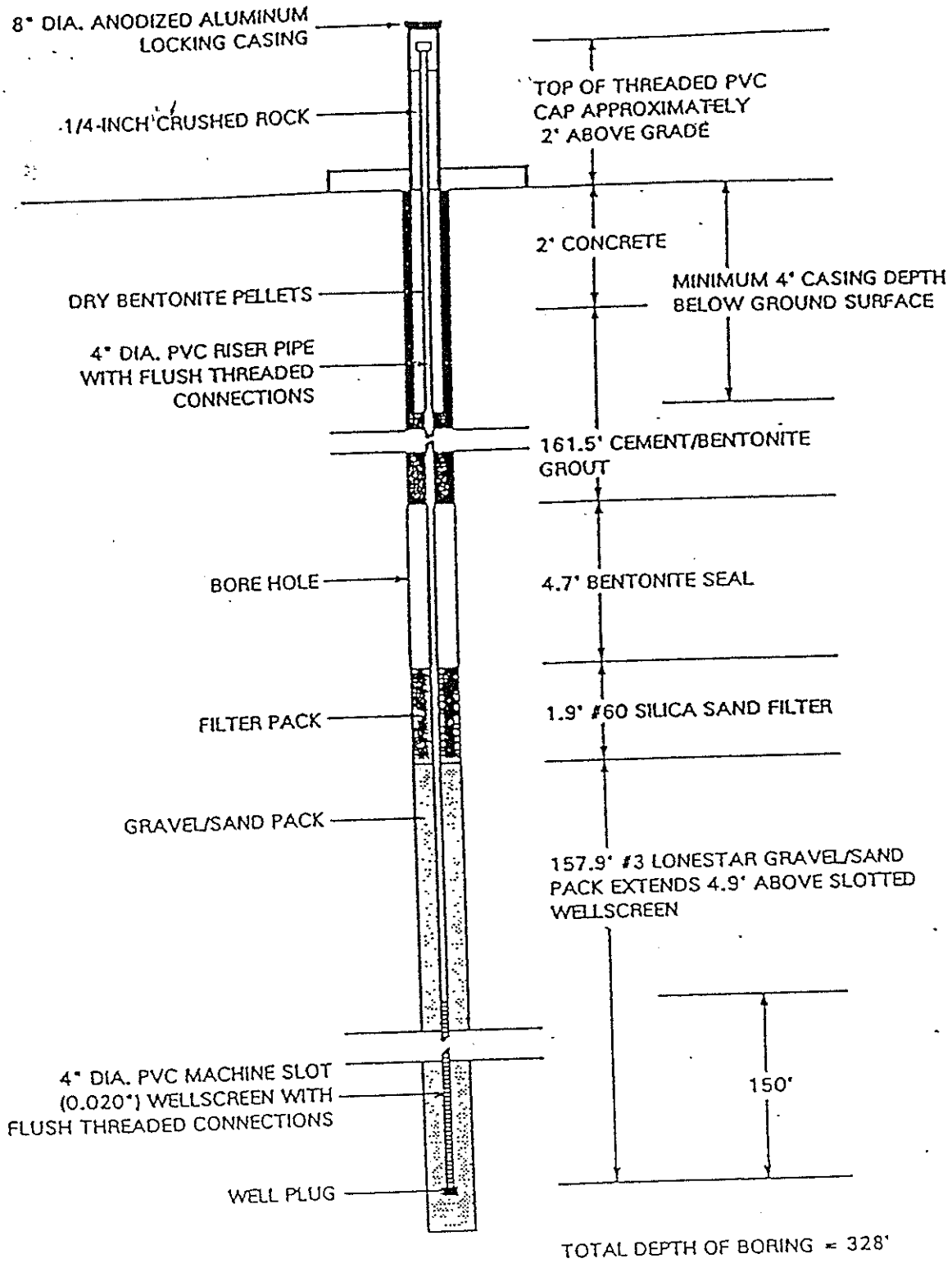

GROUNDWATER MONITORING WELL DETAILS
MONITORING WELL 4915 E

SOIL BOREHOLE LOG

4915E

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-2
		SHEET 1 of 7
	SAMPLING METHOD:	DRILLING START / FINISH
	WATER LEVEL: 268.7	TIME 14:25 / TIME 15:15
	TIME: 07:30	
	DATE: 12/13/91	DATE 12/9/91 / DATE 12/13/91
	CASING DEPTH: 295	

DATUM: MSL ELEVATION: 923.9'

DRILL RIG: AP-1000

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE:

SURFACE CONDITIONS: Flat Berm/Pad Built out on to Drainage Ditch

LOGGED BY: James V. Bunker

DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California

DEPTH IN FEET	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLE NO. AND SIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY INDEX	OTHER TESTS
0.0			SAND (AF): Pale yellowish brown (10YR 6/2); 80% fine to very coarse sand, 10% silt, 10% gravel up to 1" diameter (large rock fragments), damp								
5.0											
10.0											
			GRAVELLY SAND (SP): Pale yellowish brown (10YR 6/2; dry) to moderate yellowish brown (10YR 5/4; wet); 15 to 20% fine to coarse gravel with 5% cobbles up to 5" in diameter (gravels consist of granite, granodiorite, diorite, quartzite, and gneissic (biotite foliated) rock), 75% to 80% medium to very coarse sand, little or no fines, moist								
15.0											
20.0											
25.0											
30.0			@ 30' to 40': Slight increase in gravel/cobbles to 25 to 30%								
35.0											
			@ 37': 30 to 45% gravel and cobbles up to 3" to 4" in diameter, subrounded/fragmented; 55 to 70% fine to coarse sand, slightly moist								
40.0											
45.0			@ 46' to 48' (GP): Abundant gravel and cobbles at 46' to 48' (GP)								
			SAND (SP): Moderate yellowish brown (10YR 5/4); 10% gravel and cobbles, 90% medium to very coarse sand, little or no fines, moist								
50.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-2
	SAMPLING METHOD:	SHEET 2 of 7
		DRILLING START / FINISH
	WATER LEVEL: 268.7	TIME 14:25 / TIME 15:15
	TIME: 07:30	
	DATE: 12/13/91	DATE 12/9/91 / DATE 12/13/9
	CASING DEPTH: 295	
DATUM: MSL ELEVATION: 923.9'		
DRILL RIG: AP-1000	SURFACE CONDITIONS: Flat Berm/Pad Built out on to Drainage Ditch	
ANGLE: Vertical BEARING:	LOGGED BY: James V. Bunker	
SAMPLE HAMMER TORQUE:	DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California	

DEPTH IN FEET	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLE NUMBER	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTIC INDEX	OTHER TESTS
60.0			SAND (SP): Moderate yellowish brown (10YR 5/4); 10% gravel and cobbles, 90% medium to very coarse sand, little or no fines, moist								
65.0			GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4); 15 to 20% gravel/cobbles, 80 to 85% medium to very coarse sand, little or no fines, moist								
60.0			@ 60': Increase in gravel/cobbles (large diameter) up to 40%, slightly moist, slight increase in silt								
65.0											
70.0			@ 68': Dark yellowish brown (10YR 4/2); 30% fine to coarse gravel up to 2" in diameter, 70% medium to very coarse sand								
75.0											
80.0			SAND (SP): Dark yellowish brown (10YR 4/2); 90% medium to very coarse sand, <10% gravel, cobbles, silt and fine sand, damp								
85.0											
90.0			SANDY GRAVEL TO GRAVEL (GP): Dark yellowish brown (10YR 4/2); 60 to 100% fine to very coarse gravel with abundant cobbles (rounded/sub-rounded) and boulders (broken), 0 to 40% medium to very coarse sand, damp								
95.0			GRAVELLY SAND (SP): Dark yellowish brown (10YR 4/2); 20% fine to coarse gravel with cobbles/boulders (broken), 75 to 80% medium to coarse sand, 5% silt to fine sand, damp								
100.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-2
	SAMPLING METHOD:	SHEET 3 of 7
		DRILLING START / FINISH
	WATER LEVEL: 268.7	TIME 14:25 / TIME 15:15
	TIME: 07:30	
	DATE: 12/13/91	DATE 12/3/91 / DATE 12/13/91
	CASING DEPTH: 295	

DATUM: MSL ELEVATION: 923.9'

DRILL RIG : AP-1000

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE:

SURFACE CONDITIONS: Flat Berm/Pad Built out on to Drainage Ditch

LOGGED BY: James V. Bunker

DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California

DEPTH IN FEET	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLE AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTIC INDEX	OTHER TESTS
100.0			See previous page for interval extending to 101'								
			SAND (SP): Dark yellowish brown (10YR 4/2); 5 to 10% gravel with occasional thin interbeds <6" thick of 15 to 20% gravel, 90 to 95% medium to very coarse sand, <5% fine sand, little or no fines, moist								
105.0											
110.0											
			LARGE BOULDER(S): 113' to 114.5'								
115.0			SAND (SP): Dark yellowish brown (10YR 4/2) same as 101' to 114.5'								
120.0			@ 121': Moist sand with occasional thin gravelly sand zones <6" thick with gravel content of up to 40%								
125.0											
130.0											
135.0											
140.0			GRAVELLY SAND (SP): Adding water 140' to 150', sand content uncertain, moderate gravel content, possibly 40% gravel/60% sand								
145.0											
150.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION:	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-2
BRADLEY LANDFILL Sun Valley, California	SAMPLING METHOD:	SHEET 4 of 7
		DRILLING START / FINISH

						START	FINISH
WATER LEVEL	268.7					TIME 14:25	TIME 15:15
TIME	07:30						
DATE	12/13/91					DATE 12/9/91	DATE 12/13/91
CASING DEPTH	295						

DATUM: MSL ELEVATION: 923.9'

DRILL RIG: AP-1000

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE:

SURFACE CONDITIONS: Flat Berm/Pad Built out on to Drainage Ditch

LOGGED BY: James V. Bunker

DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California

DEPTH IN FEET	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLE/AND KIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTIC INDEX	OTHER TESTS
150.0			GRAVELLY SAND (SP): Dark yellowish brown (5YR 3/4); wet; 10 to 30% gravel, 70 to 90% medium to coarse sand, little or no fines								
165.0											
160.0			@ 161': Increase to 5% silt and clay								
165.0											
170.0			COBBLES/BOULDERS: 171' to 177'								
175.0			GRAVELLY SAND/SANDY GRAVEL (SP/GP): Abundant gravel 40 to 70% with remaider medium to very coarse sand and cobbles								
180.0											
185.0			COBBLES/BOULDERS: Hard drilling at 186'								
190.0			@ 190': Continued hard drilling, 75 to 80% gravel, cobbles and boulders, 20 to 25% sandy matrix								
195.0			SANDY GRAVEL (GP): Moderate yellowish brown (10YR 5/4), 40 to 50% coarse to very coarse sand with 50 to 60% fine to coarse gravel and cobbles								
200.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-2
	SAMPLING METHOD:	SHEET 5 of 7
		DRILLING START / FINISH
	WATER LEVEL: 268.7	TIME 14:25 / TIME 15:15
	TIME: 07:30	
	DATE: 12/13/91	DATE 12/9/91 / DATE 12/13/9
DATUM: MSL ELEVATION: 923.9'	CASING DEPTH: 295	
DRILL RIG : AP-1000	SURFACE CONDITIONS: Flat Berm/Pad Built out on to Drainage Ditch	
ANGLE: Vertical BEARING:	LOGGED BY: James V. Bunker	
SAMPLE HAMMER TORQUE:	DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California	

DEPTH IN FEET	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLE NUMBER	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTIC INDEX	OTHER TESTS
200.0			GRAVELLY SAND (SP): Light olive (10Y 5/4); 20 to 30% fine to coarse gravel, scattered <5% cobbles, 70 to 80% fine to coarse sand, muddy returns indicating some silt/clay (5%)								
205.0											
			@ 209': Cobbly zone at 209'								
210.0			GRAVELLY SAND (SP): Same as 200' to 210' with occasional thin cobbly zones.								
215.0			@ 215' to 215.6': Boulder(s)								
220.0			@ 221': <20% gravels, very little or no cobbles/boulders or fines								
225.0											
230.0			BOULDERS/COBBLES: Fragmented igneous and metamorphic rocks, very hard drilling								
235.0			SANDY GRAVEL (GW): White/gray/black, 30% coarse sand, 70% fine to very coarse gravel <5% cobbles, <5% fines								
			GRAVEL/COBBLES: White/gray/black, <10% sand, 90% fine to coarse gravel and cobbles up to 4" (rounded), bouldery zone at 239'								
240.0			SANDY GRAVEL (GW): Light brown (5YR 6/4); 40% fine to very coarse sand, 50% fine to very coarse gravel, 5% cobbles, 5% fines								
245.0			COBBLES/BOULDERS: 244' to 246'								
			SANDY GRAVEL (GW): White/black with brownish sandy matrix, 50% fine to coarse gravel, 10 to 20% cobbles (broken), 30 to 40% fine to coarse sand, boulders at 252' (hard drilling)								
250.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-2
	SAMPLING METHOD:	SHEET 6 of 7
		DRILLING START / FINISH
	WATER LEVEL: 268.7	TIME START: 14:25 / TIME FINISH: 15:15
	TIME: 07:30	
	DATE: 12/13/91	DATE START: 12/9/91 / DATE FINISH: 12/13/9
DATUM: MSL ELEVATION: 923.9'	CASING DEPTH: 295	
DRILL RIG: AP-1000	SURFACE CONDITIONS: Flat Berm/Pad Built out on to Drainage Ditch	
ANGLE: Vertical BEARING:	LOGGED BY: James V. Bunker	
SAMPLE HAMMER TORQUE:	DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California	

DEPTH IN FEET	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLE NUMBER BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY INDEX	OTHER TESTS
250.0			SANDY GRAVEL (GW): White/black with brownish sandy matrix, 50% fine to coarse gravel, 10 to 20% cobbles (broken), 30 to 40% fine to coarse sand, boulders at 252' (hard drilling)								
255.0			GRAVELLY SAND (SW): Pale brown (5YR 2/2) to light brown (5YR 5/6), 40% fine to coarse gravel, 55% fine to very coarse sand, 5% silt								
260.0											
265.0			@ 264': Coarse zone, hard drilling - boulders (broken fragments)								
270.0			GRAVELLY SAND (SW): Pale brown (5YR 2/2) to light brown (5YR 5/6), 40% fine to coarse gravel, 55% fine to very coarse sand, 5% silt, with occasional 6" hard bouldery zones with increasing gravel/cobble content								
275.0											
280.0											
285.0			GRAVEL/COBBLES (GW/GP):								
290.0			@ 290': Merging to sandy gravel (GP) @ 292': Continued hard zone, poorly sorted zone with average gravel diameters of 1", 80% gravel (sub-angular to sub-rounded) with 20% fine to coarse sand								
295.0			GRAVELLY SAND (SW): Grayish green (10GY 5/2) 80% fine to coarse sand, 15% gravel and cobbles up to 3", 5% fines, large boulder at 295.2'								
300.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: BRADLEY LANDFILL Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer						BORING NO. 4915C-2
	SAMPLING METHOD:						SHEET 7 of 7
							DRILLING START / FINISH
	WATER LEVEL	268.7					TIME 14:25 / TIME 15:15
	TIME	07:30					
	DATE	12/13/91					DATE 12/9/91 / DATE 12/13/
DATUM: MSL ELEVATION: 923.9'	CASING DEPTH	295					

DRILL RIG: AP-1000

SURFACE CONDITIONS: Flat Berm/Pad Built out on to Drainage Ditch

ANGLE: Vertical BEARING:

LOGGED BY: James V. Bunker

SAMPLE HAMMER TORQUE:

DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California

DEPTH IN FEET	BLOWS/6 IN. ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLE LEAVING HOLE	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTIC INDEX
300.0			GRAVELLY SAND (SP): Grayish green (10GY 5/2); 75% fine to coarse sand, 15% gravel and cobbles up to 6", 3 to 5% fines							
305.0			GRAVELLY SAND (SW): Dark greenish gray (5G 4/1) 80% very fine to coarse sand, 10 to 15% gravel and cobbles, 5 to 10% fines (predominantly silt) micas - muddy appearing water indicates some clays							
10.0										
315.0										
320.0			SAND (SW): Moderate yellowish brown (10YR 5/4); 80 to 85% very fine to very coarse sand, 5 to 10% gravel with occasional 1" to 2" gravel, 5% fines							
325.0										
330.0			TD at 328' at 15:15 12/13/91							
335.0										
340.0										
345.0										
350.0										