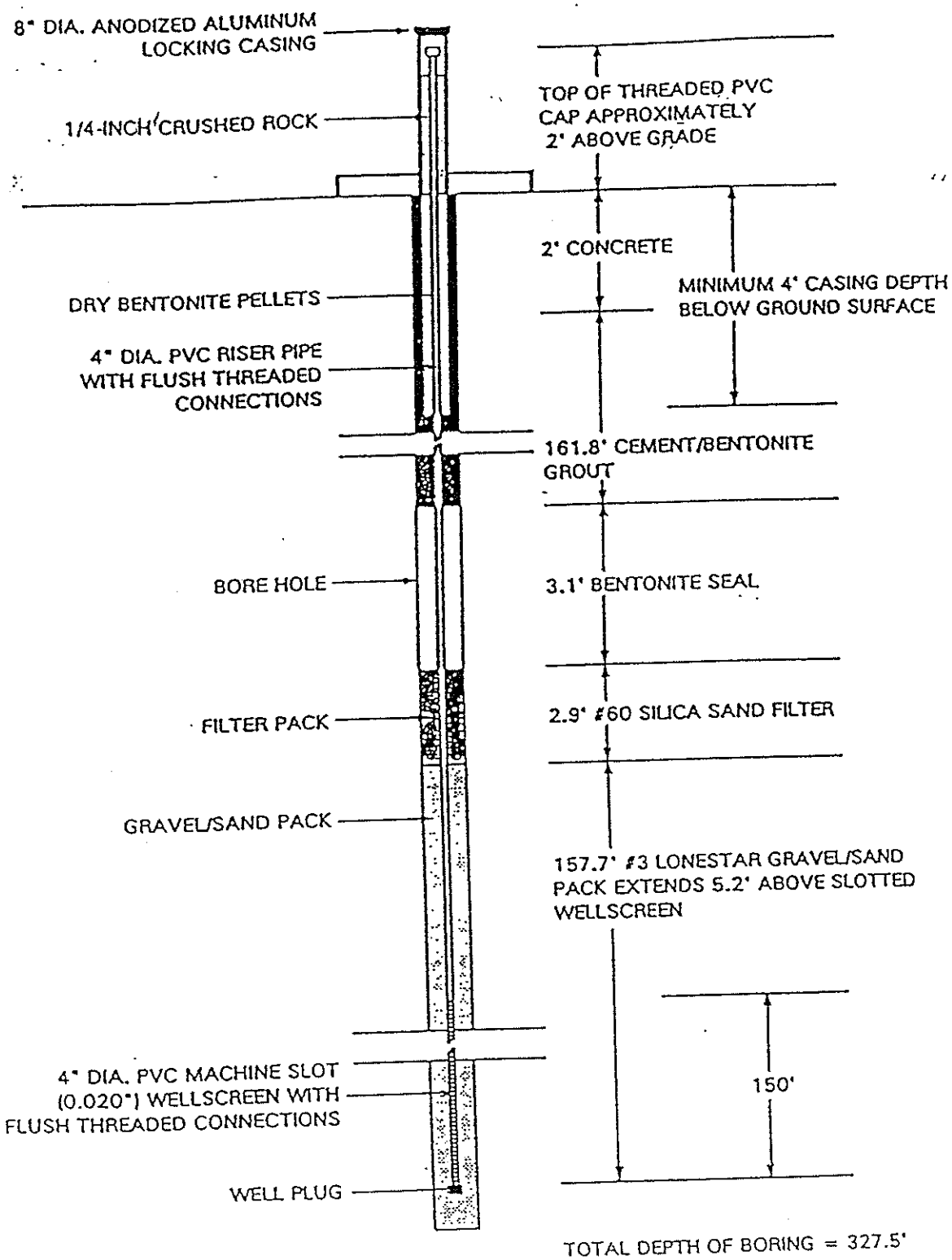


GROUNDWATER MONITORING WELL DETAILS
MONITORING WELL 4915 D

SOIL BOREHOLE LOG

4915D

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-1
	SAMPLING METHOD:	SHEET 1 of 7
		DRILLING START / FINISH
	WATER LEVEL: 271.8	TIME 15:10 / TIME 16:39
	TIME: 07:00	
	DATE: 1/15/92	DATE 1/10/92 / DATE 1/14/9
DATUM: MSL ELEVATION: 864.4	CASING DEPTH: 327.5	
DRILL RIG: AP-1000	SURFACE CONDITIONS: Flat roughly graded area	
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 %	PLASTICITY INDEX	OTHER TESTS
0.0			SAND, BOULDERS AND COBBLES (AF)								
			SILTY SAND (AF): Moist								
5.0			GRAVELLY SAND (SW): Light olive gray (5Y 5/2), 80% very fine to coarse sand, 15% gravel and cobbles, 5% silt, slightly moist								
10.0											
15.0											
20.0			GRAVELLY SAND (SP): Light olive gray (5Y 5/2), 75% fine to coarse sand, 25% gravel and cobbles, cobble lith includes granite, granodiorite, diorite, quartzite and gneissic (biotite foliated) rocks								
25.0											
30.0			SAND (SP): Moderate yellowish brown (10YR 5/4), 85% medium to very coarse sand, 15% gravel and cobbles in thin interbeds throughout								
35.0											
40.0			@ 40': Increased gravel/cobble zones								
45.0											
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. 4916C-1
	SAMPLING METHOD:	SHEET 2 of 7
		DRILLING START / FINISH
	WATER LEVEL: 271.8	TIME 15:10 / TIME 16:39
	TIME: 07:00	
	DATE: 1/15/92	DATE 1/10/92 / DATE 1/14/92
DATUM: MSL ELEVATION: 864.4'	CASING DEPTH: 327.5	
DRILL RIG: AP-1000	SURFACE CONDITIONS: Flat roughly graded area	
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	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTIC INDEX	OTHER TESTS
60.0			GRAVEL AND COBBLES (GW): Large metamorphic (gneissic, dioritic) boulder								
			GRAVELLY SAND (SP): No silt or clay, 40% gravel, 60% coarse to very coarse sand								
65.0											
70.0			BOULDERS AND COBBLES (GW): Angular fragments of broken rock coming out								
65.0			GRAVEL AND COBBLES (GW): 40% cobbles, 40% gravel, 20% medium sand								
			SANDY GRAVEL (GP): Medium sand 15 to 20%, fines 10%, gravel 70%								
70.0			GRAVELLY SAND (SP): Light brown (5YR 6/4), fine to coarse sand 60%, 30 to 35% gravel, 5 to 10% fines								
			SAND (SP): Light brown (5YR 6/4), 80% medium to coarse sand, medium gravel 15%, approximately 5% fines								
75.0			GRAVELLY SAND (SP): Light to moderate brown (5YR 6/4 to 5YR 4/4), 25% gravel, 70% medium to coarse sand, 5% fines								
80.0											
85.0			@ 86': Decrease in amount of gravel to 15%, 75 to 80% medium grained sand, yellow brown, approximately 10% fines								
90.0			SANDY GRAVEL (GP): Light brown (5YR 6/4), medium to coarse sand (45%), 2" to 3" gravel 50%, minor fines 5%								
95.0			SAND (SP): Pale yellow brown (10YR 6/2), coarse sand 80%, 15 to 20% gravel, coarse sand								
			SANDY GRAVEL (GP): Yellow green, medium to coarse sand 40 to 45%, 1" to 3" gravel 50%, 5% fines								
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-1
	SAMPLING METHOD:	SHEET 3 of 7
		DRILLING START / FINISH
	WATER LEVEL: 271.8	TIME 15:10 / TIME 16:39
	TIME: 07:00	
	DATE: 1/15/92	DATE 1/10/92 / DATE 1/14/92
	CASING DEPTH: 327.5	
DATUM: MSL ELEVATION: 864.4'	SURFACE CONDITIONS: Flat roughly graded area	
DRILL RIG: AP-1000	LOGGED BY: James V. Bunker	
ANGLE: Vertical BEARING:	DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California	
SAMPLE HAMMER TORQUE:		

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 %	PLASTICITY INDEX	OTHER TESTS
100.0			GRAVELLY SAND TO SANDY GRAVEL (SP to GP): Yellow brown (10YR 6/2) 50% gravel, 50% medium sand, minor fines								
105.0			@ 106': Decrease in gravel to 30%								
110.0			GRAVELLY SAND (SP): Moderate yellow brown (10YR 5/4), medium sand (75%), moderate gravel (20%) minor clay (5%)								
115.0			BOULDERS: 114' to 120' (Angular fragments only)								
120.0			SANDY GRAVEL (GP): Moderate yellowish brown (10YR 5/4)								
125.0			GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4), 80% medium sand, 15% gravel, 5% fines								
			@ 128': Increase in gravel and coarse sand to 30% gravel								
130.0			@ 131': Moderate yellowish brown (10YR 5/4), 70% medium sand, 25% gravel, 5% fines								
135.0			@ 138': Decrease in gravel to 20%								
140.0			SANDY GRAVEL (GW): Dark yellow brown (10YR 4/2), 40% sand with 60% fine to coarse gravel, cobbles and scattered boulders								
145.0											
150.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4916C-1
	SAMPLING METHOD:	SHEET 4 of 7
		DRILLING START / FINISH
	WATER LEVEL: 271.8	TIME 15:10 / TIME 16:39
	TIME: 07:00	
	DATE: 1/15/92	DATE 1/10/92 / DATE 1/14/92
	CASING DEPTH: 327.5	

DATUM: MSL ELEVATION: 864.4'

DRILL RIG: AP-1000

ANGLE: Vertical BEARING:

SAMPLE HAMMER TORQUE:

SURFACE CONDITIONS: Flat roughly graded area

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 %	PLASTICITY INDEX	OTHER TESTS
150.0			COBBLES: Up to 2" diameter, little or no sand								
155.0			SAND TO GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4), 80 to 85% medium to coarse sand, 15 to 20% gravel, little or no fines, slightly moist								
160.0											
165.0			SAND (SP): Dark yellowish brown (10YR 4/2), 90% fine to medium sand, 10% coarse sand, gravel and cobbles @ 167': Moderate brown (5YR 4/4), 90% medium to coarse sand, 10% gravel, slightly moist								
170.0			COBBLES AND BOULDERS:								
			GRAVELLY SAND (SP): Moderate brown (5YR 4/4), 40% gravel, cobbles, boulders, 60% sand								
175.0											
180.0											
185.0											
190.0			INTERBEDDED GRAVELLY SAND TO SANDY GRAVEL (SP to GP): Pale yellowish brown (10YR 6/2), fine to coarse sands with interbedded gravelly zones, dry								
195.0											
200.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION:	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-1
BRADLEY LANDFILL Sun Valley, California	SAMPLING METHOD:	SHEET 5 of 7
		DRILLING START / FINISH

WATER LEVEL	271.8				TIME 16:10	TIME 16:39
TIME	07:00					
DATE	1/15/92				DATE 1/10/92	DATE 1/14/92
CASING DEPTH	327.5					

DATUM: MSL ELEVATION: 864.4'

DRILL RIG: AP-1000 SURFACE CONDITIONS: Flat roughly graded area

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 AND TYPE	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTIC INDEX	OTHER TESTS
200.0			INTERBEDDED GRAVELLY SAND TO SANDY GRAVEL (SP to GP): Pale yellowish brown (10YR 6/2), dry								
205.0			SAND (SP): Moderate yellowish brown (10YR 5/4), 85% medium to coarse sand, 15% cobbles, slightly moist								
210.0			@ 210': Increase in coarse sand								
215.0											
220.0											
225.0											
			GRAVELLY SAND (SP): 40% gravel, 60% fine to coarse sand, dry								
230.0											
235.0											
240.0											
245.0											
			COBBLES AND BOULDERS: 247' to 249'								
250.0			SAND TO GRAVELLY SAND (SP): 80 to 90% fine to very coarse sand, 10 to 20% fine to coarse gravel and cobbles								

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: BRADLEY LANDFILL, Sun Valley, California	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4915C-1
	SAMPLING METHOD:	SHEET 6 of 7
		DRILLING START / FINISH
	WATER LEVEL: 271.8	TIME 15:10 / TIME 16:39
	TIME: 07:00	
	DATE: 1/15/92	DATE 1/10/92 / DATE 1/14/92
	CASING DEPTH: 327.5	
DATUM: MSL ELEVATION: 864.4'		
DRILL RIG: AP-1000	SURFACE CONDITIONS: Flat roughly graded area	
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
250.0			SANDY GRAVEL (GP): Grayish green (10GY 5/2), 30% coarse sand, 70% fine to coarse gravel and cobbles with large boulder(s) at 252' to 254'								
255.0			GRAVELLY SAND (SW): Moderate yellowish brown (10YR 5/4), 80 to 90% fine to very coarse sand, 10 to 20% fine to coarse gravel and cobbles								
260.0											
265.0											
270.0											
275.0			GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4), 15 to 20% fine to medium gravel, 80 to 85% medium to coarse sand								
280.0			BOULDER/COBBLES (GP): at 281' to 283' merging to sandy cobbles at 283' to 289'								
285.0											
290.0			GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4), 20% gravel, 80% medium to very coarse sand with cobble bed from 294' to 296'								
295.0											
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. 4916C-1
		SHEET 7 of 7
	SAMPLING METHOD:	DRILLING START / FINISH
	WATER LEVEL: 271.8	TIME 15:10 / TIME 16:39
	TIME: 07:00	
	DATE: 1/15/92	DATE 1/10/92 / DATE 1/14/92
	CASING DEPTH: 327.5	
DATUM: MSL ELEVATION: 864.4'	SURFACE CONDITIONS: Flat roughly graded area	
DRILL RIG: AP-1000	LOGGED BY: James V. Bunker	
ANGLE: Vertical BEARING:	DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California	
SAMPLE HAMMER TORQUE:		

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
300.0			GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4), 10 to 20% fine to coarse gravel with occasional cobbles, 80 to 90% medium to coarse sand								
305.0											
310.0											
			BOULDERS/COBBLES								
315.0			GRAVELLY SAND (SP): Same as interval from 289' to 312'								
320.0											
325.0											
			TD at 327.5' at 16:39 1/14/92								
330.0											
335.0											
340.0											
345.0											
350.0											

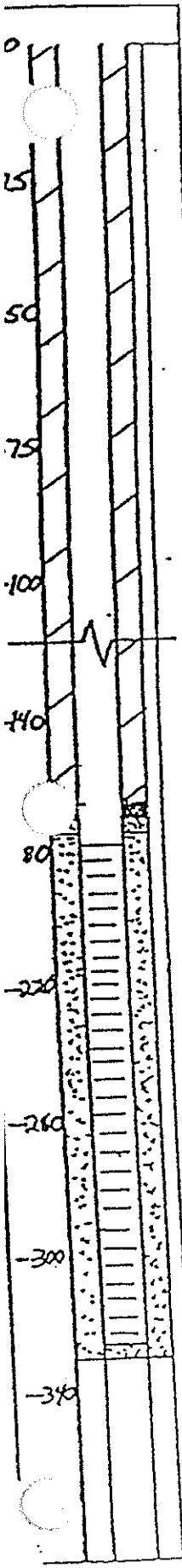
Well No. 4915E

Boring No. X-Ref: 4915C-2

MONITOR WELL CONSTRUCTION SUMMARY

Survey Coords: Northing: 4,201,032.1
Easting: 4,171,282.5

Elevation Ground Level 923.9
Top of Casing ~~864.4~~ 926.9



Drilling Summary

Total Depth 328
Borehole Diameter 9 5/8
Casing Stick-up Height: - 2'
Driller Layne Environmental, Inc.
Fontana, CA

Rig AP-1000
Bit(s) Crowd In

Drilling Fluid Air, Air With Water

Protective Casing 8" inch Annodized Aluminum

Construction Time Log:

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling 0-80	12/9	14:25	12/9	16:45
80-190	12/10	07:40	12/10	15:30
190-245	12/11	07:45	12/11	14:35
245-295	12/12	07:45	12/12	17:30
295-328	12/13	08:40	12/13	15:15
Casing:	12/13	16:10	12/13	16:50
Filter Placement:	12/13	16:50	12/14	11:35
Cementing:	12/14	11:50	12/14	16:45
Development:	1/16	08:10	1/16	13:45

Well Design & Specifications

Basis: Geologic Log X Geophysical Log ___
Casing String (s): C = Casing S = Screen

Depth		String(s)	Elevation	
0	175	C-1	923.9	748.9
175	325	S-1	748.9	598.9

Casing: C1 4" Schedule 80, flush thread PVC
C2

Screen: S1 4" Schedule 80, 0.020 slotted, flush thread
S2

Filter Pack: 170.1'-328'—#3 Lonstar Sand
168.2'-170.1—#60 Silica Sand

Grout Seal: 2'-163.5'—Neat Cement with 4% Bentonite, 0'-2'—Concrete

Bentonite Seal: 163.5'-168.2'—Bentonite Pellets

Well Development: 1/16/91

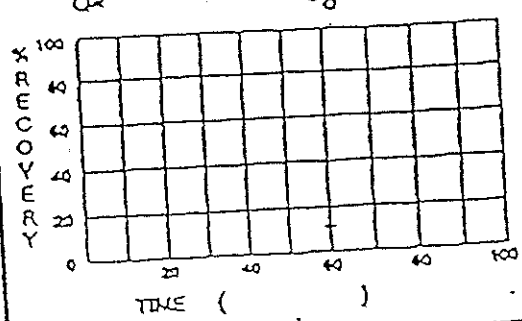
07:00-08:00—Set up on well
08:00-09:10—Swab well
10:45-11:48—Bailed 1 well volume
12:34-13:45— Pumped 3 well volumes
13:45-14:50—Remove pump, move to 4915C-1

Stabilization Test Date: 1/16/92

Time	pH	Spec. Cond.	Temp (C)
12:13	*	610	18.0
13:28	See	631	18.0
13:35	note	625	18.0
13:40	below	627	18.25
13:45		626	18.0

Recovery Data:

Q= S₀=



Comments: Set Annodized Aluminum Protective Casing.
WMI to build pad.
Hydrostar pump installed 1/17/92
* pH meter would not stabilize.

SITE NAME Bradley Landfill
LOCATION Sun Valley, CA

SUPERVISED BY James V. Bunker
12/9/91 - 12/14-91 and 1/16/92