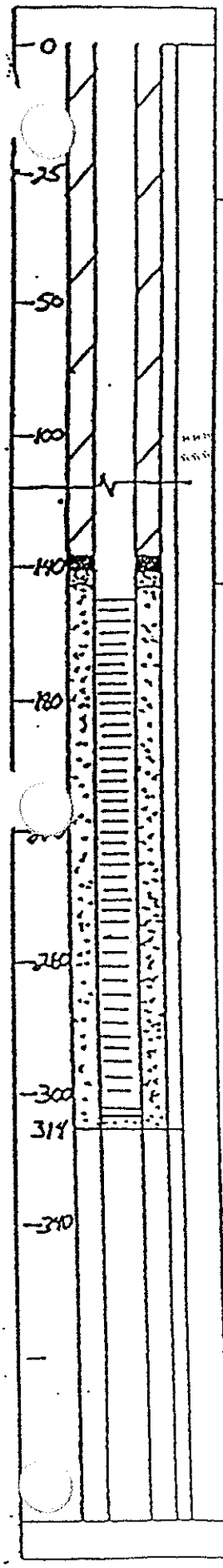
Well No. 4916J

Boring No. X-Ref: 4916H-1

MONITOR WELL CONSTRUCTION SUMMARY

Survey Coords: Northing: 4,197,218.1
Easting: 4,172,248.6

Elevation Ground Level 864.4
Top of Casing 867.13



Drilling Summary:

Total Depth 314
Borehole Diameter 9 5/8
Casing Stick-up Height: ~2
Driller Layne Environmental, Inc.
Fontana, CA
Louie Monje
Rig AP-1000
Bit(s)

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 0-185.5	12/16	10:40	12/16	17:00
185.5-314	12/17	06:48	12/16	17:10
Geophys. Logging:				
Casing:	12/18	07:50	12/18	08:42
Filter Placement:	12/18	08:42	12/18	14:48
Cementing:	12/19	07:30	12/19	09:00
Development:	1/7	08:00	1/7	15:00

Well Design & Specifications

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

Depth	String(s)	Elevation
0 - 150	C-1	864.4 - 714.4
150 - 310	S-1	714.4 - 554.4

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

Screen: S1 4" Schedule 80, flush thread PVC with 0.02 slot
S2

Filter Pack: 144.6'-314'—#3 Lonestar Sand
141.2'-144.6'—#60 Silica Sand

Grout Seal: 2'-137'—Neat Portland Cement with 4% Bentonite
0'-2'— Concrete

Bentonite Seal: 137'-141.2'— Bentonite Pellets

Well Development: 1/ 7/92

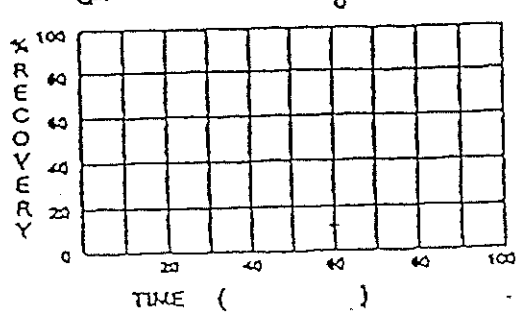
08:00-09:00—Set up on well
09:00-09:45—Swab well
09:45-11:10—Bailed 1 well volume
11:40-13:56—Pumping well
13:56-15:00—Remove pump demob

Stabilization Test Data: 1/7/92

Time	pH	Spec. Cond.	Temp (C)
13:02	7.50	648	14.5
13:16	7.63	652	14.5
13:40	7.71	665	14.5
13:42	7.66	649	14.5
13:56	7.69	650	14.5

Recovery Data:

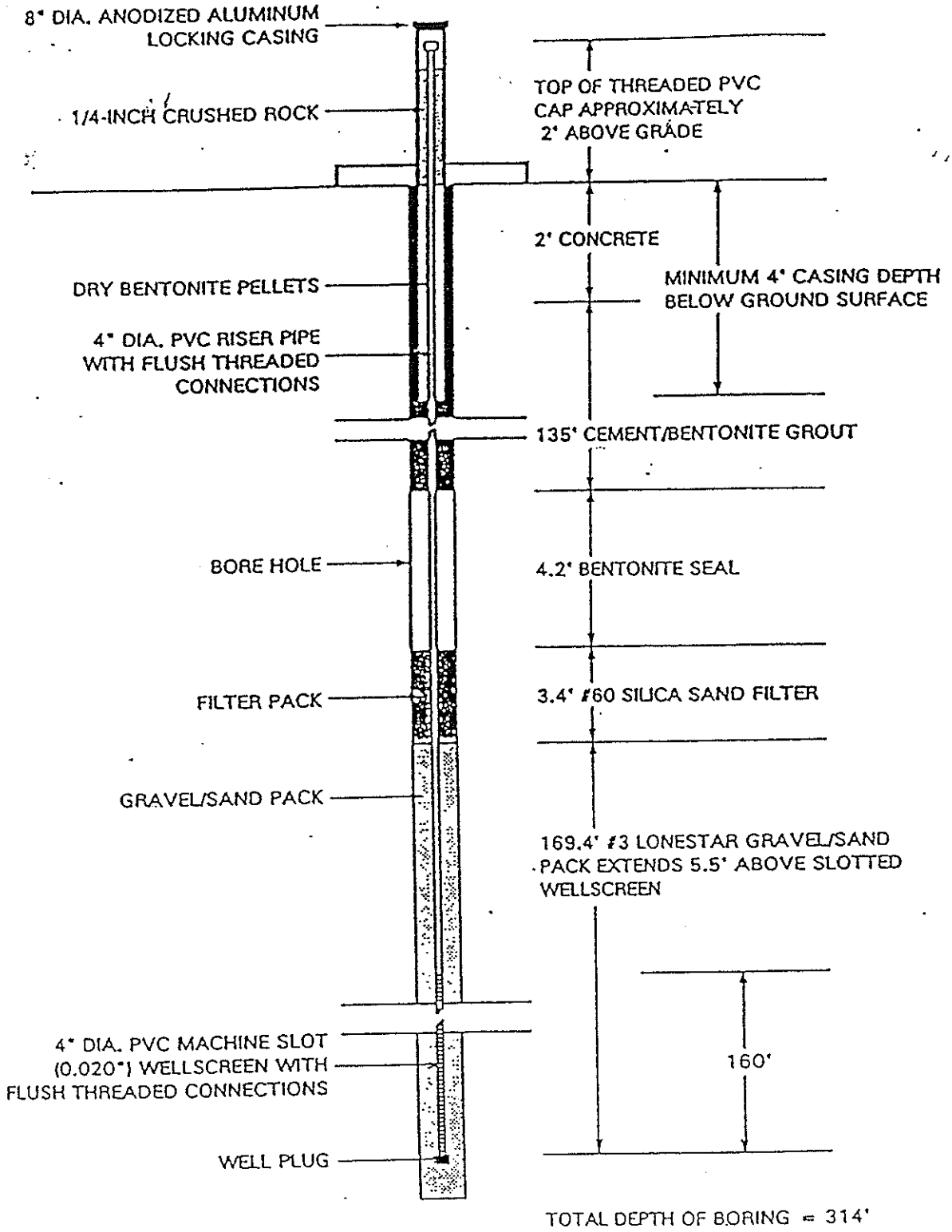
Q= S_o=



Comments: Set Annodized Aluminum Protective Casing.
WMI to build pad and place barracades around surface of wells.
Hydrostar Pump installed on 1/17/92

SITE NAME Bradley Landfill
Sun Valley, CA

SUPERVISED BY James V. Bunker



GROUNDWATER MONITORING WELL DETAILS
MONITORING WELL 4916 J

SOIL BOREHOLE LOG

4916J

SITE NAME AND LOCATION:	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4916H-1
BRADLEY LANDFILL Sun Valley, California		SHEET 1 of 7
	SAMPLING METHOD:	DRILLING
		START / FINISH
	WATER LEVEL: 255.9	TIME 10:40 / TIME 17:10
	TIME: 06:45	
	DATE: 12/18/91	DATE 12/16/91 / DATE 12/17/91
DATUM: MSL ELEVATION: 864.4'	CASING DEPTH: 314	
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 AMOUNT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY	OTHER TESTS
0.0			SANDY SILT (AF): Dark yellowish brown (10YR 4/2), 10% gravel-cobbles, 15% clay, 35% very fine to coarse sand, 35% silt, moist								
5.0			SANDY SILT (AF): Dark yellowish brown (10YR 4/2), 15 to 20% clay, 25 to 35% very fine to medium sand, 45 to 60% silt, moist								
10.0											
15.0			CLAYEY SILT (AF): Dark yellowish brown (10YR 4/2), 30% very fine to fine sand, 30% clay, 40% silt, wet, abundant mica, occasional wood fragments and grass								
20.0											
25.0											
30.0											
35.0			CLAY (AF): Moderate yellowish brown (10YR 5/4), 90% clay, wet, very plastic, 10% silt and fine sand, wet								
40.0			@ 40' to 50': Interbedded (intermixed in fill) clays and sandy silts as described above, wet								
45.0											
50.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION:	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4916H-1
BRADLEY LANDFILL Sun Valley, California	SAMPLING METHOD:	SHEET 2 of 7
		DRILLING START / FINISH
	WATER LEVEL: 255.9	TIME 10:40 / TIME 17:10
	TIME: 06:45	
	DATE: 12/18/91	DATE 12/16/91 / DATE 12/17/9
DATUM: MSL ELEVATION: 864.4'	CASING DEPTH: 314	

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 %	PLASTICIMOCK	OTHER TESTS
50.0			See previous page for interval extending to 55 feet								
55.0			CLAY (AF): Moderate brown (5YR 4/4), 10 to 20% silt, 80 to 90% clay, wet to saturated, very plastic (estimate saturated zone less than 1' thick)								
60.0			@ 60' to 70': Streaked gray to moderate brown (5YR 4/4), clays, little or no silt or sand, moist								
65.0											
70.0			CLAY (AF): Moderate brown (5YR 4/4), 10 to 20% interbedded silt layers with 80 to 90% clay, moist								
75.0											
80.0			SANDY GRAVEL (GP): Moderate yellowish brown (10YR 5/4), 30% coarse sand (10YR 4/4), 20% cobbles, 50% gravel								
85.0			GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4), 40% fine to coarse gravel, 60% medium to very coarse sand, boulder(s) at 85', very moist								
90.0			SAND (SP): Moderate brown (5YR 4/4), 95% medium to very coarse sand (predominantly coarse sand 70%), 5% gravel, slightly moist								
95.0			GRAVELLY SAND (SP): Moderate brown (5YR 4/4), 20% gravel and cobbles up to 4" in diameter, 80% medium to very coarse sand, dry, with increasing gravel cobbles at 94 to 100' to 30%								
100.0											

SOIL BOREHOLE LOG

SITE NAME AND LOCATION:	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer	BORING NO. 4916H-1
BRADLEY LANDFILL Sun Valley, California	SAMPLING METHOD:	SHEET 2 of 7
		DRILLING START / FINISH
	WATER LEVEL: 255.9	TIME 10:40 / TIME 17:10
	TIME: 06:45	
	DATE: 12/18/91	DATE 12/16/91 / DATE 12/17/9
	CASING DEPTH: 314	
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	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICNOCK	OTHER TESTS
100.0			GRAVELLY SAND (SP): Same as previous with gravel cobbles, up to 30% to 40%, dry, boulder at 104.5' to 105'								
105.0			SAND (SP): 90% medium to coarse sand, with 10% gravel/cobbles, slightly moist								
110.0			GRAVELLY SAND (SP): Moderate brown (5YR 4/4), same as 92' to 100'								
115.0											
120.0			@ 121': Increasing moisture								
125.0			@ 126' to 130': Moist								
			@ 128' to 130': Abundant cobbles								
130.0			@ 130': Some cobbles								
135.0											
140.0			@ 141': Same as previous								
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. 4916H-1
	SAMPLING METHOD:	SHEET 4 of 7
		DRILLING START / FINISH
	WATER LEVEL: 255.3	TIME 10:40 / TIME 17:10
	TIME: 06:45	
	DATE: 12/18/91	DATE 12/16/91 / DATE 12/17/91
DATUM: MSL ELEVATION: 864.4'	CASING DEPTH: 314	

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	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY INDEX	OTHER TESTS
160.0			SAND TO GRAVELLY SAND (SP): Dark yellowish brown (10YR 2/2), varying gravel content 10 to 30%, 70 to 90% medium to coarse sand, moist to very moist								
155.0											
			SAND (SP): Moderate yellowish brown (10YR 5/4), 95% sand, coarse to very coarse, 5% gravel, very moist, (will partially stick together)								
160.0											
165.0											
170.0											
			GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4) 70% medium to very coarse sand, 20% gravel, 10 % cobbles, slightly moist to moist								
175.0											
180.0			@ 182' to 186': Boulders and/or abundant cobbles								
185.0											
190.0											
195.0			@ 194' GRAVELLY SAND (SP): Moderate yellowish brown (10YR 5/4), 60% coarse to very coarse sand, 30% fine to coarse gravel, 10% cobbles, interval extends to 205'								
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. 4916H-1
	SAMPLING METHOD:	SHEET 5 of 7
		DRILLING START / FINISH
	WATER LEVEL: 255.9	TIME START: 10:40 / TIME FINISH: 17:10
	TIME: 06:45	
	DATE: 12/18/91	DATE START: 12/16/91 / DATE FINISH: 12/17/9
	CASING DEPTH: 314	

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 NUMBER	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	PLASTICITY INDEX	OTHER TESTS
200.0			GRAVELLY SAND: Moderate yellowish brown (10YR 5/4), 60% coarse to very coarse sand, 30% fine to coarse gravel, 10% cobbles								
205.0			SAND TO GRAVELLY SAND (SW): Moderate yellowish brown (10YR 5/4), 70 to 90% fine to very coarse sand, 5 to 25% gravel, 5% cobbles								
210.0											
215.0			@ 214': Increased sand content to 80 to 90%								
220.0			@ 223' to 225': 5% silt/clay and increased fine sand								
225.0			225' to 225.5' Cobbles								
230.0			SAND (SP): Moderate yellowish brown (10YR 5/4), 95% medium to coarse sand, 5% very coarse sand and fine to medium gravel with scattered cobbles in <2" thick beds, slightly moist								
235.0											
240.0			SANDY GRAVEL (GP): Dark yellowish brown (10YR 4/2), 30 to 40% medium to coarse sand, 40 to 50% fine to coarse gravel, 10 to 30% cobbles and boulders								
245.0											
250.0											

SOIL BOREHOLE LOG

TE NAME AND LOCATION:	DRILLING METHOD: Dual Wall Reverse Circulation with Percussion Hammer								BORING NO. 4916H-1						ORING NO. 4916H-1
ADLEY LANDFILL Valley, California									SHEET 6 of 7						SHEET 7 of 7
	SAMPLING METHOD:								DRILLING						DRILLING
									START	FINISH					RT FINISH
	WATER LEVEL	255.9							TIME 10:40	TIME 17:10					IME TIME :40 17:10
	TIME	06:45													
	DATE	12/18/91							DATE 12/16/91	DATE 12/17/91					TE DATE 16/91 12/17/9
ELEVATION: 864.4'	CASING DEPTH	314													
1000	SURFACE CONDITIONS: Flat roughly graded area														
BEARING:	LOGGED BY: James V. Bunker														
ER TORQUE:	DRILLING CONTRACTOR: Layne Environmental, Inc., Fontana, California														rnia

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	RESULTS: PLASTIC LIMIT %	PLASTIC INDEX	OTHER TESTS
	SANDY GRAVEL (GP): Dark yellowish brown (10YR 4/2), 30 to 40% medium to coarse sand, 40% fine to coarse gravel, 20 to 35% cobbles and boulders											
	RAVELLY SAND (SP): Dark yellowish brown (10YR 4/2), 30% gravel and obbles, 10% silt and clay, 60% very fine to coarse sand											
	SANDY GRAVEL (GP): Dark yellowish brown (10YR 4/2), 40% very fine to very coarse sand, 20% cobbles, 40% fine to coarse gravel, boulder cobbles at 265', Abundant boulders/cobbles at 265' with clean sandy matrix @ 280' to 285': Interbedded gravelly sands and cobbles to sandy gravels and cobbles											
	GRAVELLY SAND (SP): Dark yellowish brown (10YR 4/2), 55% very fine to very coarse sand, 35% fine to coarse gravel, 5% cobbles, 5% silt/mica, @ 290' to 291': Boulder/cobble zone											