
5.12	110.8	0.860	-0.30	0.776	8	sand to silty sand
5.28	98.7	0.810	-0.30	0.821	8	sand to silty sand
5.45	87.1	0.690	-0.40	0.792	8	sand to silty sand
5.61	76.1	0.670	-0.30	0.880	8	sand to silty sand
5.77	57.8	0.590	-0.40	1.021	7	silty sand to sandy silt
5.94	52.9	0.460	0.20	0.870	8	sand to silty sand
6.10	76.9	0.420	-0.40	0.546	8	sand to silty sand
6.27	77.8	0.420	-0.50	0.540	8	sand to silty sand
6.43	76.5	0.280	-1.50	0.366	8	sand to silty sand
6.59	59.2	0.420	-1.30	0.710	7	silty sand to sandy silt
6.76	39.0	0.750	-0.30	1.923	7	silty sand to sandy silt
6.92	18.2	0.570	0.10	3.132	6	sandy silt to clayey silt
.09	25.4	0.450	0.50	1.771	6	sandy silt to clayey silt
.25	42.3	0.400	-1.20	0.946	7	silty sand to sandy silt
7.41	43.1	0.360	-0.50	0.835	7	silty sand to sandy silt
7.58	55.1	0.330	-0.40	0.599	7	silty sand to sandy silt
7.74	55.5	0.360	-0.20	0.649	8	sand to silty sand
7.91	50.8	0.340	-0.10	0.669	7	silty sand to sandy silt
8.07	42.3	0.330	0.40	0.780	7	silty sand to sandy silt
8.23	35.2	0.350	0.50	0.994	7	silty sand to sandy silt
8.40	29.3	0.500	0.80	1.706	6	sandy silt to clayey silt
8.56	21.2	0.500	1.10	2.357	6	sandy silt to clayey silt
8.73	15.8	0.370	1.60	2.338	5	clayey silt to silty clay
8.89	21.9	0.480	2.10	2.189	5	clayey silt to silty clay
9.06	7.6	0.330	1.10	4.333	5	clayey silt to silty clay
9.22	5.1	0.060	1.70	1.171	4	silty clay to clay
9.38	6.0	0.090	3.50	1.513	1	sensitive fine grained
9.55	7.6	0.050	-0.20	0.658	1	sensitive fine grained
9.71	5.7	0.010	0.10	0.175	1	sensitive fine grained
9.88	5.1	-0.040	0.40	-0.783	0	<out of range>
10.04	5.4	-0.030	0.80	-0.554	0	<out of range>
10.20	5.3	-0.030	1.10	-0.564	0	<out of range>
10.37	5.2	-0.030	1.40	-0.575	0	<out of range>
10.53	5.4	-0.030	1.80	-0.553	0	<out of range>
10.70	5.4	-0.050	2.10	-0.921	0	<out of range>
10.86	5.5	-0.030	2.40	-0.542	0	<out of range>
11.02	19.9	0.080	2.80	0.401	6	sandy silt to clayey silt
1.19	27.2	0.250	2.40	0.918	6	sandy silt to clayey silt
1.35	26.5	0.350	2.70	1.319	6	sandy silt to clayey silt

behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
11.52	30.5	0.340	4.40	1.116	7	silty sand to sandy silt
11.68	35.3	0.350	2.90	0.990	7	silty sand to sandy silt
11.84	29.0	0.390	5.00	1.346	6	sandy silt to clayey silt
12.01	30.1	1.500	7.60	4.982	5	clayey silt to silty clay
12.17	72.2	3.080	7.70	4.265	5	clayey silt to silty clay
12.34	117.9	3.910	-1.00	3.317	6	sandy silt to clayey silt
12.50	144.9	4.540	-2.30	3.134	7	silty sand to sandy silt
12.66	178.9	3.990	-6.40	2.230	7	silty sand to sandy silt
12.83	165.8	4.600	-9.00	2.775	7	silty sand to sandy silt
12.99	152.8	5.630	-2.40	3.685	6	sandy silt to clayey silt
13.16	139.4	5.880	-3.80	4.217	11	very stiff fine grained (*)
13.32	98.2	5.220	-3.20	5.318	11	very stiff fine grained (*)
13.48	114.5	4.700	-2.80	4.106	11	very stiff fine grained (*)
13.65	143.5	5.140	-4.10	3.581	6	sandy silt to clayey silt
13.81	150.1	5.020	-8.50	3.345	6	sandy silt to clayey silt
13.98	169.5	5.660	-9.90	3.340	6	sandy silt to clayey silt
14.14	145.3	6.000	-10.90	4.128	12	sand to clayey sand (*)
14.30	134.6	5.980	-10.60	4.441	11	very stiff fine grained (*)
14.47	129.6	5.080	-10.70	3.918	11	very stiff fine grained (*)
14.63	115.4	4.730	-10.80	4.097	11	very stiff fine grained (*)
14.80	113.4	4.810	-10.60	4.240	11	very stiff fine grained (*)
14.96	132.6	5.700	-10.40	4.300	11	very stiff fine grained (*)
15.12	134.9	6.010	-2.30	4.456	11	very stiff fine grained (*)
15.29	130.2	5.610	-2.40	4.310	11	very stiff fine grained (*)
15.45	140.8	5.100	-2.50	3.623	6	sandy silt to clayey silt
15.62	150.2	4.440	-3.40	2.957	6	sandy silt to clayey silt
15.78	144.5	3.980	-4.50	2.754	7	silty sand to sandy silt
15.94	146.4	3.690	-5.20	2.520	7	silty sand to sandy silt
16.11	151.3	3.490	-5.90	2.306	7	silty sand to sandy silt
16.27	156.1	3.450	-6.70	2.210	7	silty sand to sandy silt
16.44	155.8	3.680	-7.10	2.362	7	silty sand to sandy silt
16.60	150.4	3.960	-7.00	2.633	7	silty sand to sandy silt
16.77	152.9	4.240	-6.90	2.773	7	silty sand to sandy silt
16.93	154.3	4.640	-7.00	3.007	6	sandy silt to clayey silt
17.09	156.6	5.190	-6.90	3.314	6	sandy silt to clayey silt
17.26	172.8	4.540	-7.00	2.627	7	silty sand to sandy silt
17.42	193.3	6.010	-8.90	3.110	6	sandy silt to clayey silt
17.59	196.2	7.880	-7.80	4.017	12	sand to clayey sand (*)
17.75	170.6	8.420	-8.10	4.936	11	very stiff fine grained (*)
17.91	155.0	7.980	-2.70	5.150	11	very stiff fine grained (*)
18.08	172.5	8.020	-3.90	4.648	11	very stiff fine grained (*)
18.24	179.1	7.920	-3.50	4.421	12	sand to clayey sand (*)
18.41	241.9	7.250	-3.50	2.996	7	silty sand to sandy silt
18.57	299.4	5.760	-7.00	1.924	8	sand to silty sand
18.73	334.4	4.820	-2.90	1.442	8	sand to silty sand
18.90	350.2	5.150	-1.30	1.471	9	sand
19.06	393.7	5.260	-3.10	1.336	9	sand
19.23	383.9	5.170	-4.20	1.347	9	sand
19.39	370.4	4.990	-4.60	1.347	9	sand
19.55	339.7	5.350	-4.90	1.575	8	sand to silty sand
19.72	292.2	5.530	-5.20	1.892	8	sand to silty sand
19.88	262.9	5.110	-5.30	1.944	8	sand to silty sand
20.05	252.5	3.370	-5.70	1.335	8	sand to silty sand
20.21	247.7	3.120	-5.90	1.260	8	sand to silty sand
20.37	241.9	4.020	-0.20	1.662	8	sand to silty sand
20.54	267.2	4.570	-3.70	1.710	8	sand to silty sand
20.70	279.0	4.550	-3.70	1.631	9	sand
20.87	274.9	0.510	-4.70	0.186	9	sand
21.03	265.0	3.360	-3.80	1.268	9	sand

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
21.19	72.2	3.910	7.40	5.415	7	silty sand to sandy silt
.36	258.0	4.720	-0.90	1.830	7	silty sand to sandy silt
.52	265.4	5.370	-3.10	2.024	8	sand to silty sand
.69	250.8	4.760	-3.80	1.898	8	sand to silty sand
.85	238.4	4.070	-4.50	1.707	8	sand to silty sand
22.01	237.2	3.020	-4.50	1.273	8	sand to silty sand
22.18	245.1	3.830	-4.80	1.562	8	sand to silty sand
22.34	249.4	4.770	-3.10	1.913	8	sand to silty sand
22.51	249.4	5.180	-4.10	2.077	8	sand to silty sand
22.67	245.3	5.720	-4.80	2.332	7	silty sand to sandy silt
22.83	265.5	6.160	-5.50	2.320	7	silty sand to sandy silt
23.00	297.6	6.500	-6.30	2.184	8	sand to silty sand
23.16	318.4	6.710	-5.50	2.107	8	sand to silty sand
23.33	314.5	6.870	-5.80	2.184	8	sand to silty sand
23.49	303.1	6.830	-6.00	2.253	8	sand to silty sand
23.65	294.6	6.510	-6.20	2.210	8	sand to silty sand
23.82	279.6	6.010	-6.50	2.149	8	sand to silty sand
23.98	252.9	5.580	-6.20	2.206	7	silty sand to sandy silt
24.15	230.6	5.220	-6.80	2.264	7	silty sand to sandy silt
24.31	226.5	5.100	-6.90	2.252	7	silty sand to sandy silt
24.48	236.9	5.030	-6.90	2.123	7	silty sand to sandy silt
24.64	255.4	5.070	-6.70	1.985	8	sand to silty sand
24.80	267.2	5.210	-7.00	1.950	8	sand to silty sand
24.97	242.8	5.370	-6.70	2.212	8	sand to silty sand
25.13	243.7	1.460	-6.50	0.599	9	sand
25.30	251.7	2.950	-6.70	1.172	9	sand
25.46	237.3	4.160	-2.50	1.753	8	sand to silty sand
25.62	249.0	5.360	-3.40	2.153	8	sand to silty sand
25.79	280.8	5.580	-4.20	1.987	8	sand to silty sand
5.95	292.9	5.910	-4.70	2.018	8	sand to silty sand
.12	280.5	6.140	-5.20	2.189	8	sand to silty sand
6.28	272.1	6.230	-5.60	2.289	7	silty sand to sandy silt
.44	266.0	5.810	-5.80	2.184	8	sand to silty sand
.61	265.2	5.440	-5.90	2.051	8	sand to silty sand
26.77	267.8	5.680	-3.80	2.121	8	sand to silty sand
26.94	272.7	5.890	-3.80	2.160	8	sand to silty sand
27.10	279.7	5.680	-3.50	2.030	8	sand to silty sand
27.26	281.7	5.330	-4.20	1.892	8	sand to silty sand
27.43	273.8	5.040	-4.40	1.841	8	sand to silty sand
27.59	258.0	4.880	-4.60	1.891	8	sand to silty sand
27.76	242.7	4.600	-4.70	1.895	8	sand to silty sand
27.92	231.0	0.450	-4.40	0.195	9	sand
28.08	223.0	3.080	-4.50	1.381	8	sand to silty sand
28.25	56.5	3.380	10.40	5.977	7	silty sand to sandy silt
28.41	208.9	3.910	0.70	1.872	7	silty sand to sandy silt
28.58	209.0	4.190	-6.30	2.005	8	sand to silty sand
28.74	219.7	4.130	-5.60	1.880	8	sand to silty sand
28.90	218.8	4.120	-5.70	1.883	8	sand to silty sand
29.07	220.6	3.130	-6.10	1.419	8	sand to silty sand
29.23	225.3	3.590	-6.40	1.593	8	sand to silty sand
29.40	223.8	3.530	-3.20	1.578	8	sand to silty sand
29.56	225.2	3.160	-5.30	1.403	8	sand to silty sand
29.72	219.3	2.850	-5.50	1.299	8	sand to silty sand
29.89	208.5	2.820	-5.70	1.352	8	sand to silty sand
30.05	201.9	2.960	-6.10	1.466	8	sand to silty sand
30.22	200.5	3.250	-6.10	1.621	8	sand to silty sand
30.38	205.1	3.520	-6.40	1.716	8	sand to silty sand
30.54	211.3	3.560	-6.70	1.685	8	sand to silty sand
0.71	218.0	3.360	-7.00	1.541	8	sand to silty sand

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
30.87	221.1	3.150	-7.00	1.425	8	sand to silty sand
31.04	222.2	2.920	-6.90	1.314	8	sand to silty sand
31.20	218.7	2.860	-7.10	1.308	8	sand to silty sand
31.36	208.9	3.180	-7.20	1.522	8	sand to silty sand
[illegible].53	193.8	3.860	-7.40	1.992	8	sand to silty sand
31.69	188.4	4.500	-7.30	2.389	7	silty sand to sandy silt
31.86	198.2	4.670	-7.50	2.356	7	silty sand to sandy silt
32.02	210.9	4.180	-7.80	1.982	8	sand to silty sand
32.19	216.7	2.950	-7.70	1.361	8	sand to silty sand
32.35	199.4	3.540	-7.20	1.775	8	sand to silty sand
32.51	195.4	4.840	-5.40	2.477	7	silty sand to sandy silt
32.68	203.9	5.300	-6.10	2.599	7	silty sand to sandy silt
32.84	219.4	5.370	-6.60	2.448	7	silty sand to sandy silt
33.01	230.9	5.190	-6.90	2.248	7	silty sand to sandy silt
33.17	246.0	4.480	-7.30	1.821	8	sand to silty sand
33.33	267.8	3.890	-7.20	1.453	8	sand to silty sand
33.50	274.2	3.560	-7.20	1.298	9	sand
33.66	263.2	3.070	-7.10	1.166	9	sand
33.83	253.9	2.620	-6.70	1.032	9	sand
33.99	249.5	2.980	-6.40	1.194	9	sand
34.15	259.3	3.690	-6.10	1.423	8	sand to silty sand
34.32	273.2	4.310	-6.60	1.578	8	sand to silty sand
34.48	260.2	4.570	-6.70	1.756	8	sand to silty sand
34.65	252.8	4.450	-6.90	1.760	8	sand to silty sand
34.81	219.9	3.290	-6.20	1.496	8	sand to silty sand
34.97	136.8	3.740	-5.60	2.734	7	silty sand to sandy silt
35.14	78.2	2.940	4.20	3.761	6	sandy silt to clayey silt
35.30	45.1	0.920	5.00	2.041	5	clayey silt to silty clay
35.47	36.2	1.540	6.30	4.255	5	clayey silt to silty clay
35.63	27.0	0.910	9.50	3.366	5	clayey silt to silty clay
35.79	42.0	0.710	10.40	1.688	6	sandy silt to clayey silt
35.96	43.9	0.490	11.20	1.117	7	silty sand to sandy silt
[illegible].12	49.4	0.650	11.70	1.317	7	silty sand to sandy silt
[illegible].29	55.5	1.300	12.60	2.343	7	silty sand to sandy silt
36.45	82.0	1.880	12.60	2.293	7	silty sand to sandy silt
36.61	97.9	1.520	6.40	1.553	7	silty sand to sandy silt
36.78	100.5	0.950	0.10	0.945	8	sand to silty sand
36.94	86.9	1.350	-0.40	1.554	7	silty sand to sandy silt
37.11	78.9	2.460	0.50	3.118	6	sandy silt to clayey silt
37.27	96.4	3.420	0.70	3.547	6	sandy silt to clayey silt
37.43	134.1	3.970	-2.00	2.961	6	sandy silt to clayey silt
37.60	148.0	4.120	-6.20	2.784	7	silty sand to sandy silt
37.76	160.0	4.450	-8.50	2.782	7	silty sand to sandy silt
37.93	173.3	4.680	-9.80	2.701	7	silty sand to sandy silt
38.09	183.3	4.790	-10.40	2.614	7	silty sand to sandy silt
38.25	186.5	4.740	-10.90	2.541	7	silty sand to sandy silt
38.42	187.0	4.520	-11.20	2.417	7	silty sand to sandy silt
38.58	185.0	4.280	-11.40	2.313	7	silty sand to sandy silt
38.75	181.2	2.560	-11.50	1.413	8	sand to silty sand
38.91	177.2	3.100	-11.50	1.749	8	sand to silty sand
39.07	173.8	3.320	-8.90	1.911	8	sand to silty sand
39.24	174.1	3.310	-10.20	1.902	8	sand to silty sand
39.40	173.9	2.920	-10.70	1.679	8	sand to silty sand
39.57	171.1	2.480	-11.10	1.449	8	sand to silty sand
39.73	164.7	2.720	-11.30	1.651	8	sand to silty sand
39.90	158.4	3.320	-11.40	2.095	7	silty sand to sandy silt
40.06	160.2	3.730	-11.50	2.328	7	silty sand to sandy silt
40.22	161.1	2.120	-11.60	1.316	8	sand to silty sand
40.39	127.5	1.580	-11.60	1.239	8	sand to silty sand

[illegible]l behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
40.55	72.9	1.910	-11.30	2.619	7	silty sand to sandy silt
).72	70.5	1.720	-11.20	2.438	6	sandy silt to clayey silt
0.88	53.5	1.860	-11.00	3.474	6	sandy silt to clayey silt
.04	54.6	1.690	-11.00	3.093	5	clayey silt to silty clay
21	59.3	2.650	-8.20	4.470	5	clayey silt to silty clay
.37	85.9	3.390	-5.30	3.945	5	clayey silt to silty clay
41.54	85.2	4.060	-5.30	4.764	11	very stiff fine grained (*)
41.70	83.3	4.390	-5.20	5.269	11	very stiff fine grained (*)
41.86	110.9	5.250	-5.10	4.733	11	very stiff fine grained (*)
42.03	144.4	6.870	-4.90	4.757	11	very stiff fine grained (*)
42.19	172.4	10.250	-4.50	5.944	11	very stiff fine grained (*)
42.36	212.1	11.510	-4.90	5.426	11	very stiff fine grained (*)
42.52	179.5	8.550	-4.70	4.762	11	very stiff fine grained (*)
42.68	140.5	6.810	-4.70	4.846	11	very stiff fine grained (*)
42.85	111.5	7.720	-4.10	6.921	11	very stiff fine grained (*)
43.01	259.8	12.180	-3.80	4.687	11	very stiff fine grained (*)
43.18	336.0	13.300	-4.20	3.958	12	sand to clayey sand (*)
43.34	383.6	13.300	-4.20	3.467	12	sand to clayey sand (*)
43.50	361.4	13.300	-5.40	3.680	12	sand to clayey sand (*)
43.67	323.7	13.040	-5.80	4.028	12	sand to clayey sand (*)
43.83	274.6	11.280	-6.70	4.108	12	sand to clayey sand (*)
44.00	179.3	8.420	-4.70	4.695	11	very stiff fine grained (*)
44.16	103.7	5.480	-4.60	5.283	11	very stiff fine grained (*)
44.32	83.1	3.210	-4.10	3.861	11	very stiff fine grained (*)
44.49	195.6	7.720	-4.00	3.946	11	very stiff fine grained (*)
44.65	210.1	13.300	-4.30	6.329	11	very stiff fine grained (*)
44.82	377.8	13.300	-4.50	3.520	12	sand to clayey sand (*)
44.98	390.5	13.300	-4.50	3.406	12	sand to clayey sand (*)
45.14	452.0	13.300	-4.40	2.942	12	sand to clayey sand (*)
5.31	524.4	13.300	-5.10	2.536	12	sand to clayey sand (*)
5.47	570.6	13.300	-6.90	2.331	8	sand to silty sand
45.64	621.3	13.300	-7.70	2.141	8	sand to silty sand
.80	649.4	12.090	-8.00	1.862	8	sand to silty sand
.96	652.6	13.300	-8.30	2.038	8	sand to silty sand
46.13	642.4	13.300	-7.30	2.070	8	sand to silty sand
46.29	619.6	13.300	-7.50	2.147	8	sand to silty sand
46.46	577.4	13.300	-7.70	2.303	8	sand to silty sand
46.62	544.7	12.550	-7.70	2.304	8	sand to silty sand
46.78	505.0	11.920	-7.70	2.360	8	sand to silty sand
46.95	476.1	11.750	-7.80	2.468	8	sand to silty sand
47.11	513.2	11.950	-8.10	2.329	8	sand to silty sand
47.28	548.9	2.220	-8.10	0.404	9	sand
47.44	561.4	5.530	-8.00	0.985	10	gravelly sand to sand
47.60	607.7	9.330	-5.40	1.535	9	sand
47.77	535.2	12.400	-5.40	2.317	8	sand to silty sand
47.93	523.3	12.470	-5.40	2.383	8	sand to silty sand
48.10	491.7	13.160	-5.40	2.676	12	sand to clayey sand (*)
48.26	409.3	13.300	-5.70	3.249	12	sand to clayey sand (*)
48.43	345.9	13.300	-5.50	3.845	12	sand to clayey sand (*)
48.59	316.7	12.750	-5.40	4.026	12	sand to clayey sand (*)
48.75	314.8	9.470	-5.40	3.008	12	sand to clayey sand (*)
48.92	262.4	8.050	-6.40	3.068	12	sand to clayey sand (*)
49.08	210.7	8.190	-6.70	3.887	12	sand to clayey sand (*)
49.25	154.5	8.080	-6.70	5.230	11	very stiff fine grained (*)
49.41	159.0	7.060	-6.70	4.440	11	very stiff fine grained (*)
49.57	182.7	6.610	-6.80	3.618	11	very stiff fine grained (*)
49.74	137.3	6.010	-7.00	4.377	0	<out of range>
19.90	190.3	-32768	-7.10	-32768	0	<out of range>
50.07	199.0	-32768	-7.40	-32768	0	<out of range>

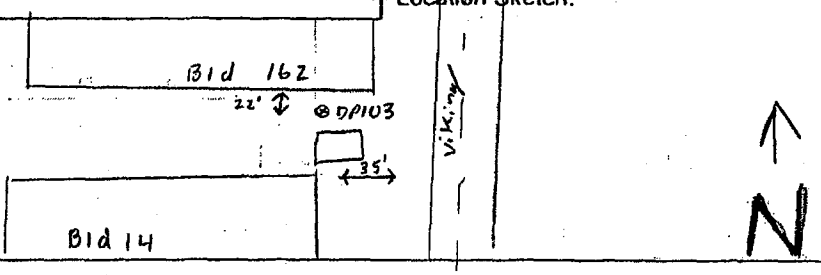
1 behavior type and SPT based on data from UBC-1983

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA FOOT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S11- DGS- DP103	Date Started: 9/15/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/15/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Mark CRUICKSHANK
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PID (ppm)
						Clayey Gravely Sand; Yellowish Brown (10YR 5/6) moist, medium dense, non plastic, poorly sorted gravel - 10% (well Rounded), clay - 2.5%, Sand - 65% (fine to medium grained)	GC		
	4					Sand; Light olive Brown (2.5Y 5/4) Dry-moist, very loose, fine - medium grained, trace well rounded gravel	SP		
235				345-S11-102		Gravely sand; Olive Brown (2.5Y 4/4) wet, very loose, non-plastic, poorly sorted, gravel - 20% (subrounded), sand - 80% (fine - medium grained)	SW		
	8					Clay with Gravel; Dark Bluish gray (2GLEY 5PB 3/1) wet, soft, plastic, poorly sorted, clay - 95%, gravel - 5%	CH		
250	12			345-S11-102	NA	Sand with Silt; Dark Bluish Gray (2GLEY 5PB 3/1) wet, very loose, Non-plastic, poorly sorted, Silt - 14%, sand - 83% (fine - medium grained) shell fragments - 3%	SP	NA	BSU
						Clay; Bluish Black (2GLEY 5B 2.5/1) wet, soft, plastic, well sorted,	CH		
	16					Clayey sand; Dark Yellowish Brown (10YR 4/4) wet, slightly dense, Non plastic, poorly sorted, clay - 20%, sand - 75% (fine - medium grained) trace silt - 5%, Mottled with gray sands, local Iron staining.	SC		
305				345-S11-103					
	20								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

511-DGS-DP103

Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
1335	24			385-511-106	NA	Sand with silt; Dark Yellowish Brown (10YR 4/6) wet, medium dense, nonplastic, poorly sorted, silt-10%, sand-90% (fine-medium grained) mottled with grey sand, Local Iron Staining	SP	NA	
	28								
	32					Sand with clay; Dark Yellowish Brown (10YR 4/6) wet, medium dense, Non-plastic, poorly sorted, clay-13%, sand-87% Locally Mottled and Iron stained	SP		
	36			385-511-107					
1420	40					clayey Sand; Dark Yellowish Brown (10YR 4/6) moist-wet, slightly plastic, medium dense, poorly sorted, clay-15%, sand-85%, Mottled with gray sand, Iron stained/Cemented	SC		
	44			385-511-108					
1445	48								

Total Depth = 45'

Borehole Backfilled with Cement grout
Ground surface measured Below 1' concrete

Data File:Urib05
Operator:Chris
Cone ID:465
Customer:Hogentogler & Co

08-30-01 08:08
Location:Alameda Point
Job Number:s11-dgs-dp103
Units:English

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
0.16	0.0	0.000	0.00	-32768	0	<out of range>
0.33	0.0	0.000	0.00	-32768	0	<out of range>
0.49	0.0	-0.010	0.00	-32768	0	<out of range>
0.66	0.0	0.010	0.00	-32768	2	organic material
0.82	6.6	0.400	0.00	6.061	5	clayey silt to silty clay
0.98	30.9	0.460	0.00	1.489	5	clayey silt to silty clay
1.15	18.4	0.350	-0.10	1.902	6	sandy silt to clayey silt
1.31	14.3	0.170	-0.10	1.189	6	sandy silt to clayey silt
1.48	10.9	0.120	-0.10	1.101	5	clayey silt to silty clay
1.64	8.8	0.230	-0.30	2.615	5	clayey silt to silty clay
1.80	14.4	0.120	-0.30	0.834	6	sandy silt to clayey silt
1.97	23.6	0.340	-0.20	1.441	6	sandy silt to clayey silt
2.13	24.5	0.240	-0.10	0.980	6	sandy silt to clayey silt
2.30	20.4	0.260	-0.30	1.275	6	sandy silt to clayey silt
2.46	30.8	0.820	-0.30	2.663	6	sandy silt to clayey silt
2.62	48.9	0.650	-0.30	1.329	7	silty sand to sandy silt
2.79	57.1	0.620	-0.40	1.086	7	silty sand to sandy silt
2.95	44.2	0.610	-0.30	1.380	7	silty sand to sandy silt
3.12	44.9	0.430	-0.40	0.958	7	silty sand to sandy silt
3.28	80.2	0.850	-0.30	1.060	8	sand to silty sand
3.44	106.7	0.950	-0.30	0.890	8	sand to silty sand
3.61	117.6	1.240	-0.40	1.054	8	sand to silty sand
3.77	135.0	1.120	-0.50	0.830	8	sand to silty sand
3.94	121.0	1.190	-0.50	0.984	8	sand to silty sand
4.10	102.0	1.180	-0.40	1.157	8	sand to silty sand
4.27	97.2	1.090	-0.60	1.121	8	sand to silty sand
4.43	82.3	1.180	-0.40	1.434	7	silty sand to sandy silt
4.59	54.6	1.070	-0.60	1.960	7	silty sand to sandy silt
4.76	35.9	0.940	-0.50	2.619	6	sandy silt to clayey silt
4.92	33.3	0.780	-0.50	2.343	6	sandy silt to clayey silt
5.09	41.1	0.580	-0.60	1.411	6	sandy silt to clayey silt
5.25	41.5	0.520	-0.50	1.253	6	sandy silt to clayey silt
5.41	38.8	1.030	-0.60	2.655	6	sandy silt to clayey silt
5.58	32.7	0.800	-0.70	2.447	6	sandy silt to clayey silt
5.74	30.2	0.670	-0.20	2.219	7	silty sand to sandy silt
5.91	85.6	0.640	0.40	0.748	8	sand to silty sand
6.07	93.2	0.600	-0.30	0.644	8	sand to silty sand
6.23	64.0	0.800	-0.30	1.250	7	silty sand to sandy silt
6.40	34.1	0.730	-0.30	2.141	6	sandy silt to clayey silt
6.56	23.2	0.880	-0.30	3.794	6	sandy silt to clayey silt
6.73	45.5	0.680	0.30	1.494	7	silty sand to sandy silt
6.89	58.5	0.590	0.00	1.009	7	silty sand to sandy silt
7.05	69.4	0.550	-0.30	0.793	8	sand to silty sand
7.22	65.2	0.450	0.00	0.690	8	sand to silty sand
7.38	71.6	0.740	-0.40	1.034	7	silty sand to sandy silt
7.55	55.0	0.970	-0.30	1.764	7	silty sand to sandy silt
7.71	24.4	0.870	0.00	3.566	6	sandy silt to clayey silt
7.87	18.1	0.430	1.60	2.373	6	sandy silt to clayey silt
8.04	34.0	0.370	3.60	1.090	7	silty sand to sandy silt
8.20	57.9	0.490	-1.60	0.847	7	silty sand to sandy silt
8.37	44.9	0.560	-1.30	1.248	7	silty sand to sandy silt
8.53	50.2	0.660	-0.70	1.315	7	silty sand to sandy silt
8.69	28.7	0.610	0.00	2.125	7	silty sand to sandy silt
8.86	43.2	0.490	0.70	1.134	7	silty sand to sandy silt

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
9.02	54.4	0.430	0.00	0.790	7	silty sand to sandy silt
9.19	69.3	0.500	-1.60	0.722	8	sand to silty sand
9.35	68.0	0.500	-1.10	0.735	8	sand to silty sand
9.51	61.4	0.620	-1.00	1.010	7	silty sand to sandy silt
[illegible].68	3.5	0.000	1.30	0.000	6	sandy silt to clayey silt
9.84	4.9	0.000	1.90	0.000	0	<out of range>
10.01	4.5	0.000	2.60	0.000	0	<out of range>
10.17	4.8	0.000	3.30	0.000	0	<out of range>
10.33	5.3	0.000	3.60	0.000	0	<out of range>
10.50	5.2	-0.020	4.30	-0.387	0	<out of range>
10.66	5.6	-0.020	4.90	-0.359	0	<out of range>
10.83	6.8	-0.010	17.80	-0.148	0	<out of range>
10.99	7.1	-0.030	18.60	-0.424	0	<out of range>
11.15	10.1	-0.040	19.90	-0.397	0	<out of range>
11.32	45.1	-0.010	5.20	-0.022	8	sand to silty sand
11.48	55.1	0.130	3.30	0.236	8	sand to silty sand
11.65	50.4	0.440	2.00	0.873	8	sand to silty sand
11.81	39.6	0.260	2.40	0.656	7	silty sand to sandy silt
11.98	19.8	0.190	3.70	0.962	6	sandy silt to clayey silt
12.14	14.5	0.190	6.60	1.311	6	sandy silt to clayey silt
12.30	18.5	0.140	8.00	0.756	6	sandy silt to clayey silt
12.47	19.3	0.220	9.10	1.138	6	sandy silt to clayey silt
12.63	20.1	0.190	10.40	0.943	6	sandy silt to clayey silt
12.80	22.1	0.280	11.00	1.269	6	sandy silt to clayey silt
12.96	25.0	0.320	12.00	1.281	6	sandy silt to clayey silt
13.12	29.6	0.580	13.10	1.960	6	sandy silt to clayey silt
13.29	36.4	0.570	14.40	1.566	6	sandy silt to clayey silt
13.45	38.1	0.760	16.20	1.993	7	silty sand to sandy silt
13.62	45.4	0.600	17.60	1.323	7	silty sand to sandy silt
13.78	47.3	0.610	18.20	1.291	7	silty sand to sandy silt
13.94	52.4	1.470	20.50	2.806	6	sandy silt to clayey silt
14.11	105.0	2.800	21.90	2.666	7	silty sand to sandy silt
[illegible].27	164.2	3.900	14.90	2.375	7	silty sand to sandy silt
[illegible].44	198.6	4.960	3.00	2.497	7	silty sand to sandy silt
14.60	215.4	3.060	-6.10	1.421	8	sand to silty sand
14.76	212.1	3.970	-9.70	1.872	8	sand to silty sand
14.93	208.4	5.310	-4.00	2.547	7	silty sand to sandy silt
15.09	201.9	4.830	-7.10	2.392	7	silty sand to sandy silt
15.26	183.6	6.010	-7.80	3.274	7	silty sand to sandy silt
15.42	178.6	6.180	-7.80	3.460	12	sand to clayey sand (*)
15.58	134.6	6.240	-8.10	4.637	11	very stiff fine grained (*)
15.75	144.4	6.440	-7.80	4.460	11	very stiff fine grained (*)
15.91	132.4	6.220	-7.80	4.698	11	very stiff fine grained (*)
16.08	121.1	5.750	-7.70	4.749	11	very stiff fine grained (*)
16.24	132.6	5.650	-7.50	4.261	11	very stiff fine grained (*)
16.40	142.6	5.650	-7.80	3.962	6	sandy silt to clayey silt
16.57	145.5	5.520	-7.80	3.794	12	sand to clayey sand (*)
16.73	159.1	5.530	-8.00	3.476	6	sandy silt to clayey silt
16.90	157.7	5.600	-8.40	3.552	6	sandy silt to clayey silt
17.06	151.5	5.540	-9.10	3.658	6	sandy silt to clayey silt
17.22	150.3	5.320	-9.50	3.540	6	sandy silt to clayey silt
17.39	161.1	5.100	-9.70	3.167	6	sandy silt to clayey silt
17.55	170.9	4.960	-10.20	2.903	6	sandy silt to clayey silt
17.72	165.8	4.960	-10.80	2.991	6	sandy silt to clayey silt
17.88	159.7	5.190	-11.30	3.249	6	sandy silt to clayey silt
18.04	160.8	5.450	-11.40	3.389	6	sandy silt to clayey silt
18.21	163.8	5.700	-11.40	3.479	6	sandy silt to clayey silt
18.37	164.8	5.880	-11.70	3.567	6	sandy silt to clayey silt
8.54	170.4	5.050	-12.00	2.963	6	sandy silt to clayey silt

[illegible]l behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
18.70	159.9	4.920	-12.00	3.076	6	sandy silt to clayey silt
18.86	148.9	6.070	-11.70	4.076	12	sand to clayey sand (*)
19.03	155.6	6.560	-11.70	4.215	11	very stiff fine grained (*)
19.19	169.6	6.720	-11.70	3.962	12	sand to clayey sand (*)
[illegible].36	187.2	6.900	-12.00	3.685	12	sand to clayey sand (*)
[illegible].52	180.3	7.000	-12.00	3.882	12	sand to clayey sand (*)
19.69	209.1	6.960	-12.00	3.328	12	sand to clayey sand (*)
19.85	259.8	7.010	-12.30	2.698	7	silty sand to sandy silt
20.01	229.9	6.970	-12.30	3.031	7	silty sand to sandy silt
20.18	273.2	7.150	-12.30	2.617	7	silty sand to sandy silt
20.34	260.0	7.140	-12.70	2.746	7	silty sand to sandy silt
20.51	243.9	7.210	-12.70	2.956	12	sand to clayey sand (*)
20.67	216.5	7.500	-13.00	3.464	12	sand to clayey sand (*)
20.83	199.8	7.700	-12.90	3.854	12	sand to clayey sand (*)
21.00	205.5	7.530	-12.80	3.664	12	sand to clayey sand (*)
21.16	263.0	6.950	-12.70	2.642	7	silty sand to sandy silt
21.33	294.8	5.570	-12.90	1.889	8	sand to silty sand
21.49	306.4	5.620	-12.90	1.834	8	sand to silty sand
21.65	327.9	5.060	-12.80	1.543	8	sand to silty sand
21.82	294.1	5.520	-12.80	1.877	8	sand to silty sand
21.98	337.3	6.160	-12.70	1.826	8	sand to silty sand
22.15	335.2	5.990	-12.70	1.787	8	sand to silty sand
22.31	328.2	3.720	-12.50	1.133	8	sand to silty sand
22.47	315.3	4.630	-12.30	1.468	8	sand to silty sand
22.64	292.3	5.450	-11.60	1.864	8	sand to silty sand
22.80	288.4	5.040	-11.70	1.747	8	sand to silty sand
22.97	285.5	5.410	-11.80	1.895	8	sand to silty sand
23.13	280.0	6.210	-11.90	2.218	8	sand to silty sand
23.29	274.6	5.980	-12.00	2.177	8	sand to silty sand
23.46	275.7	5.370	-12.30	1.948	8	sand to silty sand
23.62	277.4	4.240	-12.30	1.528	8	sand to silty sand
23.79	283.2	4.080	-12.30	1.441	8	sand to silty sand
[illegible].95	300.4	4.760	-12.30	1.584	8	sand to silty sand
.11	309.1	6.070	-12.30	1.964	8	sand to silty sand
24.28	297.7	6.450	-12.30	2.166	8	sand to silty sand
24.44	284.0	5.790	-12.00	2.039	8	sand to silty sand
24.61	258.8	4.160	-11.90	1.607	8	sand to silty sand
24.77	228.1	3.880	-11.70	1.701	8	sand to silty sand
24.93	203.4	4.490	-0.30	2.208	8	sand to silty sand
25.10	207.8	4.570	-9.30	2.200	7	silty sand to sandy silt
25.26	221.0	3.960	-10.50	1.791	8	sand to silty sand
25.43	216.7	2.420	-10.80	1.117	8	sand to silty sand
25.59	213.7	2.530	-11.00	1.184	9	sand
25.75	189.7	2.330	-8.70	1.228	8	sand to silty sand
25.92	174.7	2.880	-9.70	1.649	8	sand to silty sand
26.08	182.1	3.630	-10.60	1.993	7	silty sand to sandy silt
26.25	193.7	4.160	-11.00	2.147	7	silty sand to sandy silt
26.41	198.4	4.550	-11.40	2.293	7	silty sand to sandy silt
26.57	213.8	5.150	-11.40	2.408	7	silty sand to sandy silt
26.74	229.8	5.440	-11.70	2.367	7	silty sand to sandy silt
26.90	239.1	5.720	-11.70	2.392	7	silty sand to sandy silt
27.07	236.6	5.820	-11.90	2.460	7	silty sand to sandy silt
27.23	232.9	6.010	-12.00	2.580	7	silty sand to sandy silt
27.40	229.7	6.100	-12.00	2.655	7	silty sand to sandy silt
27.56	226.4	6.260	-12.00	2.765	7	silty sand to sandy silt
27.72	219.5	6.220	-12.00	2.833	7	silty sand to sandy silt
27.89	239.7	5.730	-12.20	2.390	7	silty sand to sandy silt
28.05	279.6	5.640	-12.30	2.017	8	sand to silty sand
28.22	337.2	6.130	-12.30	1.818	8	sand to silty sand

[illegible] behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
28.38	338.1	7.560	-12.30	2.236	8	sand to silty sand
28.54	331.2	8.600	-12.10	2.596	7	silty sand to sandy silt
28.71	339.5	8.820	-12.00	2.598	12	sand to clayey sand (*)
28.87	350.7	8.230	-12.00	2.347	8	sand to silty sand
29.04	349.1	5.180	-12.00	1.484	8	sand to silty sand
29.20	338.4	6.260	-12.00	1.850	8	sand to silty sand
29.36	317.8	6.590	-11.00	2.073	8	sand to silty sand
29.53	301.9	6.120	-11.40	2.027	8	sand to silty sand
29.69	278.7	3.810	-11.40	1.367	8	sand to silty sand
29.86	248.1	4.120	-11.60	1.660	8	sand to silty sand
30.02	247.9	4.390	-11.10	1.771	8	sand to silty sand
30.18	226.9	3.670	-11.50	1.617	8	sand to silty sand
30.35	200.4	2.740	-11.50	1.367	8	sand to silty sand
30.51	196.2	2.460	-11.60	1.254	9	sand
30.68	205.9	2.400	-11.70	1.165	9	sand
30.84	228.2	3.220	-11.70	1.411	8	sand to silty sand
31.00	202.1	3.730	-11.80	1.845	8	sand to silty sand
31.17	174.6	3.900	-10.50	2.233	7	silty sand to sandy silt
31.33	151.0	3.610	-4.50	2.390	7	silty sand to sandy silt
31.50	130.9	3.210	-4.40	2.452	7	silty sand to sandy silt
31.66	148.6	3.250	-3.90	2.186	7	silty sand to sandy silt
31.82	148.4	3.420	-4.90	2.304	7	silty sand to sandy silt
31.99	138.5	2.930	-5.20	2.115	7	silty sand to sandy silt
32.15	121.7	1.660	-5.10	1.364	7	silty sand to sandy silt
32.32	103.4	1.860	-4.20	1.798	7	silty sand to sandy silt
32.48	94.6	2.260	-3.90	2.388	7	silty sand to sandy silt
32.64	121.2	2.940	-4.20	2.425	7	silty sand to sandy silt
32.81	127.2	3.450	-3.80	2.711	7	silty sand to sandy silt
32.97	135.7	3.500	-4.50	2.579	7	silty sand to sandy silt
33.14	139.6	3.330	-5.20	2.385	7	silty sand to sandy silt
33.30	135.8	3.400	-5.50	2.503	7	silty sand to sandy silt
33.46	131.7	3.820	-5.40	2.900	6	sandy silt to clayey silt
33.63	138.9	4.300	-5.70	3.095	6	sandy silt to clayey silt
33.79	165.7	4.550	-5.90	2.746	7	silty sand to sandy silt
33.96	225.5	5.230	-5.80	2.319	7	silty sand to sandy silt
34.12	318.5	6.120	-5.80	1.921	8	sand to silty sand
34.28	384.9	7.170	-6.20	1.863	8	sand to silty sand
34.45	410.7	7.760	-5.70	1.889	8	sand to silty sand
34.61	396.6	5.920	-5.80	1.493	8	sand to silty sand
34.78	360.5	6.270	-7.40	1.739	8	sand to silty sand
34.94	313.0	7.710	-2.80	2.464	7	silty sand to sandy silt
35.10	301.0	8.900	-6.20	2.957	12	sand to clayey sand (*)
35.27	295.0	9.110	-7.40	3.088	12	sand to clayey sand (*)
35.43	292.4	8.070	-6.10	2.760	7	silty sand to sandy silt
35.60	279.1	4.600	-6.80	1.648	8	sand to silty sand
35.76	268.5	5.890	-7.80	2.194	8	sand to silty sand
35.93	158.0	2.720	-0.90	1.722	8	sand to silty sand
36.09	253.6	3.340	-5.80	1.317	8	sand to silty sand
36.25	257.9	4.200	1.40	1.628	8	sand to silty sand
36.42	239.3	4.910	-1.80	2.052	8	sand to silty sand
36.58	218.8	4.830	-3.90	2.207	7	silty sand to sandy silt
36.75	201.9	4.840	-4.70	2.397	7	silty sand to sandy silt
36.91	173.4	3.560	-5.50	2.053	7	silty sand to sandy silt
37.07	146.4	2.130	-4.60	1.455	8	sand to silty sand
37.24	121.1	1.050	-4.20	0.867	8	sand to silty sand
37.40	96.1	0.950	-3.80	0.988	8	sand to silty sand
37.57	75.6	0.710	-3.50	0.939	8	sand to silty sand
37.73	66.8	0.600	-3.20	0.899	7	silty sand to sandy silt
37.89	59.7	1.350	-2.90	2.263	6	sandy silt to clayey silt

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
38.06	68.9	3.510	-2.40	5.097	6	sandy silt to clayey silt
38.22	172.8	5.970	-1.80	3.455	6	sandy silt to clayey silt
38.39	242.8	6.500	-3.80	2.677	7	silty sand to sandy silt
[illegible].55	238.0	5.750	-5.20	2.416	7	silty sand to sandy silt
[illegible].71	210.1	5.480	-6.10	2.608	7	silty sand to sandy silt
38.88	191.7	5.710	-7.10	2.979	7	silty sand to sandy silt
39.04	193.0	5.840	-6.40	3.026	7	silty sand to sandy silt
39.21	188.3	5.500	-7.10	2.921	7	silty sand to sandy silt
39.37	191.7	5.360	-7.20	2.796	7	silty sand to sandy silt
39.53	202.3	3.720	-8.30	1.839	7	silty sand to sandy silt
39.70	206.0	3.930	-8.60	1.908	8	sand to silty sand
39.86	201.4	4.150	-1.20	2.061	8	sand to silty sand
40.03	197.9	3.640	-6.10	1.839	8	sand to silty sand
40.19	190.4	3.150	-7.50	1.654	8	sand to silty sand
40.35	178.1	3.170	-8.00	1.780	8	sand to silty sand
40.52	160.2	3.580	-8.40	2.235	7	silty sand to sandy silt
40.68	142.9	4.490	-9.00	3.143	6	sandy silt to clayey silt
40.85	125.8	4.790	-8.70	3.808	6	sandy silt to clayey silt
41.01	111.5	4.570	-8.10	4.099	5	clayey silt to silty clay
41.17	104.0	3.910	-6.10	3.759	6	sandy silt to clayey silt
41.34	107.3	3.670	-4.50	3.419	6	sandy silt to clayey silt
41.50	106.6	3.460	-4.50	3.245	6	sandy silt to clayey silt
41.67	86.5	1.650	-4.80	1.907	7	silty sand to sandy silt
41.83	60.5	0.930	-4.60	1.536	7	silty sand to sandy silt
41.99	52.8	0.560	-4.40	1.060	7	silty sand to sandy silt
42.16	53.0	1.240	-4.20	2.338	6	sandy silt to clayey silt
42.32	46.6	2.520	-4.10	5.403	5	clayey silt to silty clay
42.49	86.5	4.080	-3.00	4.719	11	very stiff fine grained (*)
42.65	111.6	6.030	-3.10	5.405	11	very stiff fine grained (*)
42.81	123.1	7.280	-2.90	5.916	11	very stiff fine grained (*)
42.98	134.4	6.950	-2.90	5.173	11	very stiff fine grained (*)
43.14	127.6	8.050	-2.00	6.310	11	very stiff fine grained (*)
[illegible].31	128.0	8.060	-1.90	6.298	11	very stiff fine grained (*)
[illegible].47	120.8	7.010	-2.30	5.805	11	very stiff fine grained (*)
43.64	79.5	4.600	-2.60	5.789	11	very stiff fine grained (*)
43.80	59.7	3.000	-2.20	5.028	11	very stiff fine grained (*)
43.96	67.1	3.290	-1.90	4.905	11	very stiff fine grained (*)
44.13	88.4	4.970	-1.70	5.624	11	very stiff fine grained (*)
44.29	124.6	6.740	-1.60	5.410	11	very stiff fine grained (*)
44.46	159.3	6.760	-1.60	4.244	11	very stiff fine grained (*)
44.62	141.5	6.640	-1.40	4.693	11	very stiff fine grained (*)
44.78	154.6	8.060	-0.30	5.214	11	very stiff fine grained (*)
44.95	204.0	9.780	-0.30	4.794	11	very stiff fine grained (*)
45.11	161.1	7.390	-1.40	4.588	11	very stiff fine grained (*)
45.28	100.3	4.770	-1.20	4.757	11	very stiff fine grained (*)
45.44	125.7	5.490	0.00	4.368	11	very stiff fine grained (*)
45.60	184.7	7.710	0.00	4.174	7	silty sand to sandy silt
45.77	356.8	4.580	-1.60	1.284	8	sand to silty sand
45.93	418.8	7.950	-4.50	1.898	8	sand to silty sand
46.10	366.8	10.500	1.30	2.862	8	sand to silty sand
46.26	431.3	11.240	0.00	2.606	12	sand to clayey sand (*)
46.42	441.5	10.330	-3.20	2.340	8	sand to silty sand
46.59	490.9	7.760	-3.50	1.581	8	sand to silty sand
46.75	496.2	9.950	-4.50	2.005	8	sand to silty sand
46.92	471.2	13.370	-3.80	2.837	12	sand to clayey sand (*)
47.08	443.5	13.370	-4.80	3.014	12	sand to clayey sand (*)
47.24	399.1	13.370	-4.80	3.350	12	sand to clayey sand (*)
47.41	378.7	13.370	-5.50	3.530	12	sand to clayey sand (*)
47.57	340.6	2.210	-7.10	0.649	8	sand to silty sand

[illegible]l behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
47.74	373.7	5.650	-7.00	1.512	8	sand to silty sand
47.90	402.5	10.310	-1.60	2.562	8	sand to silty sand
48.06	370.5	10.680	-2.50	2.883	8	sand to silty sand
48.23	402.5	3.620	-2.60	0.899	8	sand to silty sand
48.39	445.1	4.990	-2.60	1.121	0	<out of range>
48.56	464.7	-32768	-2.20	-32768	0	<out of range>
48.72	517.4	-32768	-2.90	-32768	0	<out of range>

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

Data File:Urib11
Operator:Chris
Cone ID:465
Customer:cision Sampling Inc.

08-31-01 08:02
Location:Alameda Point
Job Number:s11-dgs-dp104
Units:English

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
0.16	0.2	0.000	0.00	0.000	0	<out of range>
0.33	0.2	0.000	0.00	0.000	2	organic material
0.49	0.2	0.010	0.00	5.000	2	organic material
0.66	0.2	0.010	0.00	5.000	2	organic material
0.82	0.2	0.010	0.00	5.000	2	organic material
0.98	0.2	0.010	-0.10	5.036	2	organic material
1.15	0.4	0.030	0.00	7.500	2	organic material
1.31	0.8	0.030	0.00	3.750	2	organic material
1.48	0.2	0.040	0.00	20.000	2	organic material
1.64	0.4	0.050	-0.10	12.545	0	<out of range>
1.80	0.1	0.070	-0.20	72.076	0	<out of range>
1.97	0.2	0.030	-0.30	15.331	0	<out of range>
2.13	0.0	0.010	-0.30	-231.482	2	organic material
2.30	0.5	0.020	-0.20	4.023	2	organic material
2.46	1.4	0.050	-0.30	3.582	2	organic material
2.62	1.3	0.040	-0.30	3.087	3	clay
2.79	1.5	0.030	-0.30	2.006	1	sensitive fine grained
2.95	1.9	0.020	-0.30	1.055	1	sensitive fine grained
3.12	2.5	0.030	-0.30	1.202	1	sensitive fine grained
3.28	2.2	0.070	-0.30	3.188	1	sensitive fine grained
3.44	2.3	0.020	-0.30	0.871	3	clay
3.61	0.9	0.050	-0.30	5.582	1	sensitive fine grained
3.77	2.0	0.050	-0.30	2.505	3	clay
3.94	2.1	0.050	-0.30	2.386	1	sensitive fine grained
4.10	2.1	0.010	-0.30	0.477	1	sensitive fine grained
4.27	2.0	0.030	-0.30	1.503	1	sensitive fine grained
4.43	2.2	0.020	-0.30	0.911	1	sensitive fine grained
[illegible]59	2.3	0.070	-0.30	3.049	3	clay
[illegible].76	2.5	0.090	-0.30	3.606	3	clay
4.92	1.5	0.080	-0.30	5.349	3	clay
5.09	1.1	0.030	-0.30	2.738	3	clay
5.25	1.5	0.010	-0.30	0.669	1	sensitive fine grained
5.41	1.7	0.040	-0.30	2.359	1	sensitive fine grained
5.58	2.9	0.000	-0.30	0.000	1	sensitive fine grained
5.74	1.8	0.080	-0.30	4.455	3	clay
5.91	3.9	0.170	-0.30	4.364	2	organic material
6.07	2.8	0.410	-0.30	14.665	3	clay
6.23	22.7	1.040	-0.30	4.582	7	silty sand to sandy silt
6.40	223.6	4.210	2.00	1.883	8	sand to silty sand
6.56	323.7	4.090	-1.30	1.264	8	sand to silty sand
6.73	364.7	4.900	-0.70	1.344	9	sand
6.89	277.2	3.600	-0.40	1.299	9	sand
7.05	233.3	2.580	-0.60	1.106	9	sand
7.22	210.4	2.230	-0.30	1.060	9	sand
7.38	200.0	1.970	-0.30	0.985	9	sand
7.55	190.7	2.140	0.00	1.122	9	sand
7.71	196.1	1.480	0.00	0.755	0	<out of range>
7.87	269.2	-32768	-0.70	-32768	0	<out of range>
8.04	656.2	-32768	-0.90	-32768	0	<out of range>
8.20	1.9	0.010	3.20	0.514	0	<out of range>
8.37	5.3	0.010	4.20	0.190	1	sensitive fine grained
8.53	7.6	0.020	3.40	0.261	1	sensitive fine grained
8.69	9.9	0.040	2.20	0.403	6	sandy silt to clayey silt
8.86	12.2	0.040	2.10	0.327	6	sandy silt to clayey silt

behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
9.02	15.3	0.110	1.30	0.718	6	sandy silt to clayey silt
9.19	23.8	0.400	1.90	1.679	7	silty sand to sandy silt
9.35	52.1	0.410	1.90	0.787	7	silty sand to sandy silt
9.51	59.6	0.430	-2.30	0.722	8	sand to silty sand
9.68	55.0	0.410	-1.00	0.746	8	sand to silty sand
9.84	52.7	0.350	-0.40	0.664	8	sand to silty sand
10.01	50.1	0.320	0.30	0.639	7	silty sand to sandy silt
10.17	46.6	0.290	2.10	0.622	7	silty sand to sandy silt
10.33	49.6	0.300	2.20	0.604	8	sand to silty sand
10.50	53.9	0.330	2.30	0.612	8	sand to silty sand
10.66	59.0	0.360	2.30	0.610	8	sand to silty sand
10.83	66.4	0.430	2.50	0.647	8	sand to silty sand
10.99	74.6	0.480	2.40	0.643	8	sand to silty sand
11.15	77.8	0.510	2.50	0.655	8	sand to silty sand
11.32	83.2	0.550	2.40	0.661	8	sand to silty sand
11.48	88.3	0.600	2.50	0.679	8	sand to silty sand
11.65	90.8	0.630	2.60	0.694	8	sand to silty sand
11.81	88.6	0.580	2.70	0.654	8	sand to silty sand
11.98	88.8	0.600	2.70	0.675	8	sand to silty sand
12.14	84.1	0.630	2.30	0.749	8	sand to silty sand
12.30	88.2	0.640	2.60	0.725	8	sand to silty sand
12.47	87.2	0.660	2.70	0.757	8	sand to silty sand
12.63	79.2	0.620	2.90	0.782	8	sand to silty sand
12.80	73.8	0.570	3.00	0.772	8	sand to silty sand
12.96	74.9	0.550	2.80	0.734	8	sand to silty sand
13.12	71.5	0.510	2.80	0.713	8	sand to silty sand
13.29	67.8	0.440	3.00	0.649	8	sand to silty sand
13.45	65.2	0.400	3.20	0.613	8	sand to silty sand
13.62	63.9	0.410	3.40	0.641	8	sand to silty sand
13.78	60.8	0.390	3.50	0.642	8	sand to silty sand
13.94	56.0	0.350	3.60	0.626	8	sand to silty sand
14.11	51.3	0.320	3.80	0.624	8	sand to silty sand
14.27	46.6	0.290	3.90	0.623	7	silty sand to sandy silt
14.44	42.6	0.260	3.90	0.611	7	silty sand to sandy silt
14.60	36.9	0.250	4.10	0.678	7	silty sand to sandy silt
14.76	31.2	0.300	4.20	0.963	7	silty sand to sandy silt
14.93	23.6	0.240	4.40	1.019	7	silty sand to sandy silt
15.09	25.0	0.220	4.60	0.881	6	sandy silt to clayey silt
15.26	24.9	0.220	2.20	0.882	6	sandy silt to clayey silt
15.42	22.1	0.290	2.20	1.310	6	sandy silt to clayey silt
15.58	11.9	0.310	2.50	2.597	5	clayey silt to silty clay
15.75	9.9	0.180	3.30	1.809	6	sandy silt to clayey silt
15.91	20.9	0.120	4.60	0.575	6	sandy silt to clayey silt
16.08	20.8	0.150	3.50	0.723	6	sandy silt to clayey silt
16.24	17.5	0.310	4.60	1.775	6	sandy silt to clayey silt
16.40	11.9	0.220	5.10	1.853	5	clayey silt to silty clay
16.57	13.9	0.150	6.00	1.080	6	sandy silt to clayey silt
16.73	19.5	0.320	3.60	1.645	5	clayey silt to silty clay
16.90	13.9	0.350	3.10	2.510	5	clayey silt to silty clay
17.06	8.6	0.310	3.80	3.624	4	silty clay to clay
17.22	7.3	0.140	5.70	1.923	4	silty clay to clay
17.39	5.3	0.110	6.00	2.081	4	silty clay to clay
17.55	5.2	0.080	7.20	1.537	5	clayey silt to silty clay
17.72	12.6	0.200	8.40	1.585	5	clayey silt to silty clay
17.88	9.4	0.220	5.90	2.344	5	clayey silt to silty clay
18.04	6.6	0.190	6.70	2.880	4	silty clay to clay
18.21	9.1	0.120	8.70	1.315	4	silty clay to clay
18.37	5.9	0.130	7.30	2.201	4	silty clay to clay
18.54	4.8	0.130	8.80	2.693	3	clay

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
18.70	4.9	0.110	9.90	2.226	4	silty clay to clay
18.86	5.4	0.070	7.50	1.294	4	silty clay to clay
19.03	5.4	0.100	8.60	1.844	1	sensitive fine grained
19.19	7.5	0.110	9.80	1.459	6	sandy silt to clayey silt
19.36	25.8	0.270	8.10	1.046	6	sandy silt to clayey silt
19.52	27.5	0.550	7.50	1.999	6	sandy silt to clayey silt
19.69	26.6	0.550	7.80	2.067	7	silty sand to sandy silt
19.85	59.3	0.600	8.90	1.011	7	silty sand to sandy silt
20.01	96.9	0.730	7.10	0.753	8	sand to silty sand
20.18	116.0	1.070	2.90	0.922	8	sand to silty sand
20.34	150.2	0.860	-5.30	0.572	9	sand
20.51	170.2	1.130	-8.60	0.664	9	sand
20.67	169.3	1.850	-9.30	1.093	9	sand
20.83	165.8	2.250	-9.60	1.357	8	sand to silty sand
21.00	175.8	2.770	-10.20	1.576	8	sand to silty sand
21.16	187.6	2.980	-10.50	1.588	8	sand to silty sand
21.33	199.3	2.410	-10.90	1.209	8	sand to silty sand
21.49	222.9	2.680	-11.10	1.202	9	sand
21.65	252.4	2.880	-11.40	1.141	9	sand
21.82	269.4	2.790	-11.50	1.036	9	sand
21.98	272.6	1.830	-11.50	0.671	9	sand
22.15	278.8	2.120	-11.50	0.760	9	sand
22.31	247.6	3.560	-5.60	1.438	9	sand
22.47	284.6	4.450	-9.20	1.564	8	sand to silty sand
22.64	248.8	4.840	-10.10	1.946	8	sand to silty sand
22.80	227.3	4.900	-10.80	2.155	8	sand to silty sand
22.97	220.4	4.370	-11.10	1.982	8	sand to silty sand
23.13	232.7	4.240	-11.80	1.822	8	sand to silty sand
23.29	227.0	4.120	-11.40	1.815	8	sand to silty sand
23.46	216.3	4.530	-11.90	2.094	8	sand to silty sand
23.62	216.7	4.600	-11.80	2.122	7	silty sand to sandy silt
23.79	219.2	4.300	-12.10	1.961	8	sand to silty sand
23.95	217.0	4.160	-12.10	1.917	8	sand to silty sand
24.11	220.4	4.510	-12.10	2.046	7	silty sand to sandy silt
24.28	213.7	5.050	-12.10	2.363	7	silty sand to sandy silt
24.44	214.5	5.500	-12.00	2.564	7	silty sand to sandy silt
24.61	215.3	5.870	-11.80	2.726	7	silty sand to sandy silt
24.77	245.1	6.130	-11.80	2.501	8	sand to silty sand
24.93	287.9	3.920	-11.80	1.361	8	sand to silty sand
25.10	318.9	3.780	-12.00	1.185	9	sand
25.26	303.5	3.940	1.30	1.298	9	sand
25.43	300.8	4.180	-8.80	1.390	8	sand to silty sand
25.59	281.0	5.030	-9.60	1.790	8	sand to silty sand
25.75	283.6	5.480	-10.20	1.933	8	sand to silty sand
25.92	273.1	5.530	-10.60	2.025	8	sand to silty sand
26.08	264.7	5.410	-11.10	2.044	8	sand to silty sand
26.25	281.0	5.340	-11.10	1.900	8	sand to silty sand
26.41	294.7	4.720	-11.10	1.601	8	sand to silty sand
26.57	290.1	3.730	-11.20	1.286	9	sand
26.74	301.1	3.600	-11.30	1.195	9	sand
26.90	313.1	4.140	-11.20	1.322	9	sand
27.07	336.6	4.810	-11.20	1.429	9	sand
27.23	342.3	5.040	-11.20	1.472	9	sand
27.40	343.9	4.840	-11.10	1.407	9	sand
27.56	368.6	4.520	-11.20	1.226	9	sand
27.72	384.1	5.360	-11.10	1.395	9	sand
27.89	376.8	5.740	-11.20	1.523	8	sand to silty sand
28.05	341.5	5.620	-11.40	1.646	8	sand to silty sand
28.22	320.3	5.110	-11.30	1.595	8	sand to silty sand

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
28.38	318.0	5.450	-11.40	1.714	8	sand to silty sand
3.54	334.2	5.410	-11.40	1.619	8	sand to silty sand
8.71	347.2	3.630	-11.40	1.045	9	sand
.87	337.3	4.750	-11.50	1.408	9	sand
.04	307.6	5.340	-5.90	1.736	8	sand to silty sand
29.20	299.4	5.270	-9.90	1.760	8	sand to silty sand
29.36	278.7	5.400	-10.80	1.937	8	sand to silty sand
29.53	265.9	4.550	-11.40	1.711	8	sand to silty sand
29.69	278.1	4.140	-11.80	1.489	8	sand to silty sand
29.86	283.4	4.810	-11.80	1.697	8	sand to silty sand
30.02	281.6	5.220	-12.10	1.854	8	sand to silty sand
30.18	287.7	5.230	-12.10	1.818	8	sand to silty sand
30.35	300.0	5.390	-12.10	1.797	8	sand to silty sand
30.51	303.6	5.320	-12.10	1.752	8	sand to silty sand
30.68	300.0	4.810	-12.10	1.603	8	sand to silty sand
30.84	310.2	4.720	-12.10	1.521	8	sand to silty sand
31.00	324.1	4.700	-12.30	1.450	9	sand
31.17	313.7	3.750	-12.20	1.195	9	sand
31.33	283.8	4.410	-12.20	1.554	8	sand to silty sand
31.50	303.0	4.670	-12.20	1.541	8	sand to silty sand
31.66	309.2	4.770	-12.30	1.543	8	sand to silty sand
31.82	298.4	4.190	-12.10	1.404	8	sand to silty sand
31.99	293.1	4.410	-12.10	1.504	9	sand
32.15	294.7	3.780	-12.10	1.283	8	sand to silty sand
32.32	277.5	4.150	-12.10	1.495	9	sand
32.48	275.4	3.440	-10.20	1.249	8	sand to silty sand
32.64	286.7	4.400	-10.90	1.534	8	sand to silty sand
32.81	293.4	5.050	-11.40	1.721	8	sand to silty sand
32.97	301.8	4.790	-11.80	1.587	8	sand to silty sand
3.14	323.7	3.610	-12.00	1.115	9	sand
3.30	350.5	3.870	-12.00	1.104	9	sand
3.46	317.7	4.060	-12.10	1.278	9	sand
.63	261.8	4.730	-12.10	1.807	8	sand to silty sand
.79	244.9	4.370	-12.10	1.784	8	sand to silty sand
33.96	213.7	3.710	-12.10	1.736	7	silty sand to sandy silt
34.12	153.4	4.350	-12.10	2.835	7	silty sand to sandy silt
34.28	94.0	4.180	-12.10	4.446	6	sandy silt to clayey silt
34.45	57.7	2.780	-12.10	4.816	5	clayey silt to silty clay
34.61	52.0	1.070	-12.10	2.057	6	sandy silt to clayey silt
34.78	53.8	0.900	-12.10	1.672	7	silty sand to sandy silt
34.94	56.4	0.620	-12.10	1.099	7	silty sand to sandy silt
35.10	70.2	1.670	-12.00	2.378	6	sandy silt to clayey silt
35.27	28.4	1.240	13.20	4.368	6	sandy silt to clayey silt
35.43	75.8	1.790	-2.70	2.363	6	sandy silt to clayey silt
35.60	83.1	2.470	-0.80	2.973	6	sandy silt to clayey silt
35.76	97.8	2.820	-1.40	2.884	6	sandy silt to clayey silt
35.93	105.8	2.900	-4.30	2.740	6	sandy silt to clayey silt
36.09	114.5	3.130	-5.70	2.733	6	sandy silt to clayey silt
36.25	124.7	3.280	-6.90	2.630	7	silty sand to sandy silt
36.42	132.6	3.680	-8.20	2.776	6	sandy silt to clayey silt
36.58	136.3	4.020	-9.20	2.950	6	sandy silt to clayey silt
36.75	142.5	4.390	-9.90	3.082	6	sandy silt to clayey silt
36.91	148.4	4.490	-10.50	3.025	6	sandy silt to clayey silt
37.07	155.8	4.300	-10.80	2.759	7	silty sand to sandy silt
37.24	156.2	3.920	-11.10	2.509	7	silty sand to sandy silt
37.40	139.4	3.130	-11.50	2.245	7	silty sand to sandy silt
37.57	108.3	1.940	-11.50	1.791	7	silty sand to sandy silt
37.73	82.1	2.750	-11.70	3.348	6	sandy silt to clayey silt
7.89	86.8	3.330	-11.60	3.835	6	sandy silt to clayey silt

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
38.06	79.2	2.600	-11.60	3.281	6	sandy silt to clayey silt
38.22	65.0	1.320	-11.70	2.030	6	sandy silt to clayey silt
38.39	59.1	0.750	-11.60	1.268	7	silty sand to sandy silt
[illegible].55	53.3	1.150	-11.50	2.156	7	silty sand to sandy silt
[illegible].71	55.8	1.440	-11.50	2.579	6	sandy silt to clayey silt
38.88	52.1	2.070	-11.50	3.971	5	clayey silt to silty clay
39.04	51.4	2.230	-11.10	4.335	4	silty clay to clay
39.21	48.2	2.340	-11.10	4.851	4	silty clay to clay
39.37	51.2	2.490	-11.00	4.859	4	silty clay to clay
39.53	46.4	2.490	-10.90	5.361	4	silty clay to clay
39.70	62.6	2.370	-10.80	3.783	4	silty clay to clay
39.86	61.1	2.900	-10.80	4.743	5	clayey silt to silty clay
40.03	63.4	2.770	-10.80	4.366	4	silty clay to clay
40.19	72.2	3.600	-10.60	4.983	11	very stiff fine grained (*)
40.35	99.6	4.590	-10.50	4.606	11	very stiff fine grained (*)
40.52	129.5	5.780	-10.40	4.465	11	very stiff fine grained (*)
40.68	151.7	7.430	-10.20	4.899	11	very stiff fine grained (*)
40.85	175.2	10.830	-10.20	6.183	11	very stiff fine grained (*)
41.01	222.6	12.140	-10.10	5.455	11	very stiff fine grained (*)
41.17	252.4	13.910	-10.20	5.512	11	very stiff fine grained (*)
41.34	266.1	13.910	-10.20	5.228	11	very stiff fine grained (*)
41.50	278.5	13.910	-9.80	4.995	11	very stiff fine grained (*)
41.67	312.9	13.910	-9.70	4.446	11	very stiff fine grained (*)
41.83	325.4	13.910	-9.50	4.275	12	sand to clayey sand (*)
41.99	334.7	13.910	-9.40	4.156	12	sand to clayey sand (*)
42.16	374.0	13.910	-9.50	3.720	12	sand to clayey sand (*)
42.32	422.4	13.910	-9.50	3.293	12	sand to clayey sand (*)
42.49	423.9	13.910	-9.70	3.282	12	sand to clayey sand (*)
42.65	463.0	13.910	-9.50	3.005	12	sand to clayey sand (*)
42.81	521.7	13.910	-9.50	2.666	12	sand to clayey sand (*)
42.98	544.2	13.910	-9.70	2.556	12	sand to clayey sand (*)
43.14	524.0	13.850	-9.80	2.643	8	sand to silty sand
[illegible].31	517.6	11.780	-10.10	2.276	8	sand to silty sand
[illegible].47	535.3	11.410	-10.20	2.132	8	sand to silty sand
43.64	547.4	10.670	-10.20	1.949	8	sand to silty sand
43.80	531.8	10.610	-10.20	1.995	8	sand to silty sand
43.96	558.0	11.200	-10.30	2.007	8	sand to silty sand
44.13	596.8	12.640	-10.50	2.118	8	sand to silty sand
44.29	583.1	12.380	-10.50	2.123	8	sand to silty sand
44.46	539.3	7.600	-10.50	1.409	8	sand to silty sand
44.62	487.6	9.110	-10.50	1.868	8	sand to silty sand
44.78	468.8	10.330	-2.20	2.204	8	sand to silty sand
44.95	503.8	9.890	-7.50	1.963	8	sand to silty sand
45.11	498.2	9.250	-8.90	1.857	8	sand to silty sand
45.28	459.7	8.990	-9.30	1.956	8	sand to silty sand
45.44	388.1	11.090	-9.80	2.858	12	sand to clayey sand (*)
45.60	376.5	11.610	-9.90	3.084	12	sand to clayey sand (*)
45.77	378.3	10.880	-9.80	2.876	12	sand to clayey sand (*)
45.93	376.5	7.390	-10.10	1.963	7	silty sand to sandy silt
46.10	329.3	8.400	-10.50	2.550	8	sand to silty sand
46.26	185.5	1.930	-8.50	1.041	7	silty sand to sandy silt
46.42	265.4	7.120	-9.20	2.683	7	silty sand to sandy silt
46.59	228.0	11.410	-7.50	5.005	12	sand to clayey sand (*)
46.75	252.5	12.800	-7.90	5.070	11	very stiff fine grained (*)
46.92	263.4	11.940	-7.50	4.533	11	very stiff fine grained (*)
47.08	253.2	11.650	-7.60	4.601	11	very stiff fine grained (*)
47.24	252.5	10.820	-7.90	4.285	11	very stiff fine grained (*)
47.41	245.7	10.450	-8.30	4.253	11	very stiff fine grained (*)
47.57	239.6	10.780	-8.80	4.500	12	sand to clayey sand (*)

[illegible] behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
47.74	271.5	8.880	-8.90	3.271	12	sand to clayey sand (*)
[illegible].90	332.6	8.200	-9.20	2.466	12	sand to clayey sand (*)
[illegible].06	321.8	8.670	-6.90	2.694	12	sand to clayey sand (*)
[illegible].23	280.5	11.000	-8.10	3.922	12	sand to clayey sand (*)
[illegible].39	265.2	11.670	-8.50	4.401	12	sand to clayey sand (*)
48.56	263.6	11.090	-8.80	4.208	12	sand to clayey sand (*)
48.72	284.4	10.360	-9.20	3.643	12	sand to clayey sand (*)
48.88	319.5	9.730	-9.50	3.046	12	sand to clayey sand (*)
49.05	351.2	9.030	-9.80	2.571	12	sand to clayey sand (*)
49.21	372.6	7.500	-10.20	2.013	8	sand to silty sand
49.38	353.8	4.170	-10.40	1.179	8	sand to silty sand
49.54	326.2	5.240	-10.50	1.606	8	sand to silty sand
49.70	168.7	7.340	-10.60	4.350	0	<out of range>
49.87	275.5	-32768	-10.50	-32768	0	<out of range>
50.03	317.7	-32768	-10.50	-32768	0	<out of range>

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

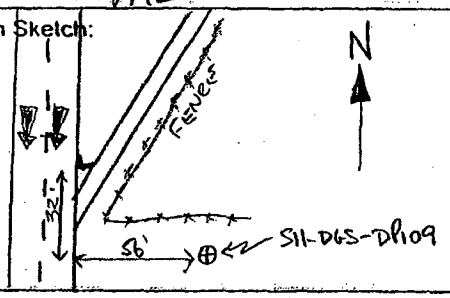
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S11- DGS- DP109	Date Started: 9/4/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/4/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MTC
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: VAL
Depth to Water (ft./bgs.) 7'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VOC (ppm)
						ASPHALT			
850				385-S11-	116	CLAYEY SAND W/ GRAVEL; YELLOWISH BROWN; MOIST; M. DENSE; POORLY SORTED; SAND - 65% (M. GRAIN) GRAVEL - 15% - ANGULAR; CLAY - 15%, DECREASED GRAVEL W/ DEPTH.	SC	NA	
910				385-S11-	118				
920	12			385-S11-	119	COLOR CHANGE @ 7.0' - DARK BLUISH GREY (2GLEY 4/1), GRAVEL TO 15%, WET	SP SW / SC		
					NA	GRAVELY SAND; DARK RED (2.5Y 3/6); WET; LOOSE; NON-PLASTIC; POORLY SORTED; SAND-(M.G.) - 55%, GRAVEL - 45% - ANGULAR.			
1005	24			385-S11-	120	CLAYEY SAND; LIGHT OLIVE BROWN (2.5Y 5/6); WET; LOOSE - M. DENSE; SAND (FINE - M. GRAINED) - 80%, CLAY - 20%, LOCALLY IRON STAINED & MOTTLED W/ GREY SAND.	SP		
	36					SAND; DARK YELLOWISH BROWN (10YR 4/6); WET; LOOSE; SAND - (FINE TO M. GRAINED) 100%, MOTTLED.	SC		
110				385-S11-	121	SAND W/ CLAY; YELLOWISH BROWN (10YR 5/4); WET; M. DENSE; SAND - 90%, CLAY - 10%, MOTTLED, LOCALLY IRON STAINED. V. POOR RECOVERIES			
	48					TOTAL DEPTH = 46'			

BORING BACKFILLED W/ CEMENT GROUT

Data File:Urib09
Operator:Chris
Cone ID:465
Customer:Hogentogler & Co

08-30-01 13:58
Location:Alameda Point
Job Number:s11-dgs-dp109
Units:English

epth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
.16	0.0	0.010	0.00	-32768	0	<out of range>
0.33	0.0	0.010	0.00	-32768	0	<out of range>
0.49	0.0	0.010	-0.10	-694.445	0	<out of range>
0.66	0.0	0.010	-0.20	-347.222	0	<out of range>
0.82	0.0	0.010	-0.10	-694.445	0	<out of range>
0.98	0.0	0.010	-0.10	-694.445	0	<out of range>
1.15	0.0	0.010	-0.10	-694.445	0	<out of range>
1.31	0.0	0.010	-0.20	-347.222	0	<out of range>
1.48	0.0	0.010	-0.30	-231.482	0	<out of range>
1.64	0.0	0.010	0.00	-32768	0	<out of range>
1.80	0.0	0.010	-0.20	-347.222	0	<out of range>
1.97	0.0	0.000	-0.20	0.000	0	<out of range>
2.13	0.0	0.000	-0.30	0.000	0	<out of range>
2.30	0.0	0.000	-0.20	0.000	0	<out of range>
2.46	0.0	0.000	-0.30	0.000	0	<out of range>
2.62	0.1	0.000	-0.30	0.000	0	<out of range>
2.79	0.0	0.000	-0.30	0.000	2	organic material
2.95	0.1	0.010	-0.30	10.452	2	organic material
3.12	0.2	0.000	-0.20	0.000	0	<out of range>
3.28	0.2	0.040	-0.20	20.292	0	<out of range>
3.44	0.7	0.080	-0.30	11.500	2	organic material
3.61	2.2	0.100	-0.30	4.554	2	organic material
3.77	0.9	0.020	-0.30	2.233	2	organic material
3.94	0.8	0.030	-0.30	3.770	2	organic material
4.10	1.4	0.060	-0.20	4.295	2	organic material
4.27	1.4	0.080	0.00	5.714	2	organic material
4.43	1.6	0.120	0.00	7.500	3	clay
.59	4.1	0.150	0.00	3.659	3	clay
.76	4.1	0.150	0.00	3.659	3	clay
4.92	2.8	0.170	0.00	6.071	2	organic material
5.09	6.2	0.710	0.00	11.452	4	silty clay to clay
5.25	42.9	1.170	-0.10	2.727	5	clayey silt to silty clay
5.41	68.0	1.630	-0.30	2.397	6	sandy silt to clayey silt
5.58	54.7	1.490	-0.20	2.724	6	sandy silt to clayey silt
5.74	38.1	1.200	0.00	3.150	6	sandy silt to clayey silt
5.91	32.7	1.090	-0.30	3.334	5	clayey silt to silty clay
6.07	22.6	0.890	-0.10	3.938	5	clayey silt to silty clay
6.23	17.7	0.610	0.00	3.446	5	clayey silt to silty clay
6.40	39.5	1.030	-0.70	2.608	6	sandy silt to clayey silt
6.56	35.5	0.890	0.00	2.507	5	clayey silt to silty clay
6.73	28.6	1.140	-0.20	3.986	6	sandy silt to clayey silt
6.89	61.1	1.230	-0.90	2.014	6	sandy silt to clayey silt
7.05	59.9	0.910	-0.40	1.519	7	silty sand to sandy silt
7.22	85.2	0.640	-0.30	0.751	8	sand to silty sand
7.38	76.8	0.390	-1.30	0.508	8	sand to silty sand
7.55	46.2	0.550	-0.70	1.191	7	silty sand to sandy silt
7.71	28.9	0.570	0.00	1.972	7	silty sand to sandy silt
7.87	40.6	0.560	4.60	1.380	7	silty sand to sandy silt
8.04	51.0	0.510	-2.30	1.001	6	sandy silt to clayey silt
8.20	28.0	1.070	-1.30	3.824	6	sandy silt to clayey silt
8.37	32.7	0.610	-0.30	1.866	6	sandy silt to clayey silt
8.53	177.6	4.100	-2.50	2.309	7	silty sand to sandy silt
8.69	374.9	10.300	-0.70	2.747	8	sand to silty sand
8.86	565.3	9.050	-1.80	1.601	8	sand to silty sand

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
9.02	506.7	13.350	-0.50	2.635	0	<out of range>
9.19	483.9	-32768	-1.80	-32768	0	<out of range>
9.35	478.0	-32768	-2.30	-32768	0	<out of range>
9.51	52.3	0.350	-4.60	0.669	0	<out of range>
9.68	85.2	0.550	-3.30	0.646	8	sand to silty sand
9.84	106.7	0.950	-2.40	0.891	8	sand to silty sand
10.01	133.8	0.540	-6.90	0.404	9	sand
10.17	204.1	1.000	-8.00	0.490	9	sand
10.33	280.6	2.360	-7.50	0.841	9	sand
10.50	250.8	3.810	-8.90	1.519	9	sand
10.66	239.8	3.720	-8.40	1.551	8	sand to silty sand
10.83	185.7	2.410	-10.40	1.298	8	sand to silty sand
10.99	79.2	1.120	-11.00	1.413	8	sand to silty sand
11.15	36.9	0.980	-11.00	2.653	6	sandy silt to clayey silt
11.32	25.4	0.760	-10.40	2.998	6	sandy silt to clayey silt
11.48	46.3	0.730	-10.00	1.578	7	silty sand to sandy silt
11.65	72.4	0.900	-10.40	1.244	7	silty sand to sandy silt
11.81	56.1	1.080	-9.70	1.926	7	silty sand to sandy silt
11.98	76.8	1.440	-10.40	1.876	7	silty sand to sandy silt
12.14	116.0	2.330	-6.60	2.009	7	silty sand to sandy silt
12.30	144.0	2.930	-8.00	2.035	7	silty sand to sandy silt
12.47	149.2	3.530	-9.00	2.366	7	silty sand to sandy silt
12.63	143.2	3.660	-8.60	2.556	7	silty sand to sandy silt
12.80	190.7	4.030	-9.00	2.114	7	silty sand to sandy silt
12.96	171.0	3.380	-9.60	1.977	7	silty sand to sandy silt
13.12	103.5	2.790	-9.70	2.697	7	silty sand to sandy silt
13.29	97.5	3.170	-7.90	3.252	6	sandy silt to clayey silt
13.45	145.7	4.610	-7.80	3.164	6	sandy silt to clayey silt
13.62	156.9	6.460	-8.10	4.118	6	sandy silt to clayey silt
13.78	154.3	4.440	-8.10	2.878	6	sandy silt to clayey silt
13.94	160.1	4.760	-7.60	2.973	6	sandy silt to clayey silt
14.11	158.3	5.070	-8.70	3.203	6	sandy silt to clayey silt
14.27	137.1	4.830	-9.10	3.524	6	sandy silt to clayey silt
14.44	124.9	4.510	-9.40	3.612	6	sandy silt to clayey silt
14.60	111.6	3.780	-9.40	3.388	6	sandy silt to clayey silt
14.76	98.3	2.740	-9.30	2.788	6	sandy silt to clayey silt
14.93	89.1	2.710	-9.00	3.043	6	sandy silt to clayey silt
15.09	106.3	3.080	-9.00	2.898	6	sandy silt to clayey silt
15.26	105.0	2.770	-2.20	2.639	6	sandy silt to clayey silt
15.42	89.0	2.110	-0.60	2.371	6	sandy silt to clayey silt
15.58	84.6	2.160	-0.40	2.553	7	silty sand to sandy silt
15.75	95.9	2.030	0.00	2.117	7	silty sand to sandy silt
15.91	117.1	2.180	-0.40	1.862	7	silty sand to sandy silt
16.08	136.1	2.760	-3.60	2.027	7	silty sand to sandy silt
16.24	142.3	3.600	-5.00	2.529	7	silty sand to sandy silt
16.40	137.3	3.870	-6.10	2.818	7	silty sand to sandy silt
16.57	139.2	3.840	-6.60	2.759	7	silty sand to sandy silt
16.73	140.2	3.890	-7.10	2.775	7	silty sand to sandy silt
16.90	145.3	3.920	-7.50	2.698	7	silty sand to sandy silt
17.06	148.7	3.940	-7.90	2.650	7	silty sand to sandy silt
17.22	145.8	3.870	-8.40	2.655	7	silty sand to sandy silt
17.39	141.9	3.830	-8.80	2.700	7	silty sand to sandy silt
17.55	131.4	3.680	-9.10	2.801	7	silty sand to sandy silt
17.72	119.5	2.720	-9.10	2.277	7	silty sand to sandy silt
17.88	116.7	2.320	-8.80	1.988	7	silty sand to sandy silt
18.04	113.4	2.890	-8.40	2.549	7	silty sand to sandy silt
18.21	124.2	3.800	-8.10	3.060	6	sandy silt to clayey silt
18.37	147.8	4.860	-8.10	3.289	6	sandy silt to clayey silt
18.54	173.3	5.760	-8.10	3.324	6	sandy silt to clayey silt

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
18.70	203.9	6.220	-8.20	3.051	7	silty sand to sandy silt
3.86	225.7	6.730	-8.40	2.982	7	silty sand to sandy silt
.03	240.7	5.460	-8.40	2.269	7	silty sand to sandy silt
.19	234.2	6.510	-8.70	2.780	7	silty sand to sandy silt
.36	237.8	7.660	-5.20	3.221	12	sand to clayey sand (*)
19.52	216.2	8.140	-4.50	3.764	12	sand to clayey sand (*)
19.69	222.0	6.910	-4.30	3.112	7	silty sand to sandy silt
19.85	243.2	5.780	-6.50	2.377	7	silty sand to sandy silt
20.01	232.4	5.520	-7.30	2.375	7	silty sand to sandy silt
20.18	252.2	5.650	-7.10	2.240	7	silty sand to sandy silt
20.34	281.4	5.700	-8.10	2.026	8	sand to silty sand
20.51	304.8	5.660	-8.50	1.857	8	sand to silty sand
20.67	310.0	5.830	-8.40	1.881	8	sand to silty sand
20.83	307.8	5.650	-8.10	1.836	8	sand to silty sand
21.00	304.5	5.640	-8.10	1.852	8	sand to silty sand
21.16	303.7	5.520	-7.90	1.818	8	sand to silty sand
21.33	292.4	5.310	-8.20	1.816	8	sand to silty sand
21.49	292.1	5.430	-8.20	1.859	8	sand to silty sand
21.65	304.6	6.000	-8.50	1.970	8	sand to silty sand
21.82	327.5	6.270	-8.60	1.915	8	sand to silty sand
21.98	348.7	6.660	-8.60	1.910	8	sand to silty sand
22.15	372.4	7.370	-8.40	1.979	8	sand to silty sand
22.31	390.5	4.990	-8.00	1.278	8	sand to silty sand
22.47	401.7	6.750	-8.10	1.680	8	sand to silty sand
22.64	396.5	7.860	-10.10	1.983	8	sand to silty sand
22.80	396.6	8.470	-10.80	2.135	8	sand to silty sand
22.97	392.1	8.980	-11.30	2.290	8	sand to silty sand
23.13	395.4	8.630	-11.40	2.182	8	sand to silty sand
23.29	394.1	8.650	-11.30	2.195	8	sand to silty sand
3.46	410.6	8.870	-11.00	2.160	8	sand to silty sand
3.62	407.7	8.270	-11.00	2.028	8	sand to silty sand
3.79	413.9	8.600	-11.00	2.078	8	sand to silty sand
.95	418.2	9.210	-10.90	2.202	8	sand to silty sand
4.11	418.7	8.660	-10.90	2.068	8	sand to silty sand
24.28	424.2	8.380	-11.10	1.975	8	sand to silty sand
24.44	422.4	8.740	-11.10	2.069	8	sand to silty sand
24.61	420.4	8.790	-11.10	2.091	8	sand to silty sand
24.77	408.8	7.960	-11.10	1.947	8	sand to silty sand
24.93	390.1	5.640	-11.30	1.446	9	sand
25.10	360.8	2.750	-11.40	0.762	9	sand
25.26	195.4	3.680	-0.30	1.883	9	sand
25.43	318.7	5.220	-6.20	1.638	8	sand to silty sand
25.59	314.1	6.100	-9.10	1.942	8	sand to silty sand
25.75	306.6	5.850	-10.30	1.908	8	sand to silty sand
25.92	277.9	5.950	-10.80	2.141	7	silty sand to sandy silt
26.08	209.1	5.530	-11.10	2.644	7	silty sand to sandy silt
26.25	179.8	4.950	-11.10	2.752	7	silty sand to sandy silt
26.41	172.5	5.810	-10.60	3.367	7	silty sand to sandy silt
26.57	216.0	5.620	-11.20	2.601	7	silty sand to sandy silt
26.74	260.9	5.060	-11.60	1.939	8	sand to silty sand
26.90	268.4	4.770	-11.90	1.777	8	sand to silty sand
27.07	256.1	5.050	-11.80	1.972	8	sand to silty sand
27.23	237.3	5.240	-12.00	2.208	7	silty sand to sandy silt
27.40	205.7	5.290	-12.30	2.571	7	silty sand to sandy silt
27.56	212.6	5.720	-12.10	2.690	7	silty sand to sandy silt
27.72	247.7	5.400	-12.20	2.180	7	silty sand to sandy silt
27.89	250.7	4.920	-12.40	1.962	8	sand to silty sand
28.05	241.1	5.010	-12.40	2.078	8	sand to silty sand
28.22	231.8	5.020	-12.30	2.165	7	silty sand to sandy silt

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
28.38	222.1	4.710	-12.30	2.120	7	silty sand to sandy silt
28.54	220.7	4.520	-12.30	2.048	7	silty sand to sandy silt
28.71	226.9	4.660	-12.30	2.054	8	sand to silty sand
[illegible].87	237.7	4.720	-12.30	1.986	8	sand to silty sand
[illegible].04	244.5	4.610	-12.60	1.885	8	sand to silty sand
29.20	250.4	2.190	-12.70	0.875	8	sand to silty sand
29.36	263.6	3.650	-12.70	1.385	9	sand
29.53	260.1	4.740	-12.60	1.822	8	sand to silty sand
29.69	273.9	5.050	-12.40	1.844	8	sand to silty sand
29.86	292.3	5.510	-12.60	1.885	8	sand to silty sand
30.02	303.6	6.860	-12.50	2.259	7	silty sand to sandy silt
30.18	297.6	8.060	-12.50	2.708	7	silty sand to sandy silt
30.35	289.8	8.170	-12.40	2.819	12	sand to clayey sand (*)
30.51	284.4	7.720	-12.40	2.714	7	silty sand to sandy silt
30.68	287.3	6.980	-12.30	2.429	7	silty sand to sandy silt
30.84	286.8	5.680	-12.30	1.980	8	sand to silty sand
31.00	291.4	5.580	-12.30	1.915	8	sand to silty sand
31.17	307.7	6.290	-12.30	2.044	8	sand to silty sand
31.33	339.3	6.250	-12.30	1.842	8	sand to silty sand
31.50	346.5	6.530	-12.30	1.884	8	sand to silty sand
31.66	336.8	7.480	-12.30	2.221	8	sand to silty sand
31.82	322.3	8.120	-12.30	2.519	7	silty sand to sandy silt
31.99	314.5	8.090	-12.20	2.572	7	silty sand to sandy silt
32.15	309.8	7.120	-12.20	2.298	8	sand to silty sand
32.32	289.4	3.960	-12.20	1.368	8	sand to silty sand
32.48	299.8	3.260	-12.30	1.087	9	sand
32.64	290.1	4.650	-12.20	1.603	8	sand to silty sand
32.81	313.8	5.660	-12.30	1.804	8	sand to silty sand
32.97	320.1	6.030	-12.10	1.884	8	sand to silty sand
33.14	318.9	6.250	-12.10	1.960	8	sand to silty sand
33.30	310.1	6.910	-12.20	2.228	8	sand to silty sand
33.46	297.0	6.950	-12.10	2.340	8	sand to silty sand
[illegible].63	293.5	6.060	-12.10	2.065	8	sand to silty sand
33.79	284.1	5.260	-12.30	1.851	8	sand to silty sand
33.96	290.0	5.400	-12.20	1.862	8	sand to silty sand
34.12	295.4	5.330	-12.10	1.804	8	sand to silty sand
34.28	285.8	4.860	-12.10	1.700	8	sand to silty sand
34.45	274.5	4.790	-12.10	1.745	8	sand to silty sand
34.61	256.6	5.440	-12.00	2.120	8	sand to silty sand
34.78	254.7	5.470	-12.20	2.147	8	sand to silty sand
34.94	271.9	4.160	-12.10	1.530	8	sand to silty sand
35.10	274.2	2.050	-12.30	0.748	9	sand
35.27	212.2	3.440	0.90	1.621	8	sand to silty sand
35.43	240.3	4.380	-10.20	1.823	8	sand to silty sand
35.60	229.4	4.490	-11.10	1.957	8	sand to silty sand
35.76	228.2	4.380	-11.40	1.919	8	sand to silty sand
35.93	245.8	4.480	-11.50	1.822	8	sand to silty sand
36.09	252.7	4.270	-11.70	1.690	9	sand
36.25	244.4	0.450	-11.70	0.184	9	sand
36.42	245.3	1.540	-11.70	0.628	9	sand
36.58	152.8	2.950	-10.40	1.931	8	sand to silty sand
36.75	256.5	4.630	-10.30	1.805	8	sand to silty sand
36.91	279.2	5.130	-11.00	1.837	8	sand to silty sand
37.07	279.9	4.730	-11.40	1.690	8	sand to silty sand
37.24	257.4	4.420	-11.60	1.717	8	sand to silty sand
37.40	218.3	4.300	-11.70	1.969	8	sand to silty sand
37.57	180.2	4.260	-11.70	2.364	7	silty sand to sandy silt
37.73	170.4	3.800	-11.80	2.230	7	silty sand to sandy silt
37.89	174.4	3.670	-12.00	2.104	8	sand to silty sand

[illegible]l behavior type and SPT based on data from UBC-1983

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
38.06	177.0	1.810	-12.00	1.022	8	sand to silty sand
38.22	182.0	2.480	-12.20	1.362	8	sand to silty sand
38.39	196.5	3.600	-12.00	1.832	8	sand to silty sand
38.55	202.4	4.510	-12.30	2.228	7	silty sand to sandy silt
38.71	202.6	4.980	-12.30	2.458	7	silty sand to sandy silt
38.88	190.8	5.080	-12.60	2.662	7	silty sand to sandy silt
39.04	181.3	5.150	-12.60	2.840	7	silty sand to sandy silt
39.21	176.3	4.860	-12.40	2.756	7	silty sand to sandy silt
39.37	170.2	3.880	-12.50	2.279	7	silty sand to sandy silt
39.53	156.1	2.620	-12.40	1.678	8	sand to silty sand
39.70	135.7	1.640	-12.30	1.208	8	sand to silty sand
39.86	104.2	0.910	-12.10	0.873	8	sand to silty sand
40.03	91.5	0.750	-11.90	0.819	8	sand to silty sand
40.19	89.4	0.650	-12.00	0.727	8	sand to silty sand
40.35	90.6	0.610	-11.90	0.673	8	sand to silty sand
40.52	92.9	0.510	-11.80	0.549	8	sand to silty sand
40.68	91.5	0.760	-11.80	0.830	8	sand to silty sand
40.85	80.3	0.370	-11.70	0.461	8	sand to silty sand
41.01	56.6	0.240	-11.10	0.424	8	sand to silty sand
41.17	42.7	0.170	-11.00	0.398	8	sand to silty sand
41.34	39.2	0.200	-10.70	0.510	7	silty sand to sandy silt
41.50	42.3	0.160	-10.70	0.378	8	sand to silty sand
41.67	50.1	0.110	-10.70	0.219	8	sand to silty sand
41.83	45.8	0.320	-10.70	0.698	7	silty sand to sandy silt
41.99	50.7	1.130	-10.40	2.231	7	silty sand to sandy silt
42.16	69.8	1.340	-10.40	1.921	7	silty sand to sandy silt
42.32	49.5	0.710	-10.20	1.436	6	sandy silt to clayey silt
42.49	83.1	4.270	-10.10	5.141	11	very stiff fine grained (*)
42.65	89.3	6.930	-9.50	7.764	11	very stiff fine grained (*)
42.81	161.0	8.330	-9.40	5.175	11	very stiff fine grained (*)
42.98	154.5	5.800	-9.40	3.755	11	very stiff fine grained (*)
43.14	104.1	4.170	-9.10	4.007	6	sandy silt to clayey silt
43.31	108.7	4.280	-8.50	3.938	11	very stiff fine grained (*)
43.47	119.8	5.080	-8.40	4.241	5	clayey silt to silty clay
43.64	138.0	4.940	-8.40	3.580	6	sandy silt to clayey silt
43.80	124.6	4.980	-8.30	3.997	12	sand to clayey sand (*)
43.96	140.6	5.500	-7.80	3.912	11	very stiff fine grained (*)
44.13	160.7	7.240	-7.50	4.506	11	very stiff fine grained (*)
44.29	203.1	9.370	-7.10	4.614	11	very stiff fine grained (*)
44.46	250.8	11.510	-6.80	4.589	11	very stiff fine grained (*)
44.62	273.5	13.330	-6.50	4.874	11	very stiff fine grained (*)
44.78	250.8	13.330	-7.10	5.315	11	very stiff fine grained (*)
44.95	243.2	11.950	-5.50	4.913	11	very stiff fine grained (*)
45.11	288.4	13.330	-6.70	4.622	11	very stiff fine grained (*)
45.28	288.7	13.330	-6.60	4.617	11	very stiff fine grained (*)
45.44	318.7	13.330	-6.80	4.183	12	sand to clayey sand (*)
45.60	349.5	13.330	-7.50	3.814	12	sand to clayey sand (*)
45.77	375.0	9.670	-8.20	2.579	12	sand to clayey sand (*)
45.93	380.5	10.890	-8.80	2.862	12	sand to clayey sand (*)
46.10	361.6	13.010	-5.80	3.598	12	sand to clayey sand (*)
46.26	367.8	13.330	-6.50	3.624	12	sand to clayey sand (*)
46.42	423.6	13.070	-7.80	3.086	12	sand to clayey sand (*)
46.59	446.1	13.170	-8.70	2.952	12	sand to clayey sand (*)
46.75	440.8	13.330	-9.10	3.024	8	sand to silty sand
46.92	413.5	4.310	-9.20	1.042	8	sand to silty sand
47.08	447.3	7.530	-8.50	1.684	8	sand to silty sand
47.24	456.5	11.470	9.80	2.512	8	sand to silty sand
47.41	501.3	12.800	6.50	2.553	8	sand to silty sand
47.57	488.1	9.980	3.30	2.044	8	sand to silty sand

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

Depth (ft)	Qt (TSF)	Fs (TSF)	Pw (PSI)	Fs/Qt (%)	Zone	Soil Behavior Type UBC-1983
47.74	445.5	12.810	1.70	2.875	12	sand to clayey sand (*)
47.90	436.5	13.330	-0.60	3.054	12	sand to clayey sand (*)
48.06	436.5	12.260	-1.00	2.809	12	sand to clayey sand (*)
[illegible].23	458.9	8.640	-2.30	1.883	8	sand to silty sand
[illegible].39	532.3	10.140	-2.90	1.905	8	sand to silty sand
48.56	544.3	12.130	0.00	2.229	8	sand to silty sand
48.72	608.9	11.840	-1.90	1.945	8	sand to silty sand
48.88	621.9	13.330	-2.30	2.144	0	<out of range>
49.05	614.7	-32768	-3.30	-32768	0	<out of range>
49.21	604.1	-32768	-3.30	-32768	0	<out of range>

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

SITE 21

Site 21 Boring Log Table of Contents

Boring ID	Date Drilled	Investigation
WA-8	3/12/1985	Confirmation Study
MW-07B-01	6/24/1991	Phase 1 & 2A
B-7B-02	6/24/1991	Phase 1 & 2A
B-7B-03	6/21/1991	Phase 1 & 2A
398-MW2	1/25/1992	Underground Storage Tank Investigation
CPT-S7B-02	7/14/1994	Follow On 1994
CPT-S7B-01	7/14/1996	Follow On 1994
B07B-04	8/16/1994	Follow On 1994
B07B-05	8/16/1994	Follow On 1994
M11-06	8/16/1994	Follow On 1994
S21-DGS-DP01	6/29/2001	Data Gap Sampling 2001
S21-DGS-DP08	8/1/2001	Data Gap Sampling 2001
S21-DGS-DP09	8/15/2001	Data Gap Sampling 2001
S21-DGS-DP10	8/15/2001	Data Gap Sampling 2001
S21-DGS-DP104	9/4/2001	Data Gap Sampling 2001
S21-DGS-SG01	7/10/2001	Data Gap Sampling 2001
S21-DGS-SG02	7/10/2001	Data Gap Sampling 2001
S21-DGS-SG04	7/10/2001	Data Gap Sampling 2001
S21-DGS-VE01	8/7/2001	Data Gap Sampling 2001
S21-DGS-VE02	8/7/2001	Data Gap Sampling 2001
S21-DGS-VE03	8/21/2001	Data Gap Sampling 2001
S21-DGS-VE04	9/6/2001	Data Gap Sampling 2001
S21-DGS-VE05	9/6/2001	Data Gap Sampling 2001
S21-DGS-SG05	7/10/2001	Data Gap Sampling 2001

BORING LOCATION AREA 97, North of Building 162 (40ft westward from NE Corner)			GROUND EL.
DEPTH/ELEV. WATER 12 ft	DRILL CONTRACTOR EXCELTECH - RPM		TOTAL DEPTH 15.0'
DRILL RIG Mobile B-34	BORING DIA. 8" ϕ HA	DATE DRILLED 3/12/85	LOGGED BY CL

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
	0.0'-1.5' Topsoil, brown, moist	0					
SP	1.5'-2.0' Fine to medium SAND, trace gravel, brown, moist						
SP	2.0'-7.0' Fine to medium SAND, trace gravel, light brown, trace shells	5					No noticeable odor
SP	7.0'-8.0' Fine to medium SAND, trace silt, gray, wet						Minor odor at ~7ft 6% LEL
SC	8.0'-12.0' clayey SAND and SILT, dark gray, wet	10					No noticeable odor
CL	12.0'-15.0' Silty CLAY, trace sand, bluesh gray, very soft, wet	15					No noticeable odor.
	Hole terminated at 15 ft						Installed 2" ϕ sch-4 PVC pipes. After installing the pi the hole caved in to 5 feet below ground surface while the augers were being pulled out. The hole was redrilled and the PVC pipes reinstal (0-5.0': blank, 5.0'-15.0': slotted), Sand was poured in from inside of auger stem, and was flushed with water while the auge was pulled out slowly.

DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL-DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.

THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.

THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.

THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.

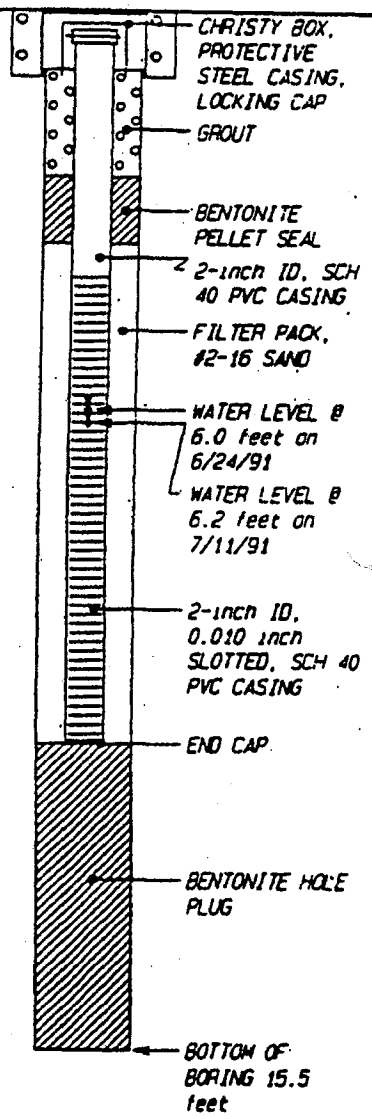
SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER MW-07B-01 CLIENT PRC/US NAVY
DATE STARTED 6/24/91 COMPLETED 6/24/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
REF. ELEVATION 11.45 FEET, TOP OF CASING GEOLOGIST RICH HALKET

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID meter units	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						CN	CONCRETE
		CHEM	42	4.1		SC	clayey SAND (SC), brown (2.5Y 5/3), very dense, moist, 15-20% fines, fine to medium sand, 0-5% fine gravel, low est K
2			45				
			25				
		GEO-TECH	34			SP	SAND (SP), brown (2.5Y 5/4), dense, moist, 0-5% fines, very fine to fine sand, moderate est K
			42	7.4			
		CHEM	11				@ 3.5 feet-as above, some shell fragments at 3 feet
4			21				
			26	7.4		CL	gravelly CLAY (CL), brown, (2.5Y 5/3), hard, wet, 10-20% fines, 15-20% gravel, low est K
			20				
			36				
6			35	4.1			Interbedded SAND (SP), gravelly CLAY (CL)
			14			SM	
		GEO-TECH	13				silty SAND (SM), olive (2.5Y 5/3), medium dense, wet, 15-20% fines, very fine sand, 0-5% fine gravel, moderate est K
			15	7.4			
8		CHEM	4			GC	clayey GRAVELY (GC), grey, loose, wet, 15-20% fines, fine gravel, moderate est K
			2	5.7			
			6			CL	CLAY (CL), grey (2.5Y 5/3), medium stiff, wet, fines, low est K
10			1				
			6				@ 10.3 feet-as above, fine gravel interbed with clay
			2	9.0			
			4			SC	clayey SAND (SC), black (2.5Y 5/4), dense, moist, 20% fines, very fine to fine sand, low est K, some shell fragments
			21				
12			50/5	7.4			
			18				@ 12 feet-as above, mottled grey/brown (2.5Y N4/) and (2.5Y 5/4)
		GEO-TECH	29				
			45				
14		CHEM	16				@ 14 feet-as above; clay layer 14.4 to 14.8
			35	5.7			
			40				
16							TOTAL DEPTH 15.5 feet
18							



REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR/DRILLER EXP. GEOSER./J. COLLINS
HOLE DIAMETER 8.35 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 15.5 FEET WELL COMPLETION DEPTH 11 FEET

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.
365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

BORING/WELL NUMBER B-78-02 CLIENT PRC/US NAVY
DATE STARTED 6/24/91 COMPLETED 6/24/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.02E6
ELEVATION 11.60 FEET GEOLOGIST RICH HALKET

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
				7.4		CN	CONCRETE	
		CHEM	15			SM	silty SAND (SM), brown (2.5Y 5/4), medium dense, moist, 15-20% fines, very fine to medium sand, 1-15% fine gravel, moderate est K	
			36			SP		
			44	2.4				
2			16				SAND (SP), brown (2.5Y 5/4), dense, moist, 0-5% fines, fine sand, moderate est K, 0-5% shell fragments	
		GEO-TECH	22			SP		
			30	7.4		CL		
		CHEM	11				SAND (SP), brown (2.5Y 5/4), medium dense, moist, 7% fines, fine gravel, low est K	
			15					
			18	4.1			gravelly CLAY (CL), brown (2.5Y 5/4), very stiff, moist, fines, 20-25% fine gravel, low est K	
			9					
			10			GC	clayey GRAVELLY (GC), olive (2.5Y N3/), wet, 15-20% fines, 10-15% coarse sand, fine gravel, moderate est K, some shell fragments	DEPTH TO WATER= 5.5 feet
6			17	195.6				
			12			CL		
			7				CLAY (CL), black (2.5Y N2/), stiff, wet, fines, low est K	
			7	33.8				
8			1				@ 8.0 feet-as above, interbedded with 5" gravel layer	
			0					
			0	23.9				
			1					
10			1					
		GEO-TECH	2	10.7				
		CHEM	8			SC	clayey SAND (SC), black (2.5Y N3/), moist, medium dense, 15-20% fines, very fine to fine sand, low est K	
			11					
12			13					
		GEO-TECH	10	7.4			clayey SAND (SC), mottled brown and gray (2.5Y-4/3 & 2.5Y N5/), very dense, moist, 20-25% fines, very fine to fine sand, low est K, some root material	
			27					
			40					
14		CHEM	25					
			50/5"	7.4				
							TOTAL DEPTH 15.0 feet	
16								
18								

REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.35 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 15 FEET DRILLER JOHN COLLINS

JAMES M. MONTGOMERY
CONSULTING ENGINEERS, INC.

365 LENNON LANE, WALNUT CREEK, CALIFORNIA, 94598 / (415) 975-3400

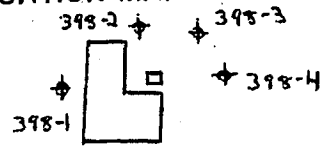
BORING/WELL NUMBER B-78-03 CLIENT PRC/US NAVY
DATE STARTED 6/21/91 COMPLETED 6/21/91 PROJECT/JMM PROJECT NO. NAS ALAMEDA/2738.0256
ELEVATION 11.71 FEET GEOLOGIST RICH HALKET

DEPTH feet	SAMPLE	SAMP. NO.	BLOWS/6 IN	HNU-PID	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	COMMENTS
						CN	CONCRETE	
		CHEM	22	0.0		SP	SAND (SP), brown (2.5Y 4/2), medium dense, damp, 0-5% fines, very fine to fine sand, moderate est K, root and plant debris	
		GEO-TECH	23	0.0				
			28					
2		CHEM	16					
			12	1.1			@ 2.5 feet-as above, some 0.5 x 0.5 inch clay fragments, oyster shell fragments, and fine gravel, probable fill material	
			5					
			6					
4			11					
			11	6.4				
		GEO-TECH	14				@ 5 feet-as above, some root debris	! DEPTH TO WATER=5 feet
			13					
6			23					
			11					
			4			CL	CLAY (CL), black (2.5Y N4/), medium stiff, wet, fines, 1-5% very fine sand, low est K	
			2	4.1				
8			3					
			3				@ 8.5 feet-as above, 10-15% very fine to fine sand on horizontal bedding planes	
			4					
			1				@ 9.5 feet-as above, 5-10% very fine to fine sand, some shell fragments	
10			1					
			3	6.4				
		CHEM	11			SC	clayey SAND (SC), gray (2.5Y N3/), medium dense, wet, 20-25% fines, very fine to fine sand, low to moderate est K, some shell fragments	
			8					
12			9	3.5			@ 12.0 feet-as above, olive (2.5Y 5/4)	
			5					
			14				@ 13.0 feet-as above, mottled olive and gray (2.5Y 5/6 and 2.5Y N3/), moist, some plant debris	
14			21	6.4				
			20					
		GEO-TECH	36					
			31					
		CHEM	31					
16			40					
							TOTAL DEPTH 16.5 feet	
18								

REGISTERED GEOLOGIST
JERRY T. WICKHAM
3766
STATE OF CALIFORNIA

DRILLING METHOD/RIG TYPE AUGER/MOBILE B-40 DRILLING CONTRACTOR EXPLORATION GEOSERVICES
HOLE DIAMETER 8.35 INCHES BIT TYPE HOLLOW STEM AUGER
TOTAL DEPTH OF BORING 16.5 FEET DRILLER JOHN COLLINS

LOCATION MAP

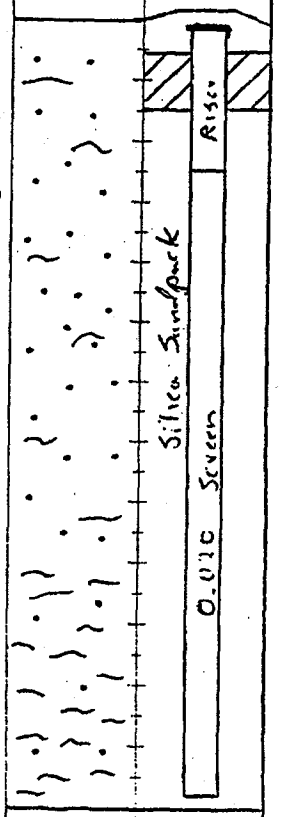


ERM-SOUTH WELL LOG

PROJECT ➤	1970.08
WELL NO.	398-MW-2
DATE ➤	1-25-92
LOCATION ➤	Bldg 398, Alameda NAS
LOGGED BY ➤	Greg Mohr
WEATHER ➤	Sunny
DRILLING METHOD ➤	HSA
DRILLED BY ➤	Wayne Environmental Drlg
SAMPLING METHOD ➤	Brass Tube - Grab
OVA ➤	—
MEASURING POINT ELEVATION ➤	
LAND SURFACE ELEVATION ➤	
FILTER PACK ➤	Lonestar #3, TOP DEPTH 1.55', BOTTOM DEPTH 13.0'
SEAL ➤	Bentonite, TOP DEPTH 0.55, BOTTOM DEPTH 1.55'
CASING ➤ TYPE	Sched 40 PVC, DIAMETER 4", LENGTH 2.55
WATER LEVEL INITIAL	4', ☑ B.G.S. ☐ B.M.P.
BOREHOLE DIAMETER	8.25
SCREEN ➤ TYPE	Sched 40 PVC, SLOT 0.020, DIAMETER 4", LENGTH 10.0'
WATER LEVEL AT COMPLETION	4.78, ☑ B.G.S. ☐ B.M.P.
BOREHOLE DEPTH	13'
DEVELOPMENT ➤ METHOD	
GALLONS PUMPED	
PUMPING RATE	
COMMENTS ➤	

MOISTURE CONTENT	SORTING	DENSITY	PLASTICITY	SAMPLE NO.	OVA (PPM)	DEPTH	SAMPLE RECOVERY	PENETRATION RESISTANCE	LITHOLOGY/REMARKS
D						0			Asphalt
D						1			
M				398 MW2 3-4'		2			Silty Sands, Moderate Yellowish Brown, 10YR 5/4, Silt - Medium Grained, Angular, (SM)
▼						3			
W						4			
						5			
						6			
						7			Silty Sands, Olive Gray, 5Y 4/1, Silt - Medium Grained, Angular, (SM)
						8			
						9			
						10			
						11			Silty Sands, Greenish Black, 5GY 2/1, Silt - Medium Grained, 50% Fines, (SM)
						12			
						13			

GRAPHIC LOG / WELL COMPLETION



The ERM

10011.01/WELLLOG/121991-3

ENVIRONMENTAL RESOURCES MANAGEMENT
ERM-WEST

FIELD WELL COMPLETION FORM

Job Name: Alameda NAS Owner: USN

Location: Bldg 398 Job #: 1970.08

Logged By: Greg Mahr Reviewed By: _____ Project Manager: William Spong

Well Number: 398-MW-2 Driller: Wayne Environmental Drlg

Date of Installation: 1-25-95 Hours Drilled: 4

Equipment: 8.25 Inch Hollow Stem Auger _____ Inch Rotary Wash

Gallons of Water Used During Drilling: None Gallons: —

Method of Decontamination Prior to Drilling: Steam Cleaning

Well Permit #: _____ Issuing Agency: _____

DEVELOPMENT

Method of Development: _____

Development Began Date: _____ Time: _____

Depth to Water Before Development _____ Feet

Yield: GPM	Time: From: To	Date:
Yield: GPM	Time: From: To	Date:

Total Water Removed During Development: _____ Gallons

Description of Turbidity at End of Development: ☐ Clear ☐ Mod. Turbid ☐ Slightly cloudy ☐ Very Muddy

Odor of Water: _____

Water Discharged To: ☐ Ground Surface ☐ Storm Sewers ☐ Drums ☐ Tank Truck ☐ Storage Tank ☐ Other

Depth to Water After Development _____ Feet Date/Time Well Development Complete: _____

Well Elevation: _____ Feet ..... Measuring Point (i.e. Top of Casing): _____

MATERIALS USED

4 Sacks of #3 Lonestar RMC Sand

1 Sacks of _____ Cement

4 Gallons of Grout Used

— Sacks of Powdered Bentonite

25 Pounds of Bentonite Pellets

2.55 Feet of 4 Inch PVC Blank Casing

10.0 Feet of 4 Inch PVC Slotted Screen

— Feet of — Inch Steel Conductor Casing

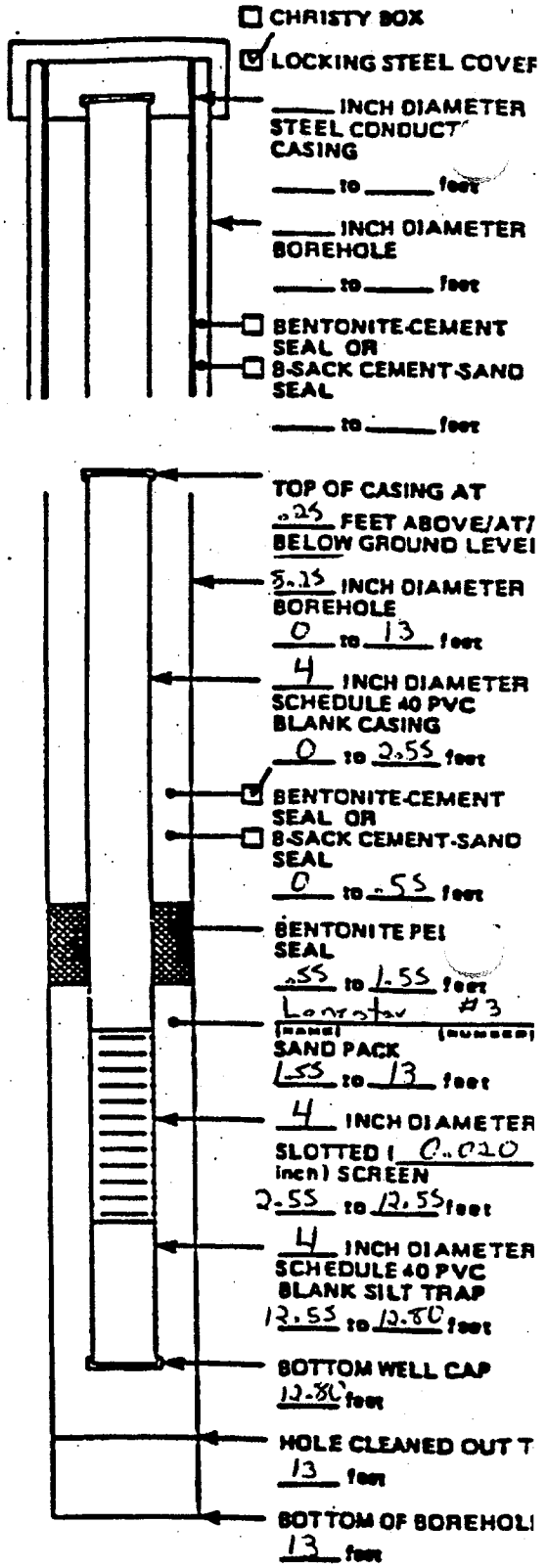
— Yard³ Cement-Sand (Redi-Mix) Ordered

— Yard³ Cement-Sand (Redi-Mix) Used

Concrete Pumper Used? ✓ No _____ Yes

Name _____

Well Cover Used: ✓ Locking Steel Cover
_____ Diversified Well Products Box
_____ Christy Box
_____ Other



NOT TO SCALE

ADDITIONAL INFORMATION: _____

TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO
On Site Loc:CPT-S7B-02
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/94 3:45
Cone Used :407
Water table (meters) : 3

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	0.50	0.01	2.76	0.02	undefined	UNDFND	UNDFD	UDF	UNDEFINED
0.50	1.64	3.30	0.06	1.73	0.07	sensitive fine grained	UNDFND	UNDFD	2	.3
0.75	2.46	4.78	0.11	2.38	0.12	clay	UNDFND	UNDFD	5	.4
1.00	3.28	6.30	0.08	1.23	0.17	sensitive fine grained	UNDFND	UNDFD	3	.6
1.25	4.10	10.18	0.33	3.26	0.21	silty clay to clay	UNDFND	UNDFD	7	.9
1.50	4.92	51.04	0.92	1.79	0.26	silty sand to sandy silt	60-70	42-44	16	UNDEFINED
1.75	5.74	58.02	0.61	1.04	0.31	silty sand to sandy silt	60-70	42-44	19	UNDEFINED
2.00	6.56	45.88	0.25	0.55	0.35	silty sand to sandy silt	50-60	42-44	15	UNDEFINED
2.25	7.38	18.62	0.21	1.13	0.40	sandy silt to clayey silt	UNDFND	UNDFD	7	1.8
2.50	8.20	4.84	0.01	0.11	0.45	sensitive fine grained	UNDFND	UNDFD	2	.4
2.75	9.02	4.36	0.02	0.46	0.50	sensitive fine grained	UNDFND	UNDFD	2	.3
3.00	9.84	3.96	0.03	0.64	0.54	sensitive fine grained	UNDFND	UNDFD	2	.3
3.25	10.66	19.14	0.13	0.68	0.58	sandy silt to clayey silt	UNDFND	UNDFD	7	1.8
3.50	11.48	28.12	0.13	0.47	0.60	silty sand to sandy silt	<40	36-38	9	UNDEFINED
3.75	12.30	44.52	1.44	3.23	0.62	clayey silt to silty clay	UNDFND	UNDFD	21	4.3
4.00	13.12	92.62	3.19	3.44	0.64	sandy silt to clayey silt	UNDFND	UNDFD	35	9.1
4.25	13.94	131.72	4.11	3.12	0.66	sandy silt to clayey silt	UNDFND	UNDFD	>50	13.0
4.50	14.76	96.74	3.09	3.19	0.68	sandy silt to clayey silt	UNDFND	UNDFD	37	9.5
4.75	15.58	78.40	2.05	2.61	0.71	sandy silt to clayey silt	UNDFND	UNDFD	30	7.7
5.00	16.40	63.22	1.64	2.59	0.73	sandy silt to clayey silt	UNDFND	UNDFD	24	6.2
5.25	17.22	106.84	3.24	3.03	0.75	sandy silt to clayey silt	UNDFND	UNDFD	41	10.5
5.50	18.04	121.50	4.58	3.77	0.77	sandy silt to clayey silt	UNDFND	UNDFD	47	12.0
5.75	18.86	126.64	4.26	3.37	0.79	sandy silt to clayey silt	UNDFND	UNDFD	49	12.5
6.00	19.69	163.68	5.32	3.25	0.81	sandy silt to clayey silt	UNDFND	UNDFD	>50	16.2
6.25	20.51	233.12	5.17	2.22	0.84	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
6.50	21.33	233.12	3.91	1.68	0.86	sand to silty sand	>90	44-46	>50	UNDEFINED
6.75	22.15	175.62	2.54	1.45	0.88	sand to silty sand	80-90	44-46	42	UNDEFINED
7.00	22.97	167.62	2.28	1.36	0.90	sand to silty sand	80-90	42-44	40	UNDEFINED
7.25	23.79	197.30	2.31	1.17	0.92	sand	80-90	44-46	38	UNDEFINED
7.50	24.61	232.94	4.53	1.94	0.94	sand to silty sand	>90	44-46	>50	UNDEFINED
7.75	25.43	179.24	2.94	1.64	0.96	sand to silty sand	80-90	42-44	43	UNDEFINED
8.00	26.25	205.52	3.78	1.84	0.99	sand to silty sand	80-90	44-46	49	UNDEFINED
8.25	27.07	247.16	4.92	1.99	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	264.24	5.85	2.22	1.03	silty sand to sandy silt	>90	44-46	>50	UNDEFINED
8.75	28.71	215.38	3.10	1.44	1.05	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.00	29.53	225.56	3.25	1.44	1.07	sand to silty sand	80-90	44-46	>50	UNDEFINED
9.25	30.35	208.00	3.56	1.71	1.09	sand to silty sand	80-90	42-44	50	UNDEFINED
9.50	31.17	166.96	2.26	1.36	1.12	sand to silty sand	70-80	42-44	40	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

*** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ***

TONTO ENVIRONMENTAL DRILLING

Operator :MONTGOMERY WATSO On Site Loc:CPT-57B-02 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	179.32	2.57	1.43	1.14	sand to silty sand	80-90	42-44	43	UNDEFINED
10.00	32.81	262.32	5.62	2.14	1.16	sand to silty sand	>90	44-46	>50	UNDEFINED
10.25	33.63	325.48	8.46	2.60	1.18	sand to clayey sand (*)	UNDFND	UNDFD	>50	UNDEFINED
10.50	34.45	219.36	5.36	2.44	1.20	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.75	35.27	202.78	4.16	2.05	1.22	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
11.00	36.09	104.18	1.15	1.10	1.24	sand to silty sand	60-70	40-42	25	UNDEFINED
11.25	36.91	78.96	2.19	2.77	1.27	sandy silt to clayey silt	UNDFND	UNDFD	30	7.6
11.50	37.73	125.74	4.15	3.30	1.29	sandy silt to clayey silt	UNDFND	UNDFD	48	12.3
11.75	38.55	169.38	4.93	2.91	1.31	silty sand to sandy silt	70-80	42-44	>50	UNDEFINED
12.00	39.37	51.70	1.25	2.41	1.33	sandy silt to clayey silt	UNDFND	UNDFD	20	4.9
12.25	40.19	73.22	2.25	3.07	1.35	sandy silt to clayey silt	UNDFND	UNDFD	28	7.0
12.50	41.01	125.80	5.78	4.59	1.37	very stiff fine grained (*)	UNDFND	UNDFD	>50	UNDEFINED
12.75	41.83	250.58	1.98	0.79	1.40	sand	80-90	42-44	48	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

E TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery Watsn
On Site Loc:CPT-S7B-0~~26~~ -01
Job No. :2738.1402
Tot. Unit Wt. (avg) : 115 pcf

CPT Date :07/14/96 15:54
Cone Used :462
Water table (meters) : 3

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	17.62	0.32	1.83	0.02	clayey silt to silty clay	UNDFND	UNDFD	8	1.7
0.50	1.64	81.16	0.90	1.11	0.07	sand to silty sand	>90	>48	19	UNDEFINED
0.75	2.46	90.98	1.29	1.42	0.12	silty sand to sandy silt	>90	>48	29	UNDEFINED
1.00	3.28	86.76	1.15	1.33	0.17	sand to silty sand	80-90	46-48	21	UNDEFINED
1.25	4.10	63.50	0.73	1.15	0.21	silty sand to sandy silt	70-80	44-46	20	UNDEFINED
1.50	4.92	31.30	0.33	1.05	0.26	silty sand to sandy silt	50-60	40-42	10	UNDEFINED
1.75	5.74	37.92	0.25	0.65	0.31	silty sand to sandy silt	50-60	40-42	12	UNDEFINED
2.00	6.56	21.96	0.30	1.35	0.35	sandy silt to clayey silt	UNDFND	UNDFD	8	2.1
2.25	7.38	3.96	0.03	0.69	0.40	sensitive fine grained	UNDFND	UNDFD	2	.3
2.50	8.20	4.86	0.09	1.91	0.45	silty clay to clay	UNDFND	UNDFD	3	.4
2.75	9.02	10.28	0.10	0.99	0.50	clayey silt to silty clay	UNDFND	UNDFD	5	.9
3.00	9.84	47.86	1.35	2.82	0.54	sandy silt to clayey silt	UNDFND	UNDFD	18	4.7
3.25	10.66	77.62	2.81	3.62	0.58	clayey silt to silty clay	UNDFND	UNDFD	37	7.7
3.50	11.48	151.80	4.89	3.22	0.60	sandy silt to clayey silt	UNDFND	UNDFD	>50	15.1
3.75	12.30	168.60	4.16	2.47	0.62	silty sand to sandy silt	80-90	44-46	>50	UNDEFINED
4.00	13.12	83.64	2.43	2.90	0.64	sandy silt to clayey silt	UNDFND	UNDFD	32	8.2
4.25	13.94	121.92	3.68	3.02	0.66	sandy silt to clayey silt	UNDFND	UNDFD	47	12.1
4.50	14.76	101.52	3.59	3.54	0.68	sandy silt to clayey silt	UNDFND	UNDFD	39	10.0
4.75	15.58	111.28	3.97	3.57	0.71	sandy silt to clayey silt	UNDFND	UNDFD	43	11.0
5.00	16.40	139.26	3.83	2.75	0.73	silty sand to sandy silt	80-90	42-44	44	UNDEFINED
5.25	17.22	106.94	2.50	2.34	0.75	silty sand to sandy silt	70-80	42-44	34	UNDEFINED
5.50	18.04	155.86	3.98	2.55	0.77	silty sand to sandy silt	80-90	44-46	50	UNDEFINED
5.75	18.86	207.20	3.07	1.48	0.79	sand to silty sand	>90	44-46	50	UNDEFINED
6.00	19.69	194.06	2.57	1.33	0.81	sand to silty sand	80-90	44-46	46	UNDEFINED
6.25	20.51	232.72	2.38	1.02	0.84	sand	>90	44-46	45	UNDEFINED
6.50	21.33	212.20	3.04	1.43	0.86	sand to silty sand	>90	44-46	>50	UNDEFINED
6.75	22.15	249.16	3.52	1.41	0.88	sand to silty sand	>90	44-46	>50	UNDEFINED
7.00	22.97	258.08	4.36	1.69	0.90	sand to silty sand	>90	44-46	>50	UNDEFINED
7.25	23.79	226.44	4.05	1.79	0.92	sand to silty sand	>90	44-46	>50	UNDEFINED
7.50	24.61	194.76	2.81	1.44	0.94	sand to silty sand	80-90	44-46	47	UNDEFINED
7.75	25.43	245.92	4.95	2.01	0.96	sand to silty sand	>90	44-46	>50	UNDEFINED
8.00	26.25	247.16	4.67	1.89	0.99	sand to silty sand	>90	44-46	>50	UNDEFINED
8.25	27.07	228.82	3.08	1.35	1.01	sand to silty sand	>90	44-46	>50	UNDEFINED
8.50	27.89	227.40	3.14	1.38	1.03	sand to silty sand	80-90	44-46	>50	UNDEFINED
8.75	28.71	184.64	3.10	1.68	1.05	sand to silty sand	80-90	42-44	44	UNDEFINED
9.00	29.53	201.84	2.25	1.12	1.07	sand	80-90	42-44	39	UNDEFINED
9.25	30.35	190.52	1.98	1.04	1.09	sand	80-90	42-44	36	UNDEFINED
9.50	31.17	159.08	2.70	1.70	1.12	sand to silty sand	70-80	42-44	38	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ***

E TONTO ENVIRONMENTAL DRILLING

Operator :Montgomery Watsn On Site Loc:CPT-S7B-~~02B~~-01 Page No. 2

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	196.62	3.67	1.86	1.14	sand to silty sand	80-90	42-44	47	UNDEFINED
10.00	32.81	182.02	1.79	0.98	1.16	sand	80-90	42-44	35	UNDEFINED
10.25	33.63	186.02	4.20	2.26	1.18	silty sand to sandy silt	80-90	42-44	>50	UNDEFINED
10.50	34.45	248.40	2.52	1.02	1.20	sand	>90	44-46	48	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 10

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

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PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B078-Ø4

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	28Ø-S7B11-Ø27	Ø	42			SP	FILL Sand (SP), light brown, fine sand, dense, dry, trace silt
	CHEMICAL	28Ø-S7B11-Ø28	Ø	26				Same as above, but damp, trace roots, trace shells
			Ø	16				Same as above, but some clay, wet at 5 Feet bgs
5	CHEMICAL DUPE	28Ø-S7B11-Ø29 28Ø-S7B11-Ø3Ø						
10								
15								
20								

TD = 6 Feet bgs

Borehole abandoned as follows:
6.Ø to Ø.Ø feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 7B/11
JOB NUMBER 044-Ø28Ø
LOGGED BY JEV
DATE DRILLED 8-16-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION
TOC ELEVATION Not Applicable
BORING DIAMETER 8.5 Inches
TOTAL DEPTH OF HOLE 6 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING B07B-05

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S07B11-024	Ø	29			SP	FILL. Sand (SP), light brown, fine sand, dense, dry
	CHEMICAL	280-S07B11-025	Ø	19				Same as above, but dark brown, some pebbles, some roots
5	CHEMICAL	280-S07B11-026	Ø	12				Same as above, wet at 5 Feet bgs, hydrocarbon-like odor
10								
15								
20								

TD = 6 Feet bgs

Borehole abandoned as follows:
6.Ø to Ø.Ø feet bgs: Neat Cement

Water Level

Split Spoon

Sample Collected

PROJECT NAS Alameda RI
LOCATION Site 7B/11
JOB NUMBER 044-Ø28Ø
LOGGED BY JEV
DATE DRILLED 8-16-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 13.26 Feet
TOC ELEVATION Not Applicable
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 6 Feet bgs
WATER LEVEL 5 Feet bgs
WELL INSTALLED? (Y/N) N

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING M11-06

Depth (ft)	Lab Analysis	Sample No.	PID Reading (ppm)	Blows/Foot	Sample Recovery	Graphic Log	USCS Code	MATERIALS DESCRIPTION
	CHEMICAL	280-S7B11-151	0	39			SP	FILL Sand (SP), light brown, fine sand, dense, dry
	CHEMICAL	280-S7B11-152	0	33				Same as above, but dark brown, slightly moist
	GEOTECH			14				Same as above
5	CHEMICAL	280-S7B11-153	0					Same as above, but moist
							CL/SC	Sandy clay/clayey sand (CL/SC).
							SP	Sand (SP), light brown, fine sand, moist MERRITT SAND
10	GEOTECH		NA	18				Same as above with some clay
								Same as above
								TD = 14 Feet bgs
15								
20								

Water Level

Split Spoon

Sample Collected

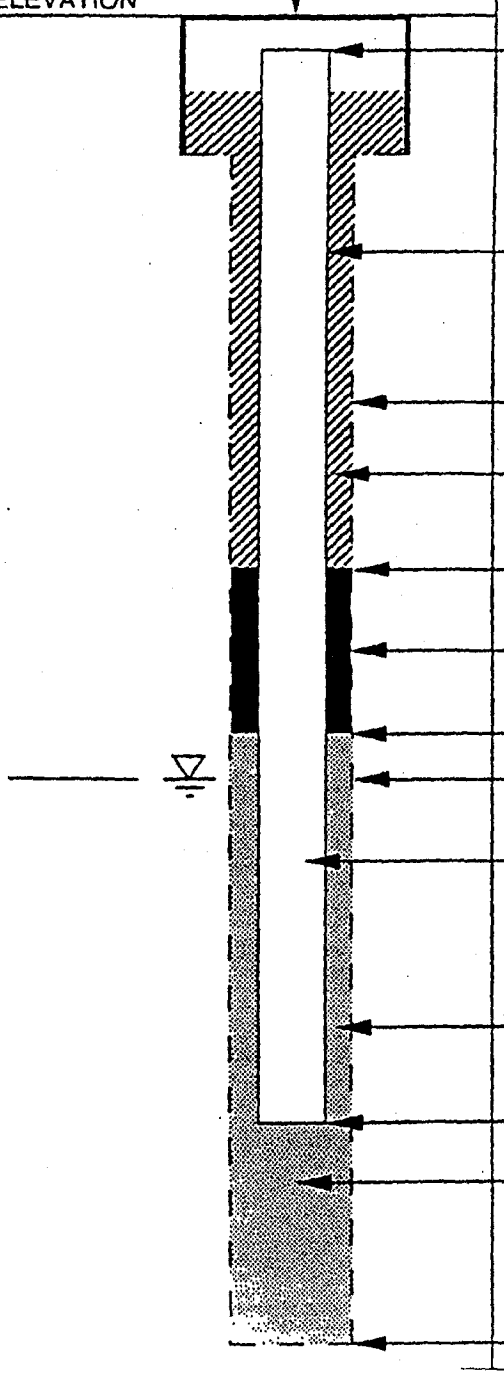
PROJECT NAS Alameda RI
LOCATION Site 11
JOB NUMBER 044-0280
LOGGED BY JEV
DATE DRILLED 8-16-94
DRILLER Woodward Drilling Co.
DRILL METHOD Hollow-Stem Auger

SAMPLING METHOD Split spoon
GROUND ELEVATION 12.55 Feet
TOC ELEVATION 12.20 Feet
BORING DIAMETER 8.5 inches
TOTAL DEPTH OF HOLE 14 Feet bgs
WATER LEVEL 6 Feet bgs
WELL INSTALLED? (Y/N) Y

WELL ~~BORING~~ NO. M11-06

MONITORING WELL SHEET

PROJECT NAS Alameda RI	LOCATION Alameda, California	DRILLER Woodward Drilling Co.
PROJECT NO. 044 0280	BORING M11-06	DRILLING METHOD Hollow Stem Auger
~~ELEVATION~~ SITE 11	DATE 8-16-94	DEVELOPMENT METHOD Surge/Bail/Pump
FIELD GEOLOGIST JEV		



(feet MLLW)

ELEVATION OF GROUND SURFACE: 12.55

ELEVATION OF TOP OF WELL CASING: 12.20

RISER PIPE I.D.: 2 inches

TYPE OF RISER PIPE: Schedule 40 PVC

BOREHOLE DIAMETER: 8.5 inches

TYPE OF BACKFILL: Neat Cement Grout

DEPTH OF SEAL (feet bgs) 1.5

TYPE OF SEAL: Bentonite

DEPTH TOP OF SAND PACK: (feet bgs) 2.5

DEPTH TOP OF SCREEN: 4.0

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE ~~x LENGTH~~ 0.01 inch

I.D. OF SCREEN 2 inches

TYPE OF SAND PACK: #2/16 Monterey Sand

DEPTH BOTTOM OF SCREEN: (feet bgs) 14.0

DEPTH BOTTOM OF SAND PACK: 14.0

TYPE OF BACKFILL BELOW OBSERVATION WELL: Not Applicable

DEPTH OF HOLE: (feet bgs) 14.0

MF

Boring Logs for DGS Site 21

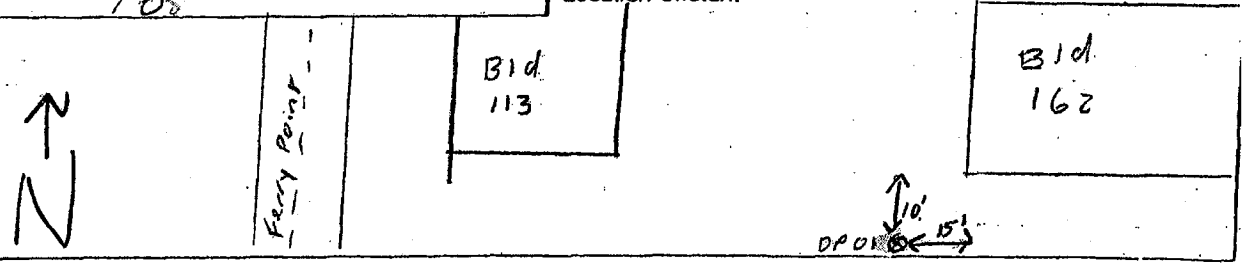
Direct Push Boring	Direct Push Soil Gas Boring	Vacuum Excavation Boring	Hydro Punch Borings
S21-DGS-DP01	S21-DGS-SG01	S21-DGS-VE01	S21-DGS-DP02
S21-DGS-DP08	S21-DGS-SG02	S21-DGS-VE02	S21-DGS-DP03
S21-DGS-DP09	S21-DGS-SG04	S21-DGS-VE03	S21-DGS-DP04
S21-DGS-DP10	S21-DGS-SG05	S21-DGS-VE04	S21-DGS-DP05
S21-DGS-DP104		S21-DGS-VE05	S21-DGS-DP06
			S21-DGS-DP07
			S21-DGS-DP11
			S21-DGS-DP12
			S21-DGS-DP13
			S21-DGS-DP14
			S21-DGS-DP15
			S21-DGS-DP16
			S21-DGS-DP17
			S21-DGS-DP18
			S21-DGS-DP19
			S21-DGS-DP20
			S21-DGS-DP21
			S21-DGS-DP101
			S21-DGS-DP102
			S21-DGS-DP103
			S21-DGS-DP104
			S21-DGS-DP105
			S21-DGS-DP106

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 21
Project Name: ALAMEDA PO, SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21-DGS-DP01	Date Started: 6/29/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 6/29/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Kirk Martin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 7 8½	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	2					Sand with Gravel; Light Olive Brown (2.5Y 5/4) slightly moist, loose, non-plastic, poorly sorted Sand- 90% (fine-medium grained); gravel- 10%	SP		
	4				NA	Clayey sand w/ gravel; Olive Brown (2.5Y 4/3) moist, loose, slightly plastic, poorly sorted, gravel- 15%, medium-course grained	SC	NA	
	6					Sand; Bluish Black (10B 2.5/1) wet, loose, Nonplastic, Medium-fine grained	SP		
	8					Clay Bluish Black (5PB 2.5/1) wet, soft, Plastic, trace silt, @ 7' sand increase	CL		
	10								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

S21-DGS-DP01

CTO-385
Bldg./Site: Site
Project Name: ALAMEDA POINT SUPPLEMENTAL INVESTIGATION DATA GAP SAMPLING

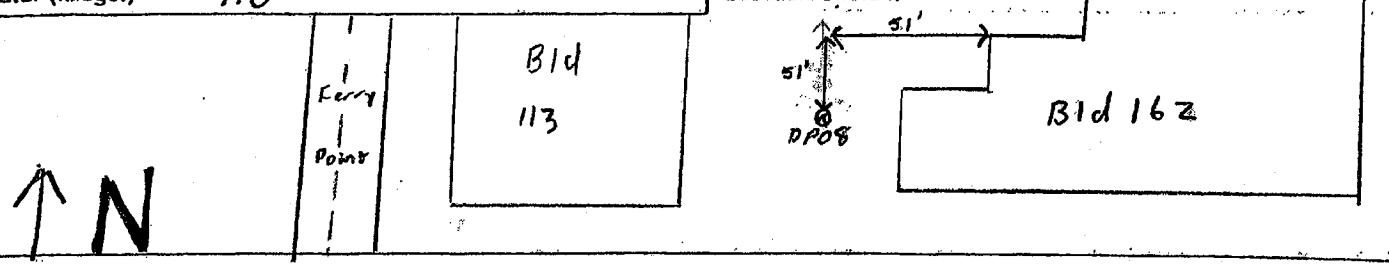
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	12					Clayey Sand; Brown (10YR 4/3) wet, Medium Dense, Slightly-Moderatly Plastic, Iron stained, Mottled,			
	14						SC		
1315	16			S21 DGS 002	NA	15-16' Increase in clay		NA	
	18								
	20					Clayey Sand; Brown (10YR 5/3) wet, loose, Slightly plastic, Poorly sorted clay-30%, Sand-70% @21' Heaving sands	SC		
	22								
	24								
	26					Total Depth = 21' Borehole Backfilled with cement grout			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: site 21
Project Name: ALAMEDA POINT SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21- DGS- DP08	Date Started: 8/1/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/1/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 4.0'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	2	X			NA	Gravelly clayey sand; strong Brown (7.5YR 4/6) Slightly moist, Dense, Non-plastic, poorly sorted gravel- 25% (0.5-4cm, angular); clay- 20% Sand- 55% (fine-coarse grained)	SC	NA	
						Sand: Yellowish Brown (10YR 5/6) Slightly moist, loose, nonplastic, well sorted Sand- 100% (fine grained)	SP		
	4					Sandy gravel with clay; olive Yellow (5Y 6/6) Slightly moist, loose, slightly plastic, poorly sorted, increase in sand downward; sand- 40% ; gravel- 50% (angular); clay- 10%	GC		
	6					Sand ; olive (5Y 4/1) wet, loose, well sorted, fine grained	SP		
	8					Clay with silt; Dark olive (5Y 2.5/1) wet, soft, very plastic, gradational contact from above, Clay- 90%, silt- 10%	CH		
1400	10			S21-DGS-DP08-021		Total Depth: 10' BGS			

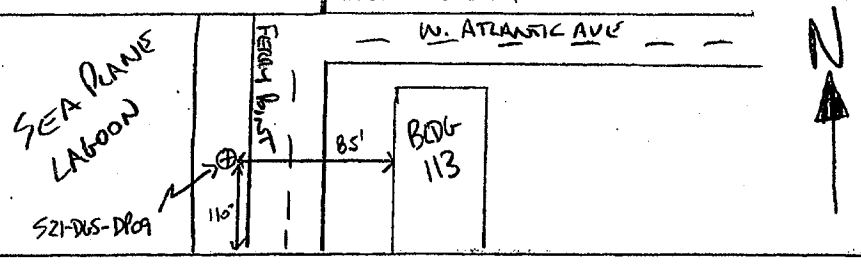
Borehole filled with cement grout.
SOIL SURFACE MEASURED ≈ 8" Below ground surface.
Borehole cement cored to 8".

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21- DGS- DP09	Date Started: 8/15/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/15/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 8'	Location Sketch:



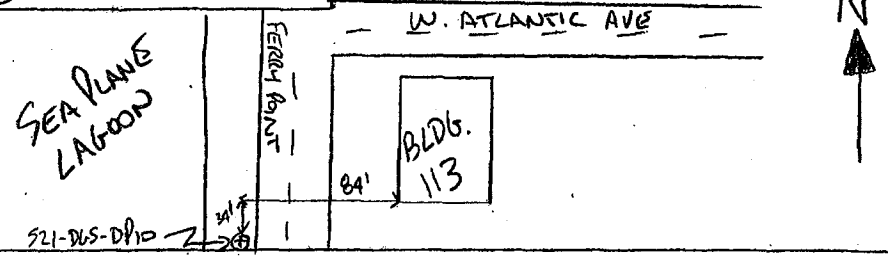
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
	2					ROCK IMPORTED TO STRENGTHEN SEAPLANE LAGOON WALL.			
	4				NA	SAND w/ SILT; BROWN (10YR 4/3); MOIST; LOOSE; NON PLASTIC; SAND- 90%- FINE TO M. GRAINED, SILT- 10%,	SM	NA	
	6					COLOR CHANGE @ 6.0' BLUISH BLACK (2GLY 5B 2.5/1), M. DENSE			
1125	8			385-S21 0828		CLAY w/ SILT; BLUISH BLACK (2GLEY 5B 2.5/1); WET; SOFT; PLASTIC; CLAY 90%, SILT- 10%	CH		
	10					SAND w/ SILT - SAME AS 3.5-8' UNIT	SM		

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POL SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21- DGS- DP10	Date Started: 8/15/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/15/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: KIRK MARTIN
Outer Diameter of Boring: 4"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing:	Driller: EUGENE
Depth to Water (ft./bgs.) 5.5'	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT & BASEROCK			
	2					SANDY SILTY GRAVEL; DK. GRAY (5Y 4/1); SLT. MOIST; LOOSE; POORLY SORTED; GRAVEL-50%, SAND-30%, SILT-15%, CLAY-5%	GP		
	4				NA	SILTY SAND; OLIVE BROWN (2.5Y 4/3); SLT. MOIST; LOOSE; MOD. SORTED; SAND(F.G.)-75%, SILT-25%	SM	NA	
	6					COLOR CHANGE @ 5.0'- DARK GREENISH GREY (1GLEY-10GY 3/1); DECREASED SILT / INCREASED CLAY.			
1300	8			385-S21 031		COLOR CHANGE @ 5.5- GREENISH BLACK (2GLEY-10BG 2.5/1), WET, DECREASED CLAY, INCREASED SILT			
	10								

TOTAL DEPTH = 9'
BORING BACKFILLED W/ CONCRETE GROUT.

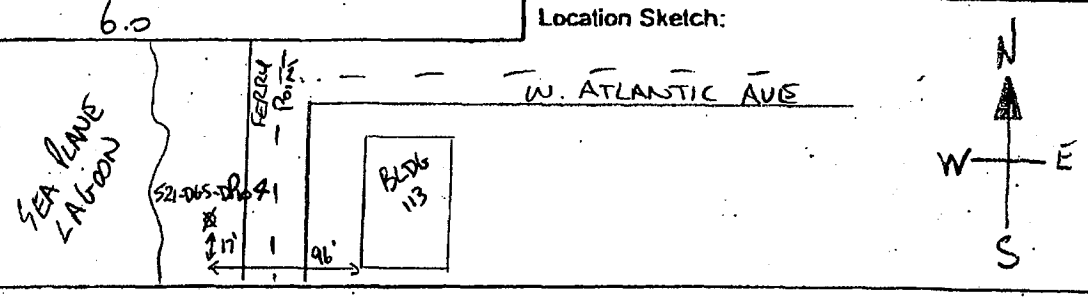
Sheet 1 of 2

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-385
Bldg./Site:
Project Name: ALAMEDA POINT

Boring Number: S21-DGS-DP104	Date Started: 9/4/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/4/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: M. CRUICKSHANK
Outer Diameter of Boring: 2"	Drilling Subcontractor: PRECISION
Inner Diameter of Well Casing: 1 3/4"	Driller: VAL
Depth to Water (ft./bgs.) 6.0	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility (yes, dis.)	Description	USCS soil symbol	Well construction	OVM (ppm)
						ASPHALT			
						SANDY GRAVEL; DRY; LOOSE; POORLY SORTED; GRAVEL-60%, ANGULAR TO 2 CM, SAND FINE-MED. GRAINED	GP		
1330				385-S21-110		GRAVELY SAND, DK BLUISH GREY (2GLEY 10B 3/1); MOIST; LOOSE; POORLY SORTED; STRONG ODOR (HYDRO-CARBON); SAND-60% FINE GRAINED; GRAVEL-40% ANGULAR TO 3 CM.	SP		
1345	8			385-S21-114			SM		
1400	16			385-S21-113	N/A	SILTY SAND; DK. BLUISH GREY (2GLEY 10B 3/1); WET; V. LOOSE; WEAKLY SORTED; SAND-FINE-MED. GRAINED 85% COLOR CHANGE @ 14', DK. GREENISH GREY (1GLEY 5G 4/1).		N/A	
	24					CLAYEY SAND; OLIVE BROWN (2.5Y 4/4); WET; LOOSE TO MED. DENSE; INCREASED DENSITY W/ DEPTH; MOTTLED W/ GREY SAND; LOCAL IRON STAINING; FINE-M. GRAINED SAND-80%	SC		
	32								
1500				385-S21-114		- LOOSE @ 34', 1" CLAY RICH SECTION OLIVE GREY (5Y 4/2).			
						- MOTTLED; LOOSE-M. DENSE W/ DEPTH; MOTTLED; IRON STAINED; [illegible]			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO-
Bldg./Site:
Project Name:

S21-DGS-DP104

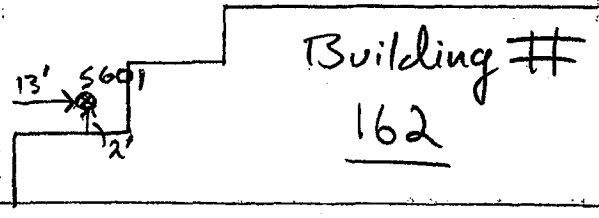
Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
1525				385-S21-116	NA		NA		
	48					TOTAL DEPTH = 43' BORING BACKFILLED w/ CEMENT GROUT.			

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMED... SUPPLEMENTAL REMOVAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21-D6S-S601	Date Started: 7/10/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/10/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 5.0' bgs	Location Sketch: West Atlantic Ave



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	PID (ppm)
1012	2			385-371-036	NA	Gravelly, Silty Sand w/clay; Brown (7.5YR 4/4); sl. moist; sl. dense; non-plastic, poorly sorted; SAND-40%; Gravel-30% - .5cm diam. - Angular; silt - 20%	GC	NA	
	4					Sand w/clay; Yellowish brown (10YR 5/4); sl. moist; loose; non-plastic; well-sorted; Sand - 95% (fine grained); clay - 5%	SC		
	6					Gravelly, clayey Sand; Olive brown (2.5Y 4/4); sl. moist; loose; sl. plastic; Very poorly sorted; Sand - 40% (coarse grained); Gravel - 35% - Angular - Sub-angular (.5-2cm diam.); Clay - 25%	GC		
	8					SAND w/GRAVEL; DK. grey (5Y 4/1); Wet; loose; non-plastic; poorly sorted; Sand - 80%; Gravel - 20% - Angular	SW		
	10					CLAYEY SAND w/GRAVEL; Greenish black (1Gley 10Y 2.5/1); Wet; loose; non-plastic; Sand - 60% (coarse-fine grained); angular gravel - 20% (.5cm); Clay - 20%; piece of rubber	SP		
							SC		

Total Depth = 9'
Boring backfilled w/ CEMENT grout

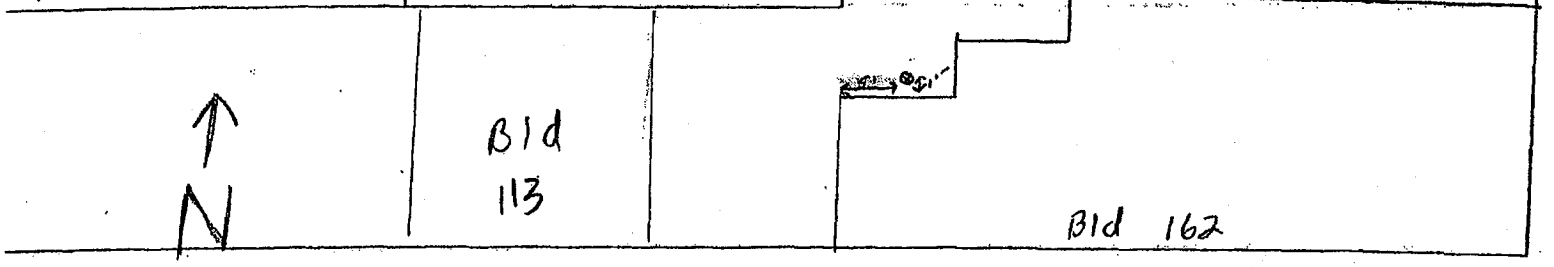
Sheet ____ of ____

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POIN SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21-D65-S602	Date Started: 7/10/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/10/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) NA	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
	0.5					Gravelly, Silty Sand w/clay; Brown (7.5YR 4/4); slightly moist, slightly Dense, Non-plastic, poorly sorted, Gravel- 30% (angular, 0.5cm diameter), silt - 25%, Sand- 40%, clay - 5%	GC		
1002	1.5			885 521 037		Sand with Clay; Yellowish Brown (10YR 5/4) slightly moist; loose; non-plastic, well sorted, Sand- 95% (fine grained), clay - 5%	SC		
	2								

Total Depth 2'
Borehole Back filled with cement grout

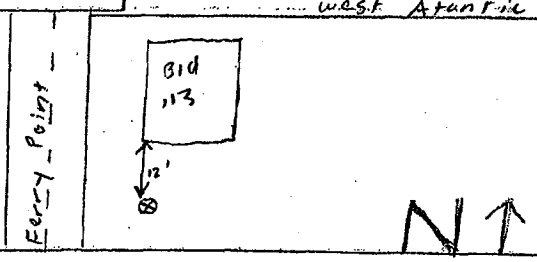
Sheet _____ of _____

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21- DGS-SG04	Date Started: 7/10/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/10/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genin
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) NA	Location Sketch: West Atlantic



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
855	0.5 1 1.5 2			385-S21-0411		SAND w/ GRAVEL; Yellowish Brown (10YR 5/4) slightly moist, loose, very slightly plastic, Gravel- 15%, sand- 80%, clay 5%	SP		

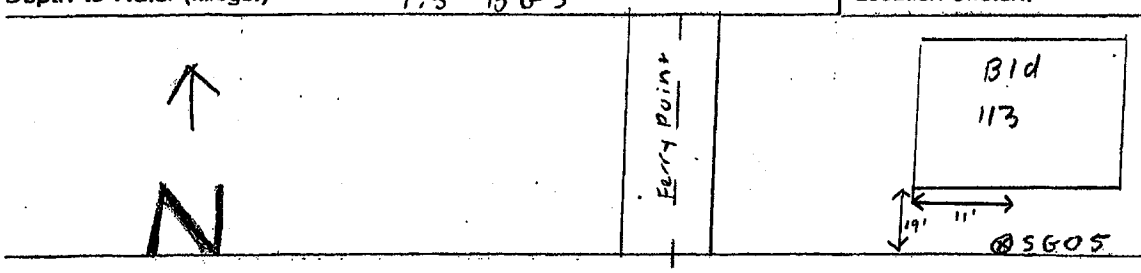
Total Depth = 2' BGS
Borehole Backfilled with cement GROUT

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site: Site 21
Project Name: ALAMEDA POL SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21-DGS-SG05	Date Started: 7/10/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 7/10/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: Laura Genna
Outer Diameter of Boring: 4"	Drilling Subcontractor: Precision
Inner Diameter of Well Casing:	Driller: Eugene
Depth to Water (ft./bgs.) 4.5' BGS	~~Location Sketch:~~ West Atlantic



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
0902	2			395-S21 042		Sand with clay; Yellowish Brown (10YR 5/4) Slighty moist, loose, well sorted, Sand- 89% (fine grained), clay - 7%, trace shells clay in pockets 0.5 cm wide.	SP	NA	
	4				NA				
	6					Silt - Dark greenish grey (GLEY 4/5GY) wet, loose, well sorted, Silt - 99%, trace shells	MH		
	8					clay; Black (GLEY 1 2.5/N) wet, soft, very plastic, gradational contact 100%	CH		
	10					Total Depth = 9' BGS			

Borehole Backfilled with cement grout

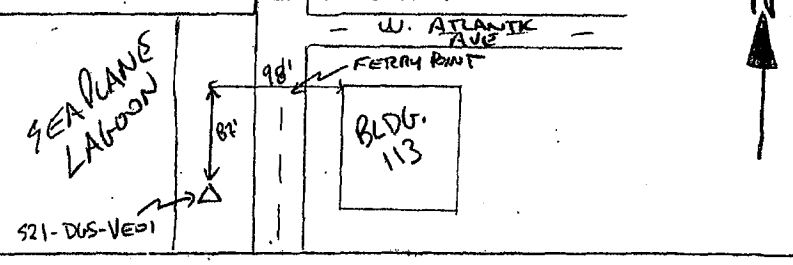
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMET SUPPLEMENTAL REMOVAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21-DGS-VE01	Date Started: 8/7/01
Drilling Method: (Circle one) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/7/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller: STEVE
Depth to Water (ft./bgs.)	Location Sketch:



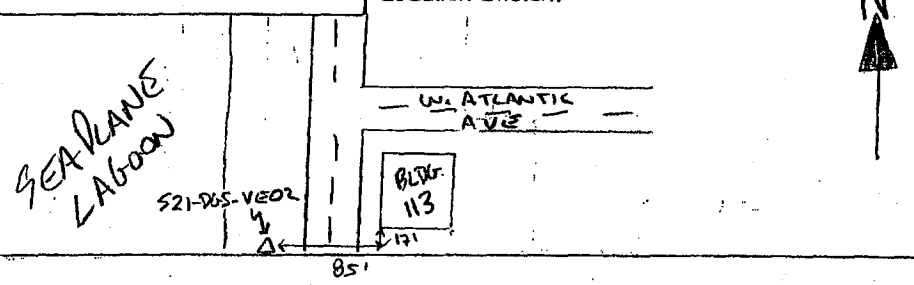
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						ASPHALT			
	2					SAND; OLIVE (5Y 5/6); SLT. MOIST; LOOSE; WELL SORTED; NON PLASTIC; (BEDDING MAT.)			
	4				NA	ENCOUNTERED 24" DIAMETER CONCRETE PIPE @ 7.5' BGS.		NA	
	6					GROUNDWATER PARAMETERS PH- 7.36 DO- 7.49 mg/L CND- 999 µS/cm TMP- 20.2°C TRB- 122 NTU ORP- 100 mV STRONG ODOR, RAINBOW SHEEN.			
1000	8			385-S21-029					
1010				WATER 385-S21 030/030A		TOTAL DEPTH = 9' BORING BACKFILLED W/ CLEAN FILL MATERIAL AND FINISHED W/ AN ASPHALT CAP.			
	10								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA PO, SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21- DGS- VE02	Date Started: 8/7/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/7/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: LAURA GENIN
Outer Diameter of Boring: 6" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller: STEVE
Depth to Water (ft./bgs.)	Location Sketch:



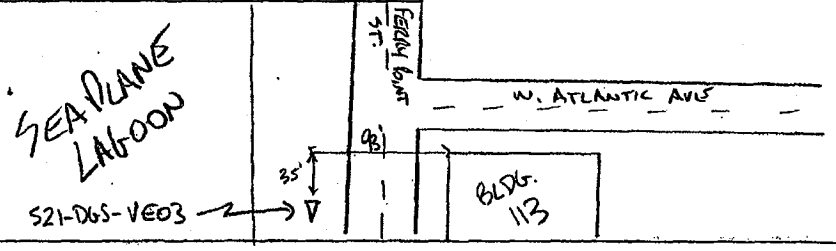
Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE			
	2				NA	SAND w/ CLAY; DARK GREY (N/4); MOIST; LOOSE; NON PLASTIC; SAND (F.G.) - 92%, CLAY 8%.	SC	NA	
	4					ENCOUNTERED 30" DIAMETER CONCRETE PIPE 7.5' BGS.			
	6					GROUNDWATER PARAMETERS TMP - 23.4°C ORP - 347 mV CND - 13.3 mS/cm TRB - 278 NTU DO - 0.11 mg/L pH - 7.02			
1115	8			385-S21 032					
1130				WATER SAMPLE 385-S21 033		TOTAL DEPTH = 9.5' BORING BACKFILLED w/ CLEAN FILL MATERIAL AND FINISHED w/ A CONCRETE CAP.			
	10								

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA SUPPLEMENTAL REMOVAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21-DGS-VE03	Date Started: 8/21/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 8/21/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: MIKE BARNES
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.) 6.5'	Location Sketch:



Time	Depth (ft) bgs	Drive interval	Recovered interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						ASPHALT			
	2					SANDY GRAVEL; DARK YELLOWISH BROWN (10YR 4/6); MOIST; M. DENSE; GRAVEL - 65% (COARSE), SAND - 35% (F. GRAINED)	GW SP		
	4				NA	SAND; DARK YELLOWISH BROWN (10YR 4/6); MOIST; LOOSE		NA	
	6					COLOR CHANGE @ 6.0'			
1010				385-S21 061		ENCOUNTERED 3' DIAMETER CONCRETE STORM DRAIN @ 6.5' BGS			
1110	8			WATER SAMPLE 385-S21 062		GROUNDWATER PARAMETERS CND - 167110 µS/cm TMP - 21.03°C TRB - 1383 NTU pH - 8.04 DO - 9.76 mg/L ORP - 153.3 mV STRONG ODOR, SHEEN.			
	10					TOTAL DEPTH = 9' BORING BACKFILLED W/ CLEAN FILL MATERIAL AND FINISHED W/ ASPHALT CAP.			

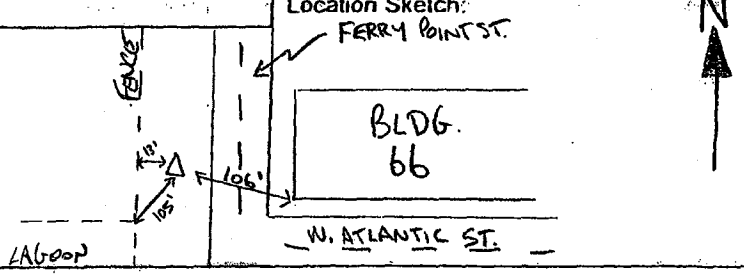
Sheet 1 of 1

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMEDA POL SUPPLEMENTAL REMEDIAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21- DGS- VE04	Date Started: 9/6/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RICK ERDMAN
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor: MILLER PIPELINE
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	OVM (ppm)
						CONCRETE			
	2					SAND; GRAYISH GREEN (5G 4/2); WET; LOOSE	SP		
						ENCOUNTERD 36" DIAMETER CONCRETE STORM DRAIN @ 5' BGS.			
	4				NA	GROUND WATER PARAMETERS		NA	
						PH- 7.11 TMP- 25.5°C			
	6			385-S21 070		TRB- >999 NTU ORP- 0.79 mV			
				WATER SAMPLE 385-S21 070		DO- 6.47 mg/L CND 4.32 mS/cm			
	8					TOTAL DEPTH = 7'			
						BORING BACK FILLED W/ CLEAN FILL MATERIAL AND FINISHED W/ A CONCRETE CAP.			

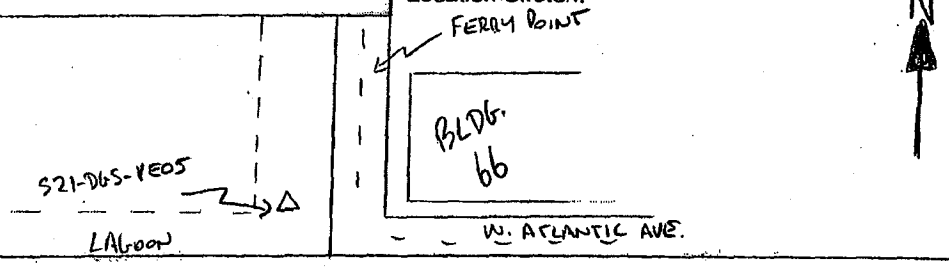
Continue

TETRA TECH EM INC.

SOIL BORING AND WELL INSTALLATION AND VISUAL CLASSIFICATION LOG

CTO- 385
Bldg./Site:
Project Name: ALAMED SUPPLEMENTAL REMOVAL INVESTIGATION DATA GAP SAMPLING

Boring Number: S21- DGS- VE05	Date Started: 9/6/01
Drilling Method: (*Circle one*) HSA Continuous Core/GeoProbe/Hand Auger	Date Completed: 9/6/01
Air Rotary/Mud Rotary/Dual Tube Percussion/Sonic/Vacuum	Logged By: RICK ERDMAN
Outer Diameter of Boring: 16" x 8"	Drilling Subcontractor:
Inner Diameter of Well Casing:	Driller:
Depth to Water (ft./bgs.)	Location Sketch:



Time	Depth (ft) bgs	Drive Interval	Recovered Interval	Sample ID	Blow count (per 6 inches) / V.B. utility type, dia.	Description	USCS soil symbol	Well construction	VM (ppm)
						ASPHALT			
	2				N/A	SAND; GRAYISH GREEN (5G 4/2); WET; LOOSE; POORLY SORTED; SOME DISCOLORATION; HYDROCARBON ODOR ENCOUNTERED 36" DIAMETER STORM DRAIN @ 5.5' GROUNDWATER PARAMETERS ORP - 196mV DO - 0.62mg/L PH - 7.41 TMP - 26.5°C TRB - 7999NTU	SP	N/A	
	4								
1330	6			385-S21 071					
1400				WATER SAMPLE 385-S21 073					
	8					TOTAL DEPTH = 7' BORING BACKFILLED W/ CLEAN FILL MATERIAL & FINISHED W/ AN ASPHALT CAP			