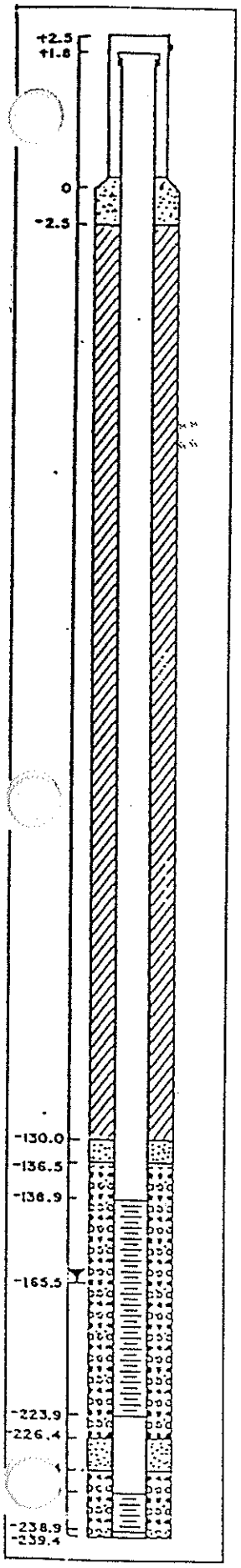
Well No.: 4916L
Boring No. X-Ref:

MONITORING WELL CONSTRUCTION SUMMARY

SURVEY COORDS: (N) 4197426.23
(E) 4171529.42

ELEVATION GROUND LEVEL: 828.3 ft msl
TOP OF CASING: 830.05 ft msl



N.T.S.

Drilling Summary:

Total Depth:	239.43 ft. bgs
Borehole Diameter:	10" OD
Casing Stick-up Height:	1.78 feet
Driller:	Layne Environmental Services
	Fontana, California
Rig:	Reverse air dual wall percussion hammer
Bit(s):	Percussion
Drilling Fluid:	Clean compressed air
Protective Casing:	8" diameter anodized aluminum

Construction Time Log:

TASK	Start DATE	Start TIME	Finish DATE	Finish TIME
Drilling				
0-170'	3/31/94	1200	3/31/94	1800
170-244'	4/1/94	0740	4/1/94	1045
Geophys. Logging:	4/7/94	0800	4/7/94	1140
Casing:				
C1, S1, C2, S2	4/1/94	1330	4/1/94	1430
Filter Placement:	4/1/94	1430	4/1/94	1830
Cementing:	4/2/94	0830	4/2/94	1100
Development:	4/12/94	0830	4/12/94	1315

Well Design & Specifications:

Basis: Geologic Log x Geophysical Log ____

Casing String(s): C=Casing S=Screen E=End Cap

Depth	String(s)	Elevations
+ 1.8 - 138.9	C1	830.05 - 689.4
138.9 - 223.9	S1	689.4 - 604.4
223.9 - 233.9	C2	604.4 - 594.4
233.9 - 238.9	S2	594.4 - 589.4
238.9 - 239.4	E	589.4 - 588.9

Casing:	C1	4" diameter flush threaded sched. 80
		PVC blank (140.65 ft).
	C2	4" diameter flush threaded sched. 80
		PVC blank (10 ft).
	E	4" diameter flush threaded sched. 80
		end cap (0.5 ft.)
Screen:	S1	4" diameter flush threaded sched 80
		PVC 0.02-inch screen (85 ft.)
	S2	4" diameter flush threaded sched 80
		PVC 0.02-inch screen (5 ft.)
Filter Pack:		Clean #3 Monterey sand (9 ft and 92.8 ft) # 60 fine mesh silica sand (4 ft and 6.5 ft)
Grout Seal:		N/A (Bentonite Seal extends from filter pack to surface seal)
Bentonite Seal:		Bentonite slurry (128.9 ft)
Surface Seal:		Redi-mix concrete (2.5 ft)

Well Development:

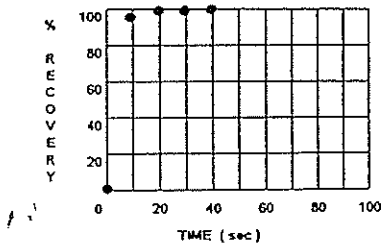
Performed 4/12/94 by Layne Environmental Services.
Surged, bailed solids and pumped 3.5 well volumes with submersible pump.

Stabilization Test Data:

Time	pH	Spec. Cond.	Temp (C)
1238	7.45	349	69.2
1248	7.30	406	68.0
1300	7.77	409	67.1
1314	7.64	399	67.7
1315	7.63	400	67.7

Recovery Data:

Q = 4.75 gpm So = 0.16 feet



Comments:

Supervised By: Susan F. Goss, R.G.
Site Name: Bradley Landfill and Recycling Center
Date: 04/01/94
Location: Sun Valley, California

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Bradley Landfill and Recycling Center, Sun Valley, CA South perimeter of landfill N. 4197426.23 E. 4171529.42	DRILLING METHOD:	Dual-wall, reverse-air percussion hammer					BORING NO. 4916L	
							SHEET 2 OF 5	
	SAMPLING METHOD:	Grab samples at 10-foot intervals					DRILLING	
							START	FINISH
	WATER LEVEL	169	166.24	166.4			TIME	TIME
	TIME		"				12:20	10:45
	DATE	04/01/94	04/07/94	04/12/94			DATE	DATE
DATUM Ground Surface ELEVATION 828.3	CASING DEPTH	239.4	237.5	238			03/31/94	04/01/94
DRILL RIG AP-1000	SURFACE CONDITIONS:	Graded dirt pad						
ANGLE Vertical BEARING N/A								
SAMPLE HAMMER TORQUE FT-LBS								

DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN ON SAMPLERS	SYMBOL	SAMPLE NO.	DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
55 60 65				40'-70' FAT CLAY (ch) At 50 feet, becomes slightly moist to moist with increasing laminae consisting of blue gray, micaceous silt/sand, inter-laminae are locally very moist; mostly stiff to very stiff. At 60 feet; becomes interbedded very pale orange brown clay, very stiff to stiff, moist to very moist; and blue-gray to gray-brown micaceous silt/very fine sand; poorly graded sand ~2-feet thick at 63 feet, dry, 10% fine gravel.								
70 75				70'-80' WELL GRADED SAND WITH GRAVEL (sw) Medium brown, dry to slightly moist, hard; gravel/cobble layer from 72 to 75' feet.								
80 85				80'-90' SILTY SAND (sm) Pale brown to gray, fine grained sand, dry to slightly moist; very dense to hard, trace gravel to 1-inch; cobble layer from 82 to 84 feet.								
90 95				90'-114' WELL GRADED SAND AND GRAVEL (sw/gw) Pale orange-brown, interbedded sand, fine to coarse grained, slightly moist, poorly graded locally; typically less than 5% fines (silt) gravel layers are mostly 1 to 2 feet thick.								

LOGGED BY: Mike McKee, R.G.

DRILLING CONTR: Layne Environmental Services

DATE: 03/31/94-04/01/94 CHK'D BY: _____

Fontana, California

SOIL BOREHOLE LOG

SITE NAME AND LOCATION:	DRILLING METHOD:	Dual-wall, reverse-air					BORING NO.	
Bradley Landfill and Recycling Center, Sun Valley, CA		percussion hammer					4916L	
South perimeter of landfill							SHEET	
N. 4197426.23 E. 4171529.42	SAMPLING METHOD:	Grab samples at 10-foot					3 OF 5	
		intervals					DRILLING	
							START	FINISH
	WATER LEVEL	169	166.24	166.4			TIME	TIME
	TIME						12:20	10:45
	DATE	04/01/94	04/07/94	04/12/94			DATE	DATE
DATUM Ground Surface ELEVATION 828.3	CASING DEPTH	239.4	237.5	238			03/31/94	04/01/94
DRILL RIG AP-1000	SURFACE CONDITIONS:	Graded dirt pad						
ANGLE Vertical BEARING N/A								
SAMPLE HAMMER TORQUE FT-LBS								

DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN ON SAMPLER	SYMBOL	SAMPLE NO.	DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
105				90'-114' WELL GRADED SAND AND GRAVEL (sw/gw) Pale orange brown, interbedded sand is fine to coarse, slightly moist, poorly graded locally; typically less than 5% fines (silt) gravel layers are mostly 1 to 2 feet thick.								
110				Very hard drilling at 110'								
115				114'-145' POORLY GRADED TO WELL GRADED SAND (sp/sw) AND GRAVEL (gw) Medium brown, poorly graded sands are predominately fine to medium grained. Dry to slightly moist, medium dense, some interbedded gravel layers.								
120												
125												
130												
135												
140				At 140 feet; gravel layers become more abundant (~50%)								
145				145'-175' WELL GRADED SAND (sw) Medium brown, trace gravel, slightly moist, medium dense; with few interbedded gravel layers.								

LOGGED BY: Mike McKee, R.G.

DRILLING CONTR: Layne Environmental Services

DATE: 03/31/94-04/01/94

CHK'D BY:

Fontana, California

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Bradley Landfill and Recycling Center, Sun Valley, CA South perimeter of landfill N. 4197426.23 E. 4171529.42	DRILLING METHOD:	Dual-wall, reverse-air percussion hammer						BORING NO. 4916L	
								SHEET 4 OF 5	
	SAMPLING METHOD:	Grab samples at 10-foot intervals						DRILLING	
								START	FINISH
	WATER LEVEL	169	166.24	166.4				TIME	TIME
	TIME							12:20	10:45
	DATE	04/01/94	04/07/94	04/12/94				DATE	DATE
DATUM Ground Surface ELEVATION 828.3	CASING DEPTH	239.4	237.5	238				03/31/94	04/01/94
DRILL RIG AP-1000	SURFACE CONDITIONS:	Graded dirt pad							
ANGLE Vertical BEARING N/A									
SAMPLE HAMMER TORQUE FT-LBS									

DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN ON SAMPLER	SYMBOL	SAMPLE NO.	DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
155				145'-175' WELL GRADED SAND (sw) Medium brown, trace gravel, slightly moist, medium dense; with few interbedded gravel layers								
160												
165				At 164 feet becomes pale yellowish brown, slightly moist, very hard drilling at 165'. Saturated at 169.								
170												
175				175'-180' WELL GRADED SAND AND GRAVEL (gw/sw) Brown, gap graded, slightly moist, cobbles to 5-inches; wet/saturated.								
180				180'-186' WELL GRADED SAND WITH GRAVEL (sw) Brown, well graded, some fines, saturated.								
185				186'-190' WELL GRADED GRAVEL WITH SAND (gw) Sand is primarily fine to medium grained. Trace silt/clay; medium dense, saturated.								
190				190'-244' WELL GRADED SAND WITH GRAVEL (sw) About 50-85% well graded sand, subangular; and 15-50% poorly graded gravel, dense, subangular to subrounded; saturated.								
195												

LOGGED BY: Mike McKee, R.G.

DRILLING CONTR: Layne Environmental Services

DATE: 03/31/94-04/01/94

CHK'D BY:

Fontana, California

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: Bradley Landfill and Recycling Center, Sun Valley, CA South perimeter of landfill N. 4197426.23 E. 4171529.42	DRILLING METHOD:	Dual-wall, reverse-air percussion hammer					BORING NO. 4916L	
							SHEET 5 OF 5	
	SAMPLING METHOD:	Grab samples at 10-foot intervals					DRILLING	
							START	FINISH
	WATER LEVEL	169	166.24	166.4			TIME	TIME
	TIME						12:20	10:45
	DATE	04/01/94	04/07/94	04/12/94			DATE	DATE
DATUM Ground Surface ELEVATION 828.3	CASING DEPTH	239.4	237.5	238			03/31/94	04/01/94
DRILL RIG AP-1000	SURFACE CONDITIONS:	Graded dirt pad						
ANGLE Vertical BEARING N/A								
SAMPLE HAMMER TORQUE FT-LBS								

DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN ON SAMPLER	SYMBOL	SAMPLE NO.	DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
				190'-244' WELL GRADED SAND WITH GRAVEL (sw) About 50-85% well graded sand, subangular; and 15-50% poorly graded gravel, dense, subangular to subrounded; saturated.								
205												
210												
215												
220												
225												
230												
235												
240												
245				TD = 244'								

LOGGED BY: Mike McKee, R.G.

DRILLING CONTR: Layne Environmental Services

DATE: 03/31/94-04/01/94

CHK'D BY:

Fontana, California