HYDRO GeoLogic INC.

Project No: MCC001901030201
Project: Final Remedial Investigation
Client: AFCEE
Location: Site 24 - Vandenberg AFB
Northing: 640214.346

Borehole ID: HGL31(24MW14B)
Date: 11/11/2002 24-MW-14A
Geologist: M. Jackson
Checked By: D. Smith, R.G.
Ground Surface Elevation(ft msl): 459.01
Easting: 1768211.814

SUBSURFACE PROFILE					SAMPLE				
Depth	Symbol	Description	USCS	Elevation	Recovery %	Blow Counts	PID (ppm)	Water Level	Remarks
		Sandy silty clay Brownish gray (sand) and pale yellowish brown (sand), moist, slightly stiff, 70% silty clay, 30% medium grained sand, 6" of asphalt above fill	Fill	454					
2									
4									
6		***Poorly graded sand*** Dark yellowish brown, moist, soft, 100% fine grained sand with trace silt	SP		90	10/8/9	2.6		
8									
10		unit becomes moderate yellowish brown at 5.5'			30	50 for 5"	1.5		
12									
14		unit becomes light olive gray and moderate dense at 10'							
16					60	24/47/50 for 5"	5.7		
18		trace clay lenses at 12'							No shallow zone water encountered.
20		unit becomes dark yellowish brown at 15'			80	40/50 for 2"	4.7		
22									
24		lense of sandy clay from 23' to 24'							
26					90	34/50 for 5"	5.2		
28									
30		unit becomes very moist at 30'			60	29/50 for 5"	6.3		Clay lenses tend to "smear" along outside of sample.
32									
34									
36		unit becomes very moist to saturated at 35'			50	31/50 for 3"	8.6		
38									1345 Set intermediate temporary well at 39', above clay unit.
40				419	95	36/46/41	4.1		

Drilled By: Layne Christensen
Drill Method: Dual Tube Percussion
Drilling Equipment: AP-1000
Sampling Equipment: CA Mod Split Spoon

HydroGeoLogic, Inc.
4600 Northgate Blvd., Suite 207
Sacramento, CA 95834
(916) 614-8770 FAX (916) 614-8775

Boring Diameter: 10"
Total Depth Drilled: 114'

Borehole ID: ***HGL31(24MW14B)***

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SUBSURFACE PROFILE					SAMPLE				
Depth	Symbol	Description	USCS	Elevation	Recovery %	Blow Counts	PID (ppm)	Water Level	Remarks
		Sand with clay Pale yellowish brown with dark yellowish brown mottling (20%), moist, hard, 85% fine grained sand, 15% clay	SC	418	95				
42			SP						1430 Collect groundwater sample (HGL31-GW39).
44									
46		***Poorly graded sand*** Pale yellowish brown, moist, soft, 100% medium grained sand			65	33/50 for 5"	3.5		
48									
50		unit becomes very moist with 10% iron oxide staining at 50'			60	32/50 for 4"	3.0		
52									
54									
56					60	25/50 for 3"	6.8		
58									
60					50	32/50 for 4"	7.2		
62									
64									
66					100	22/50/50 for 1"	4.7		
68									
70		unit becomes heaving sand at 70'			95	20/50 for 5"	4.9		1550 Set temporary well at 77'.
72									
74				384					1600 Collect groundwater sample (HGL31-GW) sample from 77'.
76		***Clay*** Light brownish gray, moist, stiff, moderately plastic, 20% iron oxide staining (moderate brown)	CL						11-12-02 Continue advancement of boring.
78									
80									

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SUBSURFACE PROFILE					SAMPLE				
Depth	Symbol	Description	USCS	Elevation	Recovery %	Blow Counts	PID (ppm)	Water Level	Remarks
			CL	377					
82		***Well graded sand*** Pale yellowish brown, saturated, soft, 90% coarse sand, 10% gravel (variegated, subrounded, largest 2 mm x 3 mm)	SW						Coarsening downwards trend in sand unit.
84									
86									
88									
90									
92									
94				363					
96		***Clay with silt*** Greenish gray, moist, slightly plastic, moderate stiff, 90% clay, 10% silt	CL	361					
98			SW						
100		***Well graded sand*** Olive gray, saturated, soft, 70% coarse sand, 30% gravel (variegated)		357					
102			CL	355					
104		***Clay with silt*** Greenish gray, moist, slightly plastic, moderate stiff, 90% clay, 10% silt	SW						Piece of gravel sized porcelanite observed, Monterey formation.
106									
108		***Well graded gravelly sand*** Olive gray, saturated, 60% coarse grained sand, 40% gravel (subangular, subrounded, variegated)							0910 Prepare to collect groundwater sample from 114' (screened 104' to 114').
110			CL						
112			SW	346					
114		lense of clay with silt from 110' to 111'	CL	345					Backfilled with bentonite to approximately 77'. Boring converted to deep well 24MW14B. Well 24MW14A placed adjacent to this boring.
116		***Clay with silt*** Greenish gray, moist, slightly plastic, moderate stiff, 90% clay, 5% silt, 5% gravel (subrounded, variegated)							
118									
120									

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