Brown and Caldwell

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-1 Sheet 1 of 2

Boring Location: Top(North) end,corner (West)		Elevation and Datum:	
Drilling Contractor: Datum	Driller: Rick	Date Started: 4-29-88	Date Finished: 5-2-88
Drilling Equipment: Speedstar Air Rotary	Borehole Diameter: 10"	Completed Hole Depth: (feet) 42 Well 24	Water Depth: (feet) N/A
Sampling Method: California Modified ☐ Shelby Tube ☐ Split Spoon ☐ NA		WELL CONSTRUCTION	
Drilling Fluid: Water when necessary		Type and Diameter of Well Casing: 4" PVC	
Backfill Material: Volclay Grout		Slot Size: 0.02	Filter Material: #3 Sand
Logged By: R. Wight	Checked By: V. Bedi	Development Method: bail, surge & pump	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology / Annulus / Casing	PID/FID Readings	Remarks
0		Gravelly sand, brown to gray, damp silty, abundant decomposed granite, fill cover material					
5		(6') Decomposed bedrock quartz biotite diorite or granite					Penovetricone bit 26 feet
10							
15		Begins getting hard (16')					
20							
25		(24') Fractured area,cutting large frags Hard rock (26')					Drilling easier
30		Fractured zone					

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-1 Sheet 2 of 2

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology	Graphic Log: Annulus	Graphic Log: Casing	PID/FID Readings	Remarks
35		Hard bedrock (Grantite or Dicorite)							
40									
		End boring 44 feet							
45									
50									
55									
60									
65									
70									

Brown and Caldwell

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-3 Sheet 1 of 2

Boring Location: Top east corner in drainage area		Elevation and Datum:	
Drilling Contractor: Datum	Driller: Rick Wallaert	Date Started: 5-4-88	Date Finished: 5-6-88
Drilling Equipment: Speed Star Air Rotray	Borehole Diameter: 10"	Completed Depth: (feet) 45'	Water Depth: (feet) 8
Sampling Method: California Modified ☐ Shelby Tube ☐ Split Spoon ☐ NA		WELL CONSTRUCTION	
Drilling Fluid: Water when necessary		Type and Diameter of Well Casing: 4" PVC	
Backfill Material: Volclay Grout		Slot Size: 0.02	Filter Material: #3 Sand
Logged By: R. Wight L. Maserjian	Checked By: V. Bedi	Development Method: bail, surge & pump	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology / Annulus / Casing	PID/FID Readings	Remarks
0		Soft cover material, decompose bedrock					Drilling dry
		(2') Getting harder, bedrock					Casing sloping had chain up to straighten drilling
5							Change tricone to rock hammer 7'
							Water discovered entering hole 8-9 feet
10							Near end of boring 5-4-88
							End 5-4-88 at 14 feet
15		Granitic rock, quartz, biotite, hornblende					Start 5-5-88 at 8:30
20							
25							Add drill pipe
30							

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

oil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-3 Sheet 2 of 2

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology	Graphic Log: Annulus	Graphic Log: Casing	PID/FID Readings	Remarks
35									
40									
45		End of boring @ 45 feet							Water entering hole 8-9 feet
50									
55									
60									
65									
70									

Brown and Caldwell

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-4 Sheet 1 of 1

Boring Location: On southeast side of fill		Elevation and Datum:	
Drilling Contractor: Datum	Driller: Rick Wallert	Date Started: 5-6-88	Date Finished: 5-9-88
Drilling Equipment: Speed Star Air Rotary	Borehole Diameter: 10"	Completed Depth: (feet) 25'	Water Depth: (feet) 12'
Sampling Method: California Modified ☐ Shelby Tube ☐ Split Spoon ☐ N.A.		WELL CONSTRUCTION	
Drilling Fluid: Water		Type and Diameter of Well Casing: 4" PVC	
Backfill Material:		Slot Size: 0.02	Filter Material: Sand #3
Logged By: R. Wight	Checked By: V. Bedi	Development Method: bail, surge & pump	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology	Graphic Log: Annulus	Graphic Log: Casing	PID/FID Readings	Remarks
0		Silty sand, brown, damp, gravelly abundant decomposed granite							
5		Grayish white decomposed granite							
		7' Bedrock, hard, some weathered							7' changed tricone bit for rock hammer
10		Possible 1st water-12'							
15									
20									
25		End boring 25'							
30									

Brown and Caldwell

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-5 Sheet 1 of 1

Boring Location: West of Paved Road		Elevation and Datum:	
Drilling Contractor: Datum	Driller: R. Walleart	Date Started: 4-18-88	Date Finished: 4-19-88
Drilling Equipment: Speedstar 16 Air Rotary	Borehole Diameter: 10"	Completed Depth: (feet) 25	Water Depth: (feet) 6.5'
Sampling Method: California Modified ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Fluid: Water when needed		Type and Diameter of Well Casing: 4" PVC Schedule 40	
Backfill Material: Volclay Grout		Slot Size: 0.02	Filter Material: #3 Sand
Logged By: R. Wight	Checked By: V. Bedi	Development Method: Bail & Surge, Pump	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology / Annulus / Casing	PID/FID Readings	Remarks
0		Brown top soil/decomposed granite type rock, gravelly silty sand (2') color change to olive green/ grey					
5							First free water 6'5" Pulled bit to examine hole
10							
13		13' Bedrock, no indurate but fractured, cuttings moist					13' Tricone bit having difficulty. No free water in cuttings
16							
17		17' Fractured bedrock					17' Water entering hole readily
20		20' more difficult drilling					
25		End boring 25'2"					Static water at 6.5'
30							

Brown and Caldwell

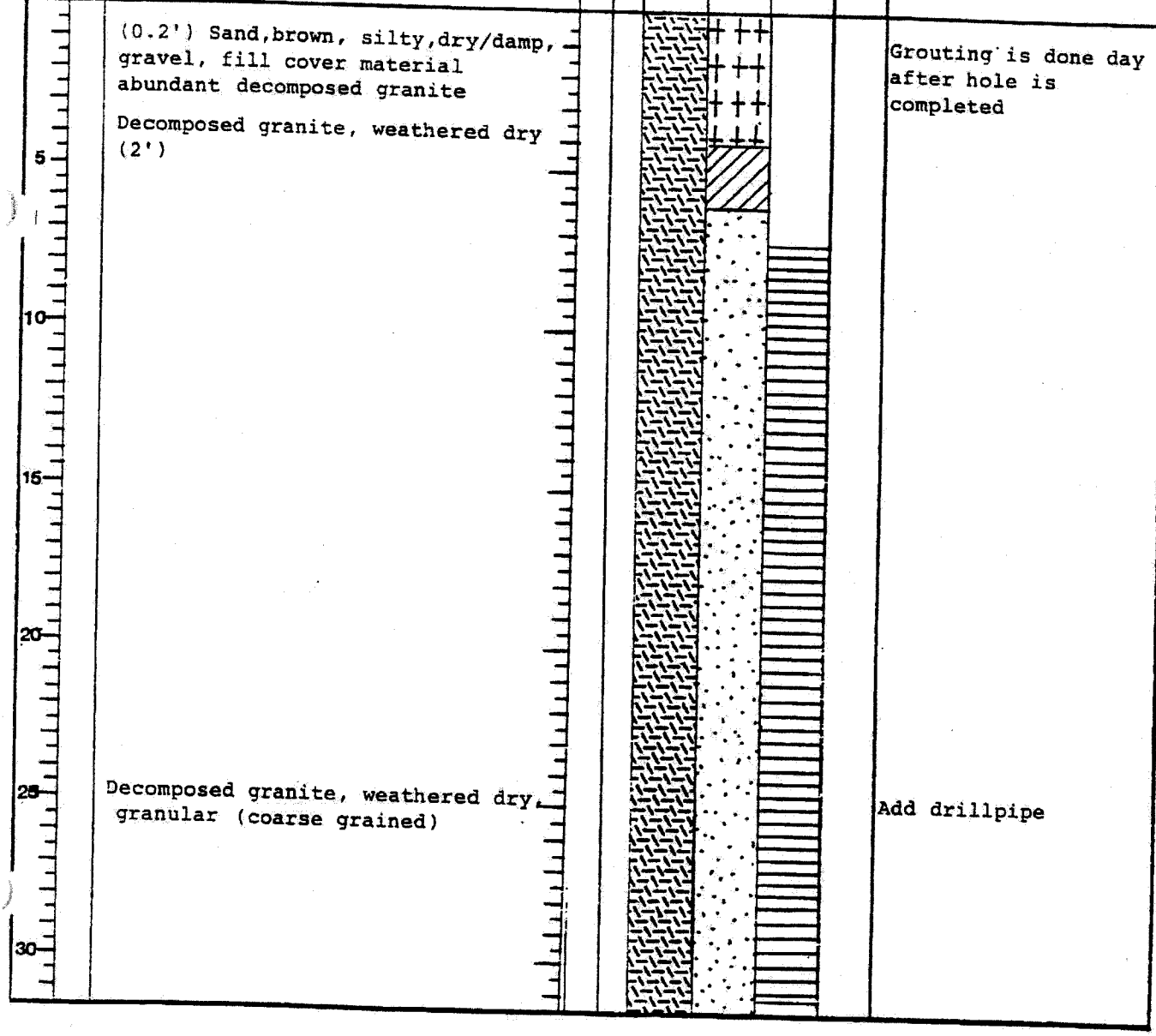
BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: ~~MV-6~~ Sheet 1 of 2

Boring Location: Near Entrance		Elevation and Datum:	
Drilling Contractor: Datum	Driller: R. Walleart	Date Started: 5-9-88	Date Finished: 5-10-88
Drilling Equipment: Speed Star Air Rot.	Borehole Diameter: 10"	Completed Depth (feet): 32'	Water Depth (feet): 15'
Sampling Method: California Modified ☐ Shelby Tube ☐ Split Spoon ☐ N/A		WELL CONSTRUCTION	
Drilling Fluid: None		Type and Diameter of Well Casing: 4" PVC	
Backfill Material: Volclay		Slot Size: 0.02	Filter Material: #3 Sand
Logged By: R.Wight/C.Hartman	Checked By: V. Bedi	Development Method: bail, surge & pump	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology	Graphic Log: Annulus	Graphic Log: Casing	PID/FID Readings	Remarks
0		(0.2') Sand,brown, silty,dry/damp, gravel, fill cover material abundant decomposed granite							Grouting is done day after hole is completed
5		Decomposed granite, weathered dry (2')							
10									
15									
20									
25		Decomposed granite, weathered dry, granular (coarse grained)							Add drillpipe
30									



BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-6 Sheet 2 of 2

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology	Graphic Log: Annulus	Graphic Log: Casing	PID/FID Readings	Remarks
35		Decomposed granite, weathered, cuttings becoming finer Boring ended 35'							Hole caved in on last 3'
40									
45									
50									
55									
60									
65									
70									

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Brown and Caldwell

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-7 Sheet 1 of 3

Boring Location: West perimeter in drainage		Elevation and Datum:	
Drilling Contractor: Datum	Driller: R. Walleart	Date Started: 4-17-88	Date Finished: 4/27/88
Drilling Equipment: Speedstar 16 Air Rotary	Borehole Diameter: 10"	Completed Depth: (feet) 85'	Water Depth: (feet) 17
Sampling Method: California Modified ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Fluid: N/A		Type and Diameter of Well Casing: 4"	
Backfill Material: Volclay Grout		Slot Size: 0.02	Filter Material: #3 Sand
Logged By: R. Wight	Checked By: V. Bedi	Development Method: bail, surge & pump	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology / Annulus / Casing	PID/FID Readings	Remarks
0		Reddish brown silty gravelly clayey sand, abundant decomposed bedrock material					Using tricone bit
5							At 6 feet changed to rock bit (hammer)
10							
15		13.5' Felsic plutonic bedrock, whitish gray, abundant plagioclase and biotite in cuttings					
20							Shut down 4-19-88 due to rig problems Rig down 4/20 Rain 4/20 Rain 4/21-22
25							Drill to 78' 4/25
30							

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

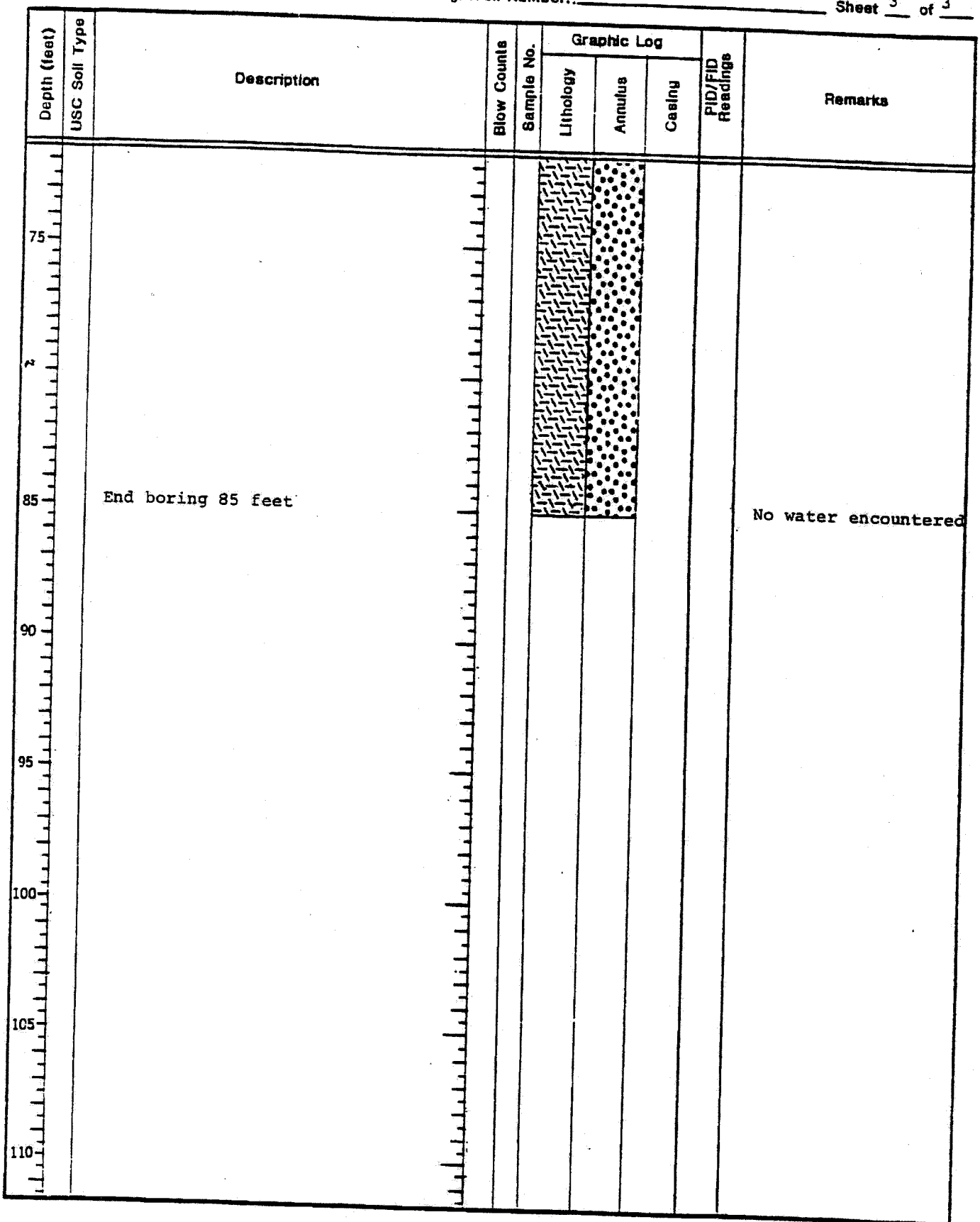
Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-7 Sheet 2 of 3

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology	Graphic Log: Annulus	Graphic Log: Casing	PID/FID Readings	Remarks
35		Continue coring hard bedrock with rock hammer							
40									
45									
50									
55									
60									
65									
70									

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☑ Boring/Well Number: MV-7 Sheet 3 of 3



Brown and Gold...

Brown and Caldwell

BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-8 Sheet 1 of 2

Boring Location: West Side		Elevation and Datum:	
Drilling Contractor: Datum Explor.	Driller: R. Walleart	Date Started: 4-28-88	Date Finished: 4-29-88
Drilling Equipment: Speed Star Air Rotary	Borehole Diameter: 10"	Completed Depth: (feet) 40.5	Water Depth: (feet) 12
Sampling Method: California Modified ☐ Shelby Tube ☐ Split Spoon ☐ N/A		WELL CONSTRUCTION	
Drilling Fluid: None		Type and Diameter of Well Casing: 4" PVC	
Backfill Material: Volclay Grout		Slot Size: 0.02	Filter Material: #3 Sand
Logged By: R. Wight	Checked By: V. Bedi	Development Method: Bail, surge & pump	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology / Annulus / Casing	PID/FID Readings	Remarks
0		Gravelly Sand, brown, damp, well graded cover material abundant decomposed bedrock material diorite, medium hard drilling for tricone Becoming hard bedrock still weathered with obvious yellow and brown oxides in cuttings. Rock is quartz biotite diorite felsic					Drilled with tricone bit to - 4 feet Change to rock hammer
5							
10							
15		(13.5) Cuttings more granular larger rock bits, darker, mafic, more biotite					
20		Cuttings appeared to be darker mineral assemblage (more mafic					
25		As above, still granular (pebble size) weathered with yellowing					Add drillpipe
30		(27') Cuttings becoming finer coarse sand size, still some yellow oxides					

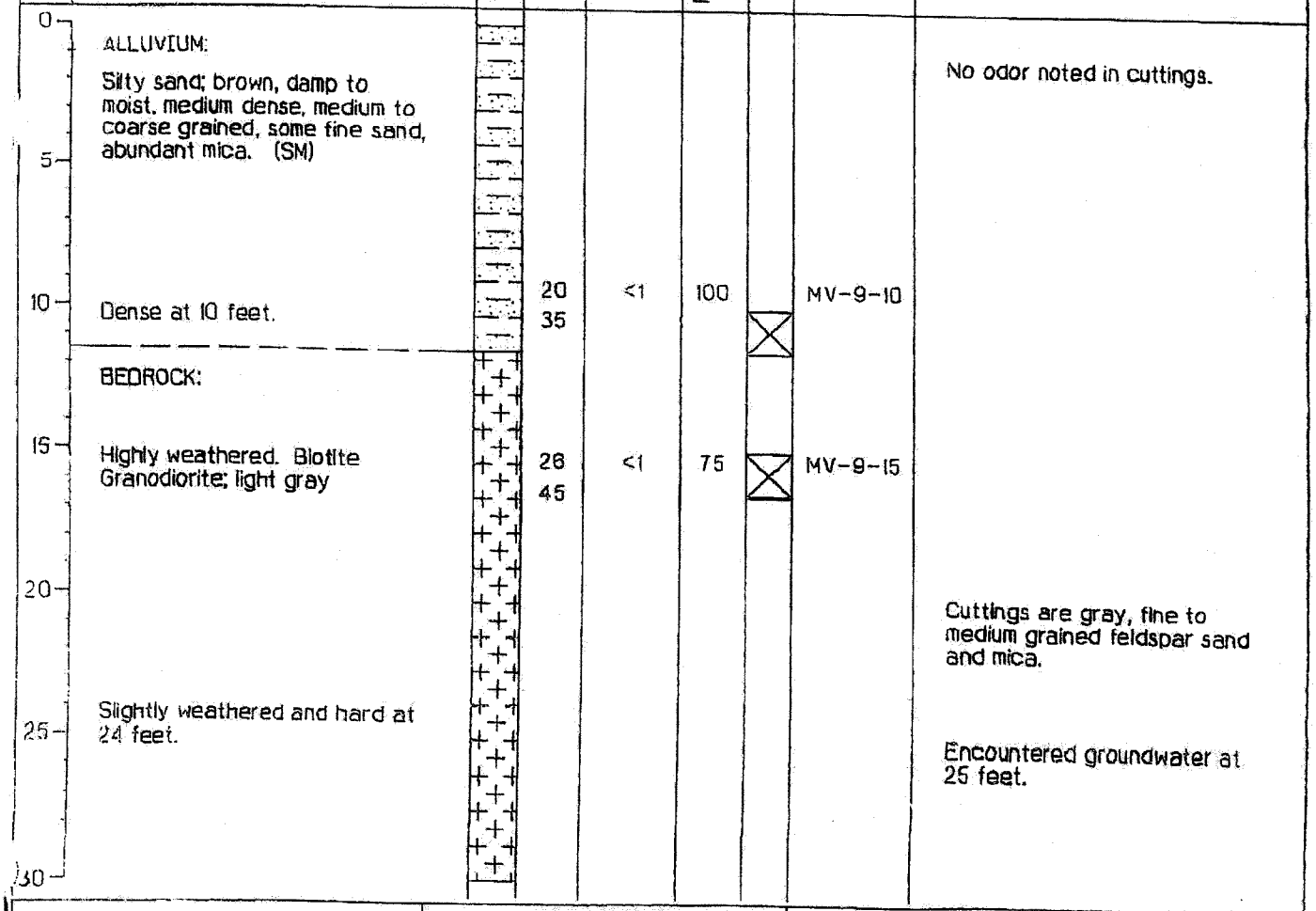
BORING LOG

Project Name: MEAD VALLEY LANDFILL Project Number: 3303-02

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MV-8 Sheet 2 of 2

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Lithology	Graphic Log: Annulus	Graphic Log: Casing	PID/FID Readings	Remarks
35									
40		End boring 40.5 feet							
45									
50									
55									
60									
65									
70									

PROJECT: MEAD VALLEY LANDFILL	PROJECT NUMBER: EM-448F
LOGGED BY: F. ECHENIQUE, R.G.	START DATE: MAY 25, 1983
CHECKED BY: G. BECKERMAN, R.G.	COMPLETION DATE: MAY 25, 1983
GROUND SURFACE ELEVATION DATUM (FT-MSL):	DRILLING COMPANY: BEYLIK
DRILLING EQUIPMENT: TLS PORTADRILL (AIR ROTARY)	
BORING DEPTH (FT): 36 / WELL DEPTH (FT): 34	INITIAL WATER DEPTH (FT): 25
WELL MATERIALS: #3 SAND (0.02 SLOT)	WELL SCREEN INTERVAL (FT): 8 TO 33
WELL CASING ELEVATION (FT-MSL): N/A	OVM/OVA: THERMO MODEL 580B
BACKFILL MATERIAL: CEMENT / BENTONITE GROUT	



DEPTH (FT)	LITHOLOGY DESCRIPTION	GRAPHIC	BLOW COUNT	OVM/OVA (PPM)	SAMPLE RECOVERY (%)	SAMPLE TYPE	SAMPLE NUMBER	COMMENTS
0	ALLUVIUM: Silty sand; brown, damp to moist, medium dense, medium to coarse grained, some fine sand, abundant mica. (SM)							No odor noted in cuttings.
5								
10	Dense at 10 feet.		20 35	<1	100	X	MV-9-10	
	BEDROCK:							
15	Highly weathered. Biotite Granodiorite; light gray		26 45	<1	75	X	MV-9-15	
20								Cuttings are gray, fine to medium grained feldspar sand and mica.
25	Slightly weathered and hard at 24 feet.							Encountered groundwater at 25 feet.
30								

BORING DESIGNATION	BORING LOG	PAGE NUMBER	FIGURE NUMBER
MV-9		1	

TAIT ENVIRONMENTAL MANAGEMENT, INC.

PROJECT: MEAD VALLEY LANDFILL

PROJECT NUMBER: EM-448F

DEPTH (FT)	LITHOLOGY DESCRIPTION	GRAPHIC	BLOW COUNT	OVM/OVA (PPM)	SAMPLE RECOVERY %	SAMPLE TYPE	SAMPLE NUMBER	COMMENTS
30	Biotite, Granodiorite; light gray, damp, hard.							
35	Total depth 36 feet.							
40								
45								
50								
55								
60								
65								
70								

BORING DESIGNATION	BORING LOG	PAGE NUMBER	FIGURE NUM
MV-8		2	

TAIT ENVIRONMENTAL MANAGEMENT, INC.

LOG OF BORING Nº MV-10

JOB NAME Mead Valley Landfill FIELD ENGR. Steve Kupferman JOB Nº

Drilling Contr. Layne Environmental
Drilling Method D.H. Hammer/Air Rotary
Gary

Elev. See plan Ref.

Boring Location East Borrow Area

Driving Wt. Average drop

			Drill	Start	Finish	Total
Water Level	42.0		Time	9:25AM	8:25 AM	
Time	8 AM		Date	3/11/97	3/12/97	
Date	3/12/97					

Surface Conditions Loose soil and rock.

DEPTH/FT.	BULK SP.	CORE SP.	SAMPLE Nº	RINGS RET.	SAMPLE DEPTH	BLOWS Per/in.	TOTAL	DESCRIPTION	COLOR	MOISTURE	CONSISTENCY	REMARKS
5	1							Bedrock: Biotite - Hornblende tonalite, medium grained, foliated, moderately weathered	Light Gray	Dry	Hard	
	2											
	3											
15	4											
20	5							Harder drilling at 22 ft., w/ coarse cuttings return.				

COUNTY OF RIVERSIDE
WASTE MANAGEMENT
97 APR 10 PM 2:22

LOG OF BORING Nº MV-10

JOB NAME Mead Valley Landfill FIELD ENGR. Steve Kupferman JOB Nº

Drilling Contr. Layne Environmental
Drilling Method D.H. Hammer/Air Rotary
Driller Gary

Boring Location East Borrow Area

Driving Wt. _____ Average drop _____

Elev. See plan Ref.

			Drill	Start	Finish	Total
Water Level	42.0		Time	9:25 AM	8:25 AM	
Time	8 AM		Date	3/11/97	3/12/97	
Date	3/12/97					

Surface Conditions Loose soil and rock.

DEPTH/FT.	BULK SP.	CORE SP.	SAMPLE Nº	RINGS RET.	SAMPLE DEPTH	BLOWS Per/In.	TOTAL	DESCRIPTION	COLOR	MOISTURE	CONSISTENCY	REMARKS
	6							Bedrock, continued: Biotite-hornblende Tonalite	Gray to Light Gray	Dry	Hard to Very Hard	
30												
	7											
35												
	8											
40								First water @ 42 ft.				
	9									Moist		
45												Stopped at 45 ft 10:35 AM 3/11/97 Restart drilling 8 AM, 3/12/97
	10											
50												Measured water @ 42 ft. on 3/12/97

LOG OF BORING Nº MV-10

JOB NAME Mead Valley Landfill FIELD ENGR. Steve Kupferman JOB Nº

Drilling Contr. Layne Environmental
Drilling Method D.H. Hammer/Air Rotary
Driller Gary

Boring Location East Borrow Area

Driving Wt. _____ Average drop _____

Elev. See plan Ref.

			Drill	Start	Finish	Total
Water Level	42.0		Time	9:25 AM	8:25 AM	
Time	8 AM		Date	3/11/97	3/12/97	
Date	3/12/97					

Surface Conditions Loose soil and rock.

DEPTH/FT.	BULK SP.	CORE SP.	SAMPLE Nº	RINGS RET.	SAMPLE DEPTH	BLOWS Per/In.	TOTAL	DESCRIPTION	COLOR	MOISTURE	CONSISTENCY	REMARKS
55	11							Bedrock, continued: Biotite - hornblende Tonalite easier drilling, possible fracture zone.	Gray to Light Gray	Moist	Hard to Very Hard	Water and cuttings retur from 55-60 ft.
60	12							Bottom @ 60 ft. Water @ 42 ft. No caving				

RIVERSIDE COUNTY WASTE RESOURCES MANAGEMENT DISTRICT

LOG OF BORING Nº MV-11

JOB NAME Mead Valley Landfill FIELD ENGR. Steve Kupferman JOB Nº

Drilling Contr. Layne Environmental
Drilling Method D. H. Hammer/Air Rotary
Driller Gary
Elev. See plan Ref.

Boring Location Approx. 100 ft. south of entrance gate.
Driving Wt. _____ Average drop _____

Water Level	20.0 ft	13.4 ft	Drill	Start	Finish	Total
Time	4:30 PM	7:00 AM	Time	4:20PM	4:38 PM	
Date	3/13/97	3/14/97	Date	3/13/97	3/13/97	

Surface Conditions Soil and weeds.

DEPTH/FT.	BULK SP.	CORE SP.	SAMPLE Nº	RINGS RET.	SAMPLE DEPTH	BLOWS Per/In.	TOTAL	DESCRIPTION	COLOR	MOISTURE	CONSISTENCY	REMARKS
	1							Sand, vf-c, sl. clay and silt (topsoil)	Brown 10yr 5/3	Dry	Loose	
								Bedrock: Biotite-Hornblende Tonalite medium grained, foliated, highly weathered	Gray Brown	Dry	Mod. Firm	
5	2											
	3									Moist		
15	4							Possible fracture zone @ 16 ft.				Easier drilling
												Hard drilling
20	5							First water @ 20 ft. during drilling				Easier drilling
												Hard drilling
								Bottom @ 25 ft. Water @ 13.4 (3/14/97), No caving				

RIVERSIDE COUNTY WASTE RESOURCES MANAGEMENT DISTRICT

LOG OF BORING Nº MV-12

JOB NAME Mead Valley Landfill FIELD ENGR. Steve Kupferman JOB Nº

Drilling Contr. Layne Environmental
Drilling Method D.H. Hammer/Air Rotary
Driller Gary

Boring Location East Borrow Area
Driving Wt. _____ Average drop _____

Elev. See plan Ref.

			Drill	Start	Finish	Total
Water Level	20 ft.					
Time	9 AM		Time	8:20AM	8:55AM	
Date	3/13/97		Date	3/13/97	3/13/97	

Surface Conditions Graded soil and rock.

DEPTH/FT.	BULK SP.	CORE SP.	SAMPLE Nº	RINGS RET.	SAMPLE DEPTH	BLOWS Per/In.	TOTAL	DESCRIPTION	COLOR	MOISTURE	CONSISTENCY	REMARKS
	1							Sand, f-c, silty, mixed w/ rock fragments (fill)	Gray brown	Dry	Loose	
5	2							Bedrock: Biotite - Hornblende Tonalite, moderately weathered, medium grained, foliated	Gray	Dry	Mod. Hard	
15	3											
20	4							First water at 20 ft. Easier drilling below 20 ft. with fine-grained cuttings		Moist		
	5											

LOG OF BORING Nº MV-12

JOB NAME Mead Valley Landfill FIELD ENGR. Steve Kupferman JOB Nº

Drilling Contr. Layne Environmental
Drilling Method D.H. Hammer/Air Rotary
Driller Gary

Boring Location East Borrow Area

Driving Wt. _____ Average drop _____

Elev. See plan Ref.

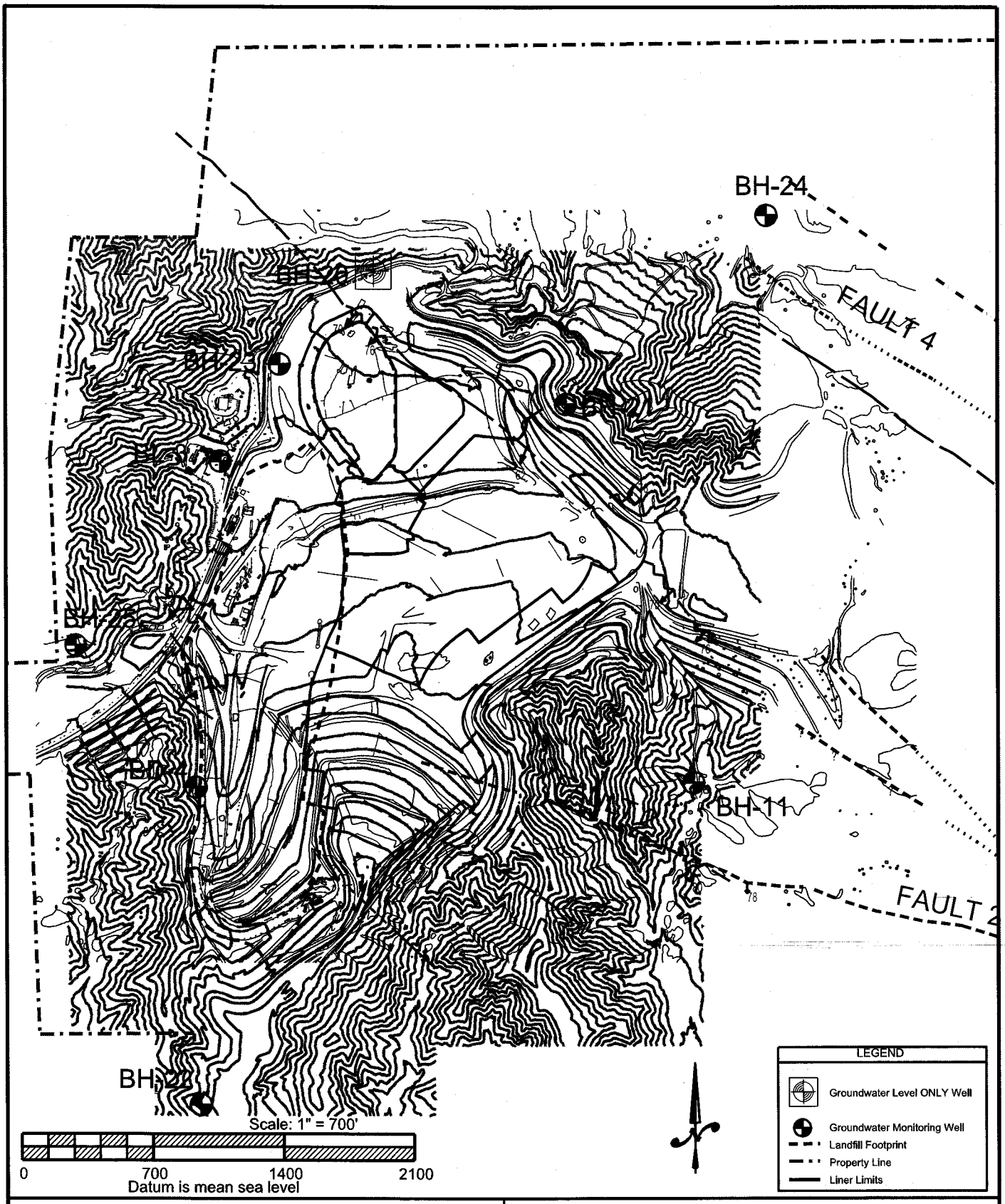
	Water Level	Drill	Start	Finish	Total
Time	9 AM	Time	8:20 AM	8:55AM	
Date	3/13/97	Date	3/13/97	3/13/97	

Surface Conditions Graded soil and rock.

DEPTH/FT.	BULK SP.	CORE SP.	SAMPLE Nº	RINGS RET.	SAMPLE DEPTH	BLOWS Per/In.	TOTAL	DESCRIPTION	COLOR	MOISTURE	CONSISTENCY	REMARKS
	6							Bedrock, continued Biotite - Hornblende Tonalite	Gray	Moist	Mod. Hard	
30												
	7											
35												
	8											
40								Bottom @ 40 ft. Water at 20 ft No caving				

RIVERSIDE COUNTY WASTE RESOURCES MANAGEMENT DISTRICT

Appendix B – Badlands Sanitary Landfill Groundwater Well Boring Logs



Riverside County
Waste Management Department

Badlands Sanitary Landfill

Groundwater Well Location Map

Date: March 23, 2010	Scale: Bar Scale	Ground Contour Date: May 2013

File Directory: /waste_1/environ/sites/badlands/water/Badlands Site Map.dgn

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 1 of 10

Boring Location:	North west of landfill, top of hill	Elevation and Datum:	2400.0
Drilling Contractor:	Datum	Driller: J. Keesley	Date Started: 2/21/89 / Date Finished: 4/10/89
Drilling Equipment:	Speedstar 16	Borehole Diameter: 10."	Completed Depth: (feet) 398.5 / Water Depth: (feet) 378.0
Sampling Method:	California Modified ☒ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION
Drilling Fluid:	none	Type and Diameter of Well Casing:	4.5in. SCH80 PVC
Backfill Material:	Concrete and Bentonite	Slot Size: 0.02"	Filter Material: #3 Monterey Sand
Logged By: S. Brooks	Checked By: Marc Egli	Development Method:	Bail and Surge

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID Readings PPM	Remarks
	ML	SAN TIMOTEO FORMATION: (0-398.5ft.)							
5		Siltstone, grey to brown, dry, medium dense.	12 18 21					0	
10	SM	Sandstone, light brown, dry, very dense, decreasing in silt.	18 23 30					0	
15			30 50 for 2					0	
20	ML	Siltstone, brown, dry, very dense, trace fine - grained sand.	45 35 22					0	
25									
30	SM	Sandstone, light brown, dry, dense, trace coarse gravel.	35 50 for					0	

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BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 2 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA PPM Readings	Remarks
35									
40		Sandstone, brown, moist, very dense, increasing in silt.	37 50 for 5.6					20	
45									
50			50 for 5					100	Refusal on bedrock at 49.0 feet
55									
60		Sandstone, dry, trace silt.							
65									
70									

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 3 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA Readings PPM	Remarks
90		Sandstone, brown, dry, increasing in silt.							
100	ML	Siltstone, brown, dry.							

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 4 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA Readings PPM	Remarks
20		Siltstone, becoming slightly moist							
25									
30									
35									
40									
45									
50									
55									

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 5 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA PPM Readings	Remarks
		Siltstone							
165									
170									
175									
180	SM	Silty sandstone, dry, light brown, fine - to coarse - grained.							Resume drilling, B.Wilson logging boring.
		increase in grain size							
185									
190	ML	Siltstone, increase in silt, decrease in coarse sand, color change to reddish brown, dry.							
195		trace clay, trace gypsum, increase in silt							
200		increase in grain size, light brown, decrease in silt							

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 6 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA Readings PPM	Remarks
205									
210		Siltstone, reddish brown, dry, very fine - grained sand.							
215									
220									
225	SM	**Sandstone, light brown, dry, fine - to coarse - grained, predominantly quartz sand.**							**harder drilling through sandstone**
230									
235	ML	**Siltstone, reddish brown, dry, very fine - to fine - grained sand.**							
		deeper red color, minor medium - grained sand							
240									
	SM	Sandstone, light brown, dry, fine - to coarse - grained.							

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 7 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA PPM Readings	Remarks
250		Sandstone							
255									
260									
265									
270		increase in quartz sand							
275									
280									
285		Sandstone, light brown, dry.							

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 8 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA PPM Readings	Remarks
290		Sandstone							
295									
300									total depth at 12:00 pm 300ft 4-7-89
305									
310									
315	ML	Siltstone, reddish brown, dry, trace medium size quartz grains.							
320									
325		Siltstone, light brown, dry, very fine-to fine - grained sand.							

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 9 of 10

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA PPM Readings	Remarks
335		Siltstone, trace medium grained quartz.							
340									
345		becoming reddish brown, dry, very fine - grained, trace medium - grained sand.							
350									
355									
360		Siltstone, light brown, dry, very fine - to fine - grained sand.							
365									
370		trace medium - to coarse - grained sand							

Brown and Caldwell

BORING LOG

Project Name: Badlands SWAT Project Number: 4344-01

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: BL-3 Sheet 10 of 10

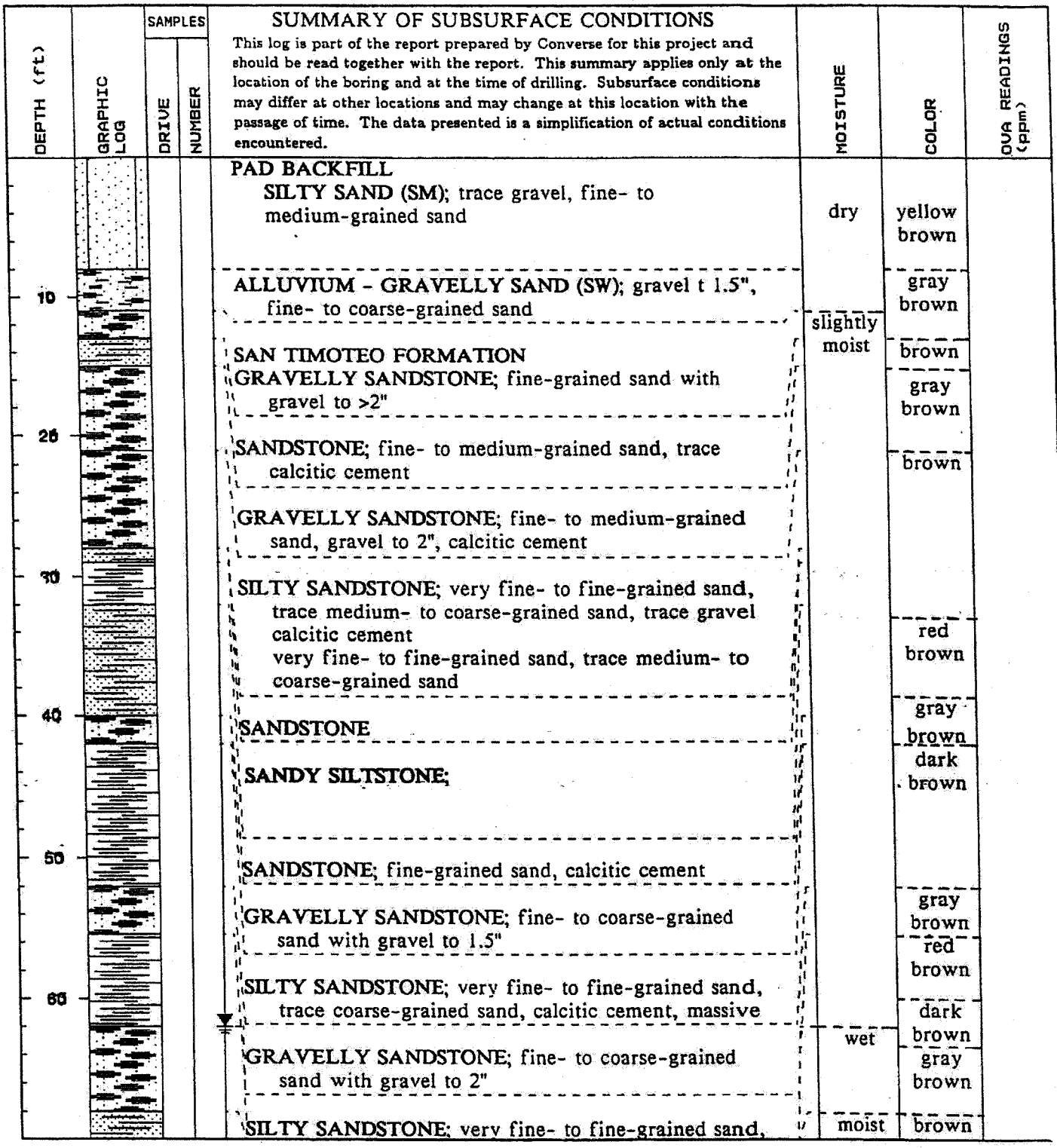
Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	PID/FID OVA Readings PPM	Remarks
375		Siltstone							
380									Encountered ground water at 378 ft. during drilling.
385									
390	SM	Sandstone, light brown, dry, fine - to very fine - grained.							
395									
400		**Bottom of boring 398.5 feet.** **Encountered groundwater at 378.0 feet.**							
405									
410									

Log of Boring No. BH-11

Date Drilled: 6/5/90 Logged by: RJK Checked by: GND

Equipment: 8" Hollow Stem Auger Driving Weight and Drop: Continuous Sampling

Ground Surface Elevation: 2071' Depth to Water: 62 feet



DEPTH (ft)	SAMPLES DRIVE	SAMPLES NUMBER	SUMMARY OF SUBSURFACE CONDITIONS	MOISTURE	COLOR	OVA READINGS (ppm)
			This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.			
			PAD BACKFILL SILTY SAND (SM); trace gravel, fine- to medium-grained sand	dry	yellow brown	
10			ALLUVIUM - GRAVELLY SAND (SW); gravel t 1.5", fine- to coarse-grained sand	slightly moist	gray brown	
			SAN TIMOTEO FORMATION GRAVELLY SANDSTONE; fine-grained sand with gravel to >2"		brown	
25			SANDSTONE; fine- to medium-grained sand, trace calcitic cement		gray brown	
			GRAVELLY SANDSTONE; fine- to medium-grained sand, gravel to 2", calcitic cement		brown	
30			SILTY SANDSTONE; very fine- to fine-grained sand, trace medium- to coarse-grained sand, trace gravel calcitic cement very fine- to fine-grained sand, trace medium- to coarse-grained sand		red brown	
40			SANDSTONE		gray brown	
			SANDY SILTSTONE;		dark brown	
50			SANDSTONE; fine-grained sand, calcitic cement		gray brown	
			GRAVELLY SANDSTONE; fine- to coarse-grained sand with gravel to 1.5"		red brown	
60			SILTY SANDSTONE; very fine- to fine-grained sand, trace coarse-grained sand, calcitic cement, massive	wet	dark brown	
			GRAVELLY SANDSTONE; fine- to coarse-grained sand with gravel to 2"		gray brown	
			SILTY SANDSTONE; very fine- to fine-grained sand,	moist	brown	

BADLANDS SANITARY LANDFILL

Project No.
89-41-516-01

Drawing No.
A-11a

Converse Environmental West

Log of Boring No. BH-11

Date Drilled: 6/5/90 Logged by: RJK Checked by: GND

Equipment: 8" Hollow Stem Auger Driving Weight and Drop: Continuous Sampling

Ground Surface Elevation: 2071' Depth to Water: 62 feet

DEPTH (ft)	GRAPHIC LOG	SAMPLES DRIVE	SAMPLES NUMBER	SUMMARY OF SUBSURFACE CONDITIONS	MOISTURE	COLOR	OVA READINGS (ppm)
				This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.			
				tr. grav., poorly defined bedding to calcitic cement	moist-wet	brown	
				GRAVELLY SANDSTONE; medium- to coarse-grained sand with gravel to 1" gravel to 2"		gray brown	
80					slightly moist	light brown	
				SANDSTONE; fine-grained sand with gravel to 2"			
85				End of boring at 85 feet			

BADLANDS SANITARY LANDFILL

Project No. 89-41-516-01

Converse Environmental West

Drawing No. A-11b

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 -

Logged by: Jason L. Holcomb Checked by: Richard F.Escandon

Equipment: 16" Dia. Air Rotary

Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100

Depth to Water(ft): 241 Feet

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS	SUMMARY OF WELL INSTALLATIONS
		SAN TIMOTEO FORMATION: **SILTY SAND (SM)**: fine-to medium-grained, dense, reddish brown.					2		PVC casing extends to 2' above ground surface
5									Conductor casing 12" dia.
10									Conductor boring 16" dia. to 16'
		SAN TIMOTEO FORMATION: **GRAVELLY SAND (SW)**: poorly sorted, moderately dense, light gray to brown.					9		
15									
		SAN TIMOTEO FORMATION: **SILTY FINE SAND (SM)**: dense, deep red to light brown.							
20									
25									
30		- minor gravels							

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 -

Logged by: Jason L. Holcomb Checked by: Richard F.Escandon

Equipment: 16" Dia. Air Rotary

Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100

Depth to Water(ft): 241 Feet

SUMMARY OF SUBSURFACE CONDITIONS

This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

SAMPLES

DEPTH (ft)	GRAPHIC LOG	DRIVE	BULK	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS
40		■				5	
45							
50							
55							
60		■				7	
65							

SUMMARY OF WELL INSTALLATIONS

SAN TIMOTEO FORMATION:
SILTY SAND (SM): some alternating layers of silty fine sands, some gravles, light brown to deep red.

SAN TIMOTEO FORMATION:
GRAVELLY SAND (SW): dense, 3/8-3/4" gravel clasts, light gray.

SAN TIMOTEO FORMATION:
SILTY FINE SAND (SM): dense, reddish brown.

- scattered gravles, light brown

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 -

Logged by: Jason L. Holcomb Checked by: Richard F. Escandon

Equipment: 16" Dia. Air Rotary

Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100

Depth to Water(ft): 241 Feet

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS	SUMMARY OF WELL INSTALLATIONS
75		SAN TIMOTEO FORMATION: **SILTY FINE SAND (SM):** reddish brown.							
80		- becoming light gray-brown							
85									
90									
95									
100									

Converse Consultants
Inland Empire

Project Name.
Badlands Landfill

Project No.
93-16-141-02

Drawing No.
A-2c

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 - Logged by: Jason L. Holcomb Checked by: Richard F.Escandon

Equipment: 16" Dia. Air Rotary Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100 Depth to Water(ft): 241 Feet

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS	SUMMARY OF WELL INSTALLATIONS
110		SAN TIMOTEO FORMATION: **SANDSTONE/SILTY SAND (SM):** with gravel, dense reddish brown.							
115		- continued same, becoming light gray.					0		
120		SAN TIMOTEO FORMATION: **SILTSTONE:** minor fine sand, dense, reddish brown.							
125		SAN TIMOTEO FORMATION: **SILTY FINE SAND (SM):** with some gravels, dense, gray-brown.							
130									
135									Cement/Bentonite slurry

Converse Consultants Inland Empire

Project Name. Badlands Landfill

Project No. 93-16-141-02

Drawing No. A-2d

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 -

Logged by: Jason L. Holcomb Checked by: Richard F. Escandon

Equipment: 16" Dia. Air Rotary

Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100

Depth to Water(ft): 241 Feet

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS	SUMMARY OF WELL INSTALLATIONS
145		- same, alternating light gray-brown and reddish brown.							
150									
155									
160		SAN TIMOTEO FORMATION: **SILTSTONE:** minor fine sand, dense, medium to light brown-gray.							
165									
170		SAN TIMOTEO FORMATION: **SANDSTONE:** silty, fine sand, dense, alternating light gray to reddish-brown.							

Converse Consultants
Inland Empire

Project Name.
Badlands Landfill

Project No.
93-16-141-02

Drawing No.
A-2e

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 -

Logged by: Jason L. Holcomb Checked by: Richard F.Escandon

Equipment: 16" Dia. Air Rotary

Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100

Depth to Water(ft): 241 Feet

SUMMARY OF SUBSURFACE CONDITIONS

This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

SAMPLES: DRIVE | BULK

DEPTH (ft)	GRAPHIC LOG	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS	SUMMARY OF WELL INSTALLATIONS
180				0		
185	- minor gravles					
190						Blank casing 4" SCH - 80 PVC
195						
200						
205	- continued sand, silty fine sand, reddish brown to light gray					

Converse Consultants Inland Empire

Project Name. Badlands Landfill

Project No. 93-16-141-02

Drawing No. A-2f

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 -

Logged by: Jason L. Holcomb Checked by: Richard F.Escandon

Equipment: 16" Dia. Air Rotary

Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100

Depth to Water(ft): 241 Feet

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS	SUMMARY OF WELL INSTALLATIONS
215		**SILTY FINE SAND (SM)**: reddish-brown to light gray.					0		
220									Bentonite Seal
225									
230									Sand backfill
235									
240									Static water
		SAN TIMOTEO FORMATION:							

Converse Consultants Inland Empire

Project Name. Badlands Landfill

Project No. 93-16-141-02

Drawing No. A-2g

Log of Boring No. BD- 4

Dates Drilled: 2/7/94 -

Logged by: Jason L. Holcomb Checked by: Richard F. Escandon

Equipment: 16" Dia. Air Rotary

Driving Weight and Drop: 140 lb / 30 in

Ground Surface Elevation(ft): 2100

Depth to Water(ft): 241 Feet

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS/FOOT	OVA (ppm)	PID (ppm)	LABORATORY TESTS	SUMMARY OF WELL INSTALLATIONS
		SILTY SAND (SM): medium grained sand, dense, medium gray.					0		
		SILTY SAND (SM): increasing moisture content in cuttings.							
250									Screened casing (.020 slot) 4" SCH 80 PVC
255									
260									Sand backfill
265									END CAP
270									
275		End of boring at 277 feet. Boring backfilled.							Bottom of borehole

Converse Consultants Inland Empire

Project Name. Badlands Landfill

Project No. 93-16-141-02

Drawing No. A-2h

PROJECT: Badlands

Groundwater Monitoring Well BH-20 - REVISED

LOCATION: 31125 Ironwood Ave

BORING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

THF Drilling: Driller Ramon

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples ID	Samples Type	Samples Recovery (%)	Samples "N" Value	GT402 Readings (% Oxygen, H2S ppm, CO ppm; 0 20 40 60 80 100)
0	0	THF Drilling INC., RT-1800 Air Rotary	GROUND SURFACE		0					
			Siltstone with fine sand and thin clay layers - color: light tan - Moisture Content: Dry							
					30					
			Siltstone - fine sand with few medium sand - color: tan - Moisture Content: Dry							
					40					
			Siltstone - becoming more sandy - Moisture Content: Dry							
15	50		Continued on next page							

BH-20

STICKUP 0ft to 4.00ft

REGISTERED GEOLOGIST
MDH
MARK D. HUNT
No. 7048
Exp. 03/04
STATE OF CALIFORNIA

DRAWN: Panda Workman: RCWMD Revised 2/10/03 CHECKED: Mark Hunt

OJECT: Badlands

CATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-20 - REVISED

RING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

TH LE | BORING METHOD | SOIL PROFILE | Samples | GT402 Readings | THF Drilling: Driller Ramon

FEET | BORING METHOD | DESCRIPTION | STRATA PLOT | DEPTH B.G.S. (ft) | ID | Type | Recovery (%) | "N" Value | % Oxygen | H2S ppm | CO ppm | 0 20 40 60 80 100 | BH-20

THF Drilling INC., RT-1800 Air Rotary

50

Siltstone - with layers of thin clay - Color: tan - Moisture Content: dry

60

Siltstone with inter-bedded gravelly conglomerate some cobbles - Moisture Content: Dry

70

Siltstone with very fine grains - color: tan with a pinkish tint - Moisture Content: Dry

80

Siltstone with thin clay layers - Color: Yellowish Tan - Moisture Content: Dry

90

Siltstone with thin clay layers - Color: Yellowish Tan - Moisture Content: Dry

100

Continued on next page

PROJECT: Badlands

Groundwater Monitoring Well BH-20 - REVISED

LOCATION: 31125 Ironwood Ave

BORING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

BORING METHOD: THF Drilling INC., RT-1800 Air Rotary

THF Drilling: Driller Ramon

BH-20

METRES	FEET	DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	ID	Type	Recovery (%)	"N" Value
	100							
31	102	Siltstone with thin clay layers - Color: yellow tint but tan - Moisture Content: Dry		100				
	104							
32	106							
	108							
33	110			110				
	112	Siltstone with thin conglomerate layer - Color: Grayish Tan - Moisture Content: Dry						
34	114							
	116							
35	118							
	120			120				
37	122	Siltstone with thin conglomerate layer						
	124							
38	126							
	128							
39	130			130				
	132	Siltstone with thin clay layer - Color: light orange hue						
40	134							
	136							
41	138							
	140			140				
42	142	Siltstone with fine sand - Color: Grayish						
	144							
43	146							
	148							
45	150							

Samples

GT402 Readings: % Oxygen ◆ H2S ppm ● CO ppm ■ (0 20 40 60 80 100)

Continued on next page

ROJECT: Badlands

OCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-20 - REVISED

ORING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

TH
LE

BORING METHOD: THF Drilling INC., RT-1800 Air Rotary

SOIL PROFILE

FEET | DESCRIPTION | STRATA PLOT | DEPTH B.G.S. (ft)

Samples: ID | Type | Recovery (%) | "N" Value

GT482 Readings: % Oxygen ◆ | H2S ppm ● | CO ppm ■ | 0 20 40 60 80 100

THF Drilling: Driller Ramon

BH-20

150 — Siltstone with thin clay layers - Color: Orangey Tan

160 — Siltstone with layers of clay - Color: Orangey Tan

170 — Sandy Siltstone - Color: Light Tan

180 — Siltstone with thin layers of clay - Color: Tan

190 — Siltstone with sandy clay layers - Color: tan

150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192 194 196 198 200

Continued on next page

GROUT 0.00ft TO 398.00ft

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

BORING DATE: June 27, 2001

Groundwater Monitoring Well BH-20 - REVISED

DATUM: GROUND SURFACE

DIP: Level

LOGGED: Mark Hunt

BORING METHOD: THF Drilling INC., RT-1600 Air Rotary

METRES	FEET	SOIL PROFILE: DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples: ID	Type	Recovery (%)	"N" Value	GT402 Readings: % Oxygen ◆, H2S ppm ●, CO ppm ■ (0 20 40 60 80 100)
61	200								
	202								
62	204	Clayey siltstone - Color: Orangey Tan - Mositure Content: Slightly moist		200					
	206								
63	208								
64	210			210					
	212								
65	214	Siltstone - Color: Light Tan							
	216								
66	218								
	220			220					
68	222								
	224	Siltstone with thin clay layers - Color: Organey light tan							
69	226								
	228								
70	230			230					
	232								
71	234	Conglomerate, fine to medium sand matrix with gravel to cobbles - Color: Gray							
72	236								
	238								
73	240			240					
	242								
74	244								
		Siltstone with clay layers - Color: Orangey tan - Moisture Content: Slightly moist							
75	246								
	248								
76	250								

THF Drilling: Driller Ramon

BH-20

Continued on next page

OJECT: Badlands

CATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-20 - REVISED

RING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

N
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FEET	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples: ID	Type	Recovery (%)	"N" Value	GT402 Readings: % Oxygen ◆, H2S ppm ◆, CO ppm ■ (0 20 40 60 80 100)	THF Drilling: Driller Ramon
250	THF Drilling INC., - RT-1600 Air Rotary			250						BH-20
252		Clayey Siltstone - Color: Light Brown								
254										
256										
258										
260				260						
262		Light brown clayey siltstone with orange hue								
264										
266										
268										
270				270						
272		Silty sandstone with fine grains - Color: light gray - Moisture Content: dry								
274										
276										
278										
280				280						
282		Siltstone with thin layers of clay - Color: tan with orange hue. Comment: Can see geology of well by walking south along access road looking at cut with north dipping beds.								
284										
286										
288										
290				290						
292		Clayey siltstone - Color: Tan - Moisture Content: Slightly moist								
294										
296										
298										
300										

Continued on next page

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-20 - REVISED

BORING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

BORING METHOD: THF Drilling INC., RT-1800 Air Rotary

THF Drilling: Driller Ramon

BH-20

METRES	FEET	DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	ID	Type	Recovery (%)	"N" Value
92	300			300				
	302							
	304							
93	306	Sandstone with gravel						
	308							
94	310			310				
	312							
95	314							
	316	Siltstone - Color: Tan						
96	318							
	320			320				
98	322							
	324							
99	326	Siltstone - Color: Orangey tan						
100	328							
	330			330				
101	332							
	334							
102	336	Gravelly sand - Color: Light gray						
	338							
103	340			340				
104	342							
	344							
105	346	Siltstone - Color: Tan						
	348							
106	350							

GT402 Readings: % Oxygen ◆ H2S ppm ● CO ppm ■ (0 20 40 60 80 100)

Continued on next page

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-20 - REVISED

BORING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

THF Drilling: Driller Ramon

BORING METHOD: THF Drilling INC., RT-1800 Air Rotary

DEPTH SCALE FEET	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples ID	Type	Recovery (%)	"N" Value	GT402 Readings: % Oxygen, H2S ppm, CO ppm (0 20 40 60 80 100)	BH-20
350	Gravelly sand well mixed - Color: Gray		350						
360	Clayey siltstone - Color: Orangey tan - Moisture Content: slightly moist		360						
370	Siltstone - Color: Light tan - Moisture Content: Slightly moist		370						
380	Gravelly sandstone - Color: light gray		380						
390	Gravelly sandstone with some cobbles - Color: Light gray		390						
400									

Continued on next page

SCREEN 387.00ft TO 412.00ft

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-20 - REVISED

BORING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

BORING METHOD: THF Drilling INC., RT-1800 Air Rotary

THF Drilling: Driller Ramon

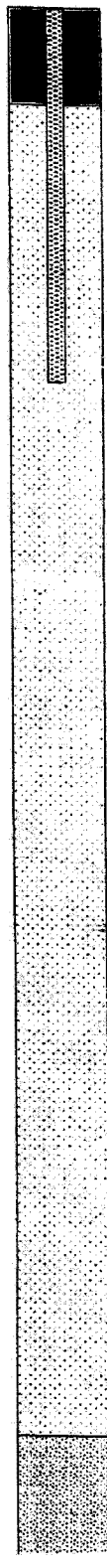
BH-20

METRES	FEET	DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)
122	400			400
	402			
123	404	Sandy siltstone - Color: Tan - Moisture Content: Moist		
	406			
124	408			
125	410			410
	412			
126	414	Sandy siltstone, slightly consolidated - Color: Orangey light tan		
	416			
127	418			
128	420			420
	422			
129	424	Tan silty sandstone with thin clay layers - Moisture Content: Moist		
	426			
130	428			
131	430			430
	432			
132	434	Well sorted sandstone with some silt - Color: light gray		
	436			
133	438			
134	440			440
	442			
135	44			
136	446			
	448			
137	450			

Continued on next page

Samples: ID, Type, Recovery (%), "N" Value

GT402 Readings: % Oxygen, H2S ppm, CO ppm (0 20 40 60 80 100)



PROJECT: Badlands

Groundwater Monitoring Well BH-20 - REVISED

LOCATION: 31125 Ironwood Ave

BORING DATE: June 27, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Samples: ID	Type	Recovery (%)	"N" Value	GT402 Readings: % Oxygen ◆ / H2S ppm ● / CO ppm ■ (0 20 40 60 80 100)	THF Drilling: Driller Ramon
450	THF Drilling INC., RT-1000 Air Rotary	END OF EXPLORATION @ 450.00ft		450.00						BH-20
452										END OF EXPLORATION
454										
456										
458										
460										
462										
464										
466										
468										
470										
472										
474										
476										
478										
480										
482										
484										
486										
488										
490										
492										
494										
496										
498										
500										

PROJECT: Badlands

Groundwater Monitoring Well BH-21

LOCATION: 31125 Ironwood Ave

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Drilling Fluid: Air & Water	Drilling Fluid: Wyo-Foamer	Drilling Fluid: Poly VIS	Drilling Fluid: Air Only
0	0	THF Drilling INC., RT-1800 Air Rotary	GROUND SURFACE		0				
			Slight brown consolidated sandstone (fine) - Moisture Content: dry						X
					20				X
			Light grey, fine sandstone unconsolidated - Moisture Content: Slightly moist						X
					30				X
			Light brown sandstone, unconsolidated fine sand - Moisture Content: Slightly moist						
					40				X
			Siltstone - unconsolidated - no gravel - Color: light grey to brown - Moisture Content: Slightly moist						
15	50		Continued on next page						

GT482 Readings: % Oxygen ◆ H2S ppm ● CO ppm ■ (0 20 40 60 80 100)

THF Drilling: Driller Ramon

BH-21

STICKUP 0ft to 3.00ft

REGISTERED GEOLOGIST ☆ MARK D. HUNT No. 7048 Exp. 3/02 ☆ STATE OF CALIFORNIA

DRAWN: Penda Workmen

PROJECT: Badlands

Groundwater Monitoring Well BH-21

LOCATION: 31125 Ironwood Ave

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Drilling Fluid: Air & Water	Wyo-Foamer	Poly VIS	Air Only	GT482 Readings: % Oxygen, H2S ppm, CO ppm (0 20 40 60 80 100)	THF Drilling: Driller Ramon
	50	THF Drilling INC., RT-1800 Air Rotary			50						BH-21
	52										
16	54		Siltstone with thin clay beds - Color: Light brown Comment: Clay beds indicative from clay balls - Infrequent						X		
17	56										
	58										
18	60				60						
	62										
19	64		Siltstone - unconsolidated - Color: Light brown - Moisture Content: Slightly moist						X		
20	66										
	68										
21	70				70						
	72										
22	74		Siltstone with <1% coarse sand/gravel - Color: Light brown						X		
23	76										
	78										
24	80				80						
	82										
25	84		Siltstone - unconsolidated - Color: light brown - Moisture Content: slightly moist						X		
26	86										
	88										
27	90				90						
	92										
28	94		Siltstone - unconsolidated - Color: light brown - Moisture content: Slightly moist						X		
29	96										
	98										
30	100										

Continued on next page

DRAWN: Panda Workmen

PROJECT: Redlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-21

BORING DATE: June 15, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Drilling Fluid: Air & Water	Wyo-Foamer	Poly VIS	Air Only	GT402 Readings: % Oxygen / H2S ppm / CO ppm (0 20 40 60 80 100)	THF Drilling: Driller Ramon
30	100	THF Drilling INC., RT-1800 Air Rotary			100						BH-21
31	102										
32	104		Siltstone - unconsolidated - Color: Light brown - Moisture Content: Slightly moist Comment: no down pressure neccessary, using weight of pipe and drilling rod to penetrate formation						X		
33	106										
34	108										
35	110				110						
36	112		Siltstone - semi - consolidated Color: Light-medium brown						X		
37	114										
38	116										
39	118										
40	120				120						
41	122		Siltstone - evidence of some consolidation - Color: Light brown - Moisture Content: Slightly moist						X		
42	124										
43	126										
44	128										
45	130				130						
46	132		Siltstone - <1% medium - some sand Color: light red brown - Moisture Content: Slightly Moist						X		
47	134										
48	136										
49	138										
50	140				140						
51	142		Siltstone - thin layers clay - Color: light brown - Moisture Content: Slightly moist						X		
52	144										
53	146										
54	148										
55	150										

Continued on next page

DRAWN: Penda Workmen

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-21

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE: METERS / FEET

BORING METHOD: THF Drilling INC., RT-1600 Air Rotary

SOIL PROFILE

DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)
Siltstone - Color: Light brown - Moisture Content: Slightly moist		150
Siltstone - Color: Light brown Slurry sample		160
Siltstone with minor gravel - Color: Light brown		170
Siltstone with minor igneous gravel - Color: Light brown		180
NO SAMPLE. Stopped at 200 feet on 6/19/01. Driller flushed the borehole with water to remove clay that had formed during drilling in the borehole. Continued to drill on 6/20/01		190

Drilling Fluid

Air & Water	Wyo-Foamer	Poly MS	Air Only
X			
			X
			X
			X
X			

GT482 Readings: % Oxygen ◆ H2S ppm ◆ CO ppm ■ (0 20 40 60 80 100)

THF Drillings Driller Ramon

BH-21

Continued on next page

WN: Panda Workmen

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-21

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Drilling Fluid: Air & Water	Wyo-Foamer	Poly VIS	Air Only	GT482 Readings: % Oxygen / H2S ppm / CO ppm (0 20 40 60 80 100)
61	200	THF Drilling INC., - RT-1800 Air Rotary	NO SAMPLE. Stopped at 200 feet on 6/19/01. Driller flushed the borehole with water to remove clay that had formed during drilling in the borehole. Continued to drill on 6/20/01						X	
62	202									
62	204									
63	206									
63	208									
64	210									
64	212									
65	214									
65	216									
66	218									
66	220									
67	222									
68	224					X				
68	226									
69	228									
70	230		DATE: 6/20/01 Silty sandy with few coarse sand to gravel - Color: Light brown Slurry sample.		230	X				
71	232									
71	234									
72	236									
72	238									
73	240		Silty clayey with minor sand and gravel - Color: light brown - Slurry sample		240	X				
74	242									
74	244									
75	246									
75	248									
76	250									

Continued on next page

THF Drilling: Driller Ramon

BH-21

GROUT 0.00ft TO 424.00ft

DRAWN: Panda Workmen

PROJECT: Badlands

Groundwater Monitoring Well BH-21

LOCATION: 31125 Ironwood Ave

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Drilling Fluid: Air & Water	Wyo-Foamer	Poly Vis	Air Only	GT482 Readings: % Oxygen ◆ / H2S ppm ◆ / CO ppm ■ (0 20 40 60 80 100)	THF Drilling: Driller Ramon
77	250	THF Drilling INC., RT-1800 Air Rotary	Silty clay with minor sand and gravel - Color: light brown - Slurry sample			X					BH-21
78	252										
	254										
	256										
79	258										
	260				260						
80	262										
	264					X					
81	266										
	268										
82	270										
	272										
83	274					X					
	276										
84	278										
	280		Clayey siltstone with minor sand - Color: light brown - Slurry sample								
85	282										
	284					X					
86	286										
	288										
87	290										
	292										
88	294					X					
	296										
89	298										
	300										

Continued on next page

DRAWN: Panda Workman

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-21

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Drilling Fluid: Air & Water	Drilling Fluid: Wyo-Foamer	Drilling Fluid: Poly VIS	Drilling Fluid: Air Only
	300	THF Drilling INC., - RT-1800 Air Rotary			300				
92	302								
	304								
93	306					X			
	308								
94	310		Clayey siltstone with very minor gravel - Color: Light brown - Slurry sample						
	312								
95	314								
	316					X			
96	318								
97	320				320				
	322								
98	324								
	326					X			
99	328								
100	330		Clayey siltstone with minor gravel - Color: light gray - Slurry Sample						
	332								
101	334								
	336					X			
102	338								
103	340				340				
	342								
104	344								
	346		Siltstone - Color: Light brown Slurry Sample			X			
105	348								
106	350								

GT482 Readings: % Oxygen ◆ H2S ppm ● CO ppm ■ (0 20 40 60 80 100)

THF Drilling: Driller Ramon

BH-21

Continued on next page

DRAWN: Panda Workman

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

Groundwater Monitoring Well BH-21

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

DRILLING: THF Drilling INC., RT.1800 Air Rotary

DRILLER: Penda Workman

DEPTH SCALE: METRES / FEET

BORING METHOD

SOIL PROFILE: DESCRIPTION; STRATA PLOT; DEPTH B.G.S. (ft)

Drilling Fluid: Air & Water; Wyo-Foamer; Poly VIS; Air Only

GT482 Readings: % Oxygen; H2S ppm; CO ppm; 0 20 40 60 80 100

THF Drilling: Driller Ramon

BH-21

DEPTH B.G.S. (ft)	Air & Water	Wyo-Foamer	Poly VIS	Air Only
350	X	32oz	16oz	
360	X			
380	X			
390		32oz	16oz	

Siltstone - more fine - Color light brown - Stopped drilling for 6/20/01

Did not drill on 6/21/01. Continued drilling on 6/22/01 Sand of quartz and alkali feldspar becoming more sandy- Slurry Sample

Siltstone no gravel <1% gravel - Color: light brown - Slurry Sample

Siltstone becoming less sandy more clay- Slurry sample

Continued on next page

PROJECT: Badlands

LOCATION: 31125 Ironwood Ave

BORING DATE: June 19, 2001 DATUM: GROUND SURFACE DIP: Level LOGGED: Mark Hunt

Groundwater Monitoring Well BH-21

BORING METHOD: THF Drilling INC.,- RT-1800 Air Rotary

THF Drilling: Driller Ramon

Depth (ft)	Description	Depth B.G.S. (ft)	Air & Water	Wyo-Foamer	Poly VIS	Air Only	GT482 Readings (% Oxygen, H2S ppm, CO ppm)
400–410	Sandstone - very fine no silt - Color: Light Tan - Slurry sample	400	X				
410–420	Becoming more silty but still sandstone - more muscovite and biotite minerals - Color: light tan - Slurry Sample	410	X	32oz			
420–430	Siltstone w/ ~10% coarse sand interbeds becoming more sandy - Color: Light tan - Slurry Sample	420	X				
430–440	Siltstone becoming more silty - Color: Light brown - Slurry sample	430	X				
440–450	No cutting were produced	440	X		16oz		

Depth scale: Metres 122–137; Feet 400–450

BH-21

Continued on next page

DRAWN: Panda Workman

PROJECT: Badlands

Groundwater Monitoring Well BH-21

LOCATION: 31125 Ironwood Ave

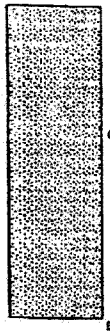
BORING DATE: June 18, 2001 DATUM: GROUND SURFACE DEP: Level LOGGED: Mark Hunt

DEPTH SCALE METRES	DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	DEPTH B.G.S. (ft)	Drilling Fluid: Air & Water	Wyo-Foamer	Poly VIS	Air Only
	450	THF Drilling INC., RT-1800 Air Rotary							
	452								
138	454		No cutting were produced			X			
139	456								
	458								
140	460		END OF EXPLORATION @ 460.00ft		460				
	462								
141	464								
	466								
142	468								
	470								
143	472								
	474								
144	476								
	478								
145	480								
	482								
146	484								
	486								
147	488								
	490								
148	492								
	494								
149	496								
	498								
150	500								
151									
152									

GT482 Readings: % Oxygen ◆ | H2S ppm ◆ | CO ppm ■ — 0 20 40 60 80 100

THF Drilling: Driller Ramon

BH-21



CAVED MATERIAL 448.00ft TO 460.00ft

END OF EXPLORATION

DRAWN: Panda Workmen

WELL NUMBER BH - 22

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department
PROJECT NAME 2009 Groundwater Investigation
PROJECT NUMBER BH - 22
PROJECT LOCATION South part of site, East of sedimentation Basin
DATE STARTED 5/14/09 **COMPLETED** 5/18/09
GROUND ELEVATION 2018.38 ft **HOLE SIZE** 10"
DRILLING CONTRACTOR Layne Christensen Company
GROUND WATER LEVELS:
DRILLING METHOD Tricone Air Rotary
▽ **AT TIME OF DRILLING** 111.34 ft / Elev 1907.04 ft 5-15-2009
LOGGED BY Panda Workman **CHECKED BY** Todd Shibata
▼ **AT END OF DRILLING** 97.90 ft / Elev 1920.48 ft 5-18-2009
NOTES
▼ **AFTER DRILLING** 74.24 ft / Elev 1944.14 ft 5-22-2009

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		WELL DIAGRAM
0	D 7:28	CL		(CL) Clay, low plasticity, light brown ... Open bore hole drilling		Well cap and above ground well monument
5	D 7:38	CL		5.0 (CL) Clay, low plasticity, light brown	2013.4	
10	D 7:39	CL		10.0 (CL) Clay, some gravel, light brown	2008.4	Cement grout
15	D 7:40	CL		15.0 (CL) Clay with silt, trace medium grain sand; light brown	2003.4	
20	D 7:43	CL		20.0 (CL) Clay with silt, trace coarse grain sand with some gravel, light brown	1998.4	Blank Casing - 4" Dia. Sch 80 PVC with Flush Threaded Connection
25	D 10:59	SM		25.0 (SM) Silty Sand, fine grain sand, slightly moist, yellow brown	1993.4	
30	D 11:05	SM		30.0 (SM) Sand with some silt, fine grain sand, slightly moist, very light brown	1988.4	Cement grout
35	D 11:13	CL		35.0 (CL) Clay with some silt, some medium grain sand, slightly moist, brown	1983.4	
40	D 11:25	SM		40.0 (SM) Silty Sand, fine to coarse grain sand, slightly moist, light brown	1978.4	Cement grout
45	D 11:47			45.0	1973.4	

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/12/10 16:03 - Z:\QUAZI, KANIZ\GINT\PROJECTS\BADLANDS BH - 22.GPJ

WELL NUMBER BH - 22

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department **PROJECT NAME** 2009 Groundwater Investigation

PROJECT NUMBER BH - 22 **PROJECT LOCATION** South part of site, East of sedimentation Basin

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		WELL DIAGRAM
45						
		CL		(CL) Clay, trace medium grain sand, slightly moist, light brown		Blank Casing - 4" Sch 80 PVC with Flush Threaded Connections
50	D 11:56			50.0	1968.4	
		SM		(SM) Sand with silt, fine to medium grain sand, light brown		
55	D 12:00			55.0	1963.4	
		SM		(SM) Sand with silt, fine grain sand, light brown		
				57.0	1961.4	
		CL		(CL) Clay, trace medium grain sand, medium plasticity, dry, red		
60	D 12:30			60.0	1958.4	
		CL		(CL) Clay, trace medium grain sand, some silt, slightly moist, low plasticity, yellow brown		Hydrated Bentonite Chip Seal
65	D 12:58			65.0	1953.4	
		CL		(CL) Clay, trace medium grain sand, some silt, slightly moist, low plasticity, light brown		No. 60 Transition Sand from 67' to 72'
70	D 13:00			70.0	1948.4	
	D 13:03	SM-ML		(SM-ML) Silty Sand/ Sandy Silt, fine to coarse grain sand, slightly moist, brown ... with round gravel		
75				▼ - 74.24 ft at 5-22-09 75.0	1943.4	
	D 13:08	SP-SM		(SP-SM) Sand - Sand with Silt, medium to coarse grain sand, slightly moist, light brown		Filter Pack No. 10/20 Silica Sand
80	D 13:30			80.0	1938.4	
		CL		(CL) Clay, trace fine grain sand, slightly moist, brown		
85	D 13:45			85.0	1933.4	
		CL		(CL) Clay with sand, medium grain sand, slightly moist, brown		
90	D 14:00			90.0 ... trace gravel	1928.4	0.02" Slotted Casing 4" Dia. Sch 80 PVC with Flush Threaded Connections
		CL		(CL) Clay with fine to medium grain sand, trace rounded gravel, slightly moist, brown		
95	D 14:15			95.0	1923.4	
		CL		(CL) Clay with Silt, trace fine grain sand, slightly moist, brown		

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/12/10 16:03 - Z:\QUAZI, KANIZ\GINT\PROJECTS\BADLANDS BH - 22.GPJ

WELL NUMBER BH - 22

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department **PROJECT NAME** 2009 Groundwater Investigation

PROJECT NUMBER BH - 22 **PROJECT LOCATION** South part of site, East of sedimentation Basin

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		CL		(CL) Clay with Silt, trace fine grain sand, slightly moist, brown ▼ - 97.9 ft at 5-18-09	
100	D 14:30			100.0 1918.4	
		CL		(CL) Rounded gravelly clay with fine to medium grain sand, slightly moist, yellow brown	
105	D 14:45			105.0 1913.4	
		CL		(CL) Rounded gravelly clay with fine to medium grain sand, slightly moist, yellow brown	Silt Sump - Blank Casing
110	D 14:50			110.0 1908.4	
	D 15:00	CL		(CL) Clay, with fine grain sand, slightly moist, light brown ▽ - 111.34 ft at 5-15-09	Bottom Cap
				113.0 1905.4	Borehole Slough

Drilling completed 113.0 feet below ground surface (bgs). Borehole open to 113.0 feet bgs prior to well construction. Ground elevation is estimated.
Sample type number: D = disturbed sample collected from air return cyclone.

WELL NUMBER BH - 23

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department
PROJECT NAME 2009 Groundwater Investigation
PROJECT NUMBER BH - 23
PROJECT LOCATION North East Side of Site
DATE STARTED 5/19/09 **COMPLETED** 5/22/09
GROUND ELEVATION 2367.48 ft **HOLE SIZE** 12" Temp. Casing/10"
DRILLING CONTRACTOR Layne Christensen Company
GROUND WATER LEVELS:
DRILLING METHOD Tricone Air Rotary
AT TIME OF DRILLING --- None measured
LOGGED BY Panda Workman **CHECKED BY** Todd Shibata
AT END OF DRILLING --- None measured
NOTES
AFTER DRILLING 333.83 ft / Elev 2033.65 ft 5-27-09

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		WELL DIAGRAM
0	D 9:45 5/19/09	CL-ML		(CL-ML) Clay with silt, trace medium to coarse grain sand, trace gravel, yellow brown		Well cap and traffic rated vault
5	D 10:06	CL-ML		5.0	2362.5	
				(CL-ML) Clay with silt, trace medium to coarse grain sand, trace gravel, yellow brown		
10	D 10:30	CL		10.0	2357.5	
				(CL) Silty clay, with fine grain sand with trace medium grain sand, yellow brown		
15	D 10:43	CL		15.0	2352.5	
				(CL) Sity clay, some fine grain sand, yellow brown		
20	D 10:58	SM		20.0	2347.5	Blank Casing - 4" Dia. Sch 80 PVC with Flush Threaded Connections
				(SM) Sand, some silt, fine to coarse grain sand, trace fine gravel, light brown ... temporary conductor casing installed from 0-20 feet bgs, open hole drilling from 20 feet bgs to total depth		
25	D 14:44	SM		25.0	2342.5	Cement grout
	D 14:50			(SM) Sand with silt, fine to medium grain sand, light brown ... gravel layer		
30	D 14:59	SM		30.0	2337.5	
				(SM) Sand with silt, fine grain sand, light brown		
35	D 15:06	SM		35.0	2332.5	Cement grout
				(SM) Sand with silt, fine to medium grain sand, trace gravel, light brown		
40	D 15:11	SM		40.0	2327.5	
				(SM) Sand with silt, fine to coarse grain sand, with gravel, light brown ... visible increase in silt content		
45	D 15:40			45.0	2322.5	

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/12/10 16:05 - Z:\QUAZI, KANIZ\GINT\PROJECTS\BADLANDS BH - 23.GPJ

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department **PROJECT NAME** 2009 Groundwater Investigation

PROJECT NUMBER BH - 23 **PROJECT LOCATION** North East Side of Site

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
45					
		SM		(SM) Sand with silt, fine to coarse grain sand, with fine grain gravel, very light brown to white	
50	D 15:48			50.0 2317.5	
		SM		(SM) Sand with silt, fine to coarse grain sand, trace fine gravel, very light brown to white	
55	D 16:02			55.0 2312.5	Bentonite Grout
		SM		(SM) Sand with silt, fine to coarse grain sand, some fine gravel, very light brown to white	
60	D 16:15			60.0 2307.5	
		SM		(SM) Silty sand, fine to coarse grain sand, no gravel, slightly moist, light brown	Blank Casing
65	D 7:53 5/20/09			65.0 2302.5	
		SM		(SM) Silty sand, fine grain sand, slightly moist, light brown	
70	D 8:09			70.0 2297.5	
		SM		(SM) Silty sand, fine to medium grain sand, slightly moist, light brown	
75	D 8:18			75.0 2292.5	
		SM		(SM) Silty sand, fine grain with trace medium grain sand, slightly moist, light brown	Bentonite Grout
80	D 8:29			80.0 2287.5	
		SM		(SM) Silty sand, fine to medium grain sand, slightly moist, light brown	
85	D 9:08			85.0 2282.5	
		SM		(SM) Sand with silt, fine to coarse grain sand, dry, light brown to white	
90	D 9:49			90.0 2277.5	Blank Casing
		SM		(SM) Sand with silt, fine to medium grain sand, dry, light brown to white	
95	D 10:30			95.0 2272.5	
		SM		(SM) Sand with silt, fine to medium grain sand, dry, light brown to white	

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/12/10 16:05 - Z:\QUAZI, KANIZ\GINT\PROJECTS\BADLANDS BH - 23.GPJ

WELL NUMBER BH - 23

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department
PROJECT NAME 2009 Groundwater Investigation
PROJECT NUMBER BH - 23
PROJECT LOCATION North East Side of Site

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
100	D 11:20	SM		(SM) Sand with silt, fine to medium grain sand, dry, light brown to white	
				100.0 2267.5	
		SM		(SM) Sand, some silt, fine to medium grain sand, dry, light brown to white	
105	D 12:05			105.0 2262.5	Bentonite Grout
		SM		(SM) Silty sand, fine grain sand, slightly moist, light brown	
110	D 12:33			110.0 2257.5	
		SM		(SM) Silty sand, fine to medium grain sand, slightly moist, light brown	
115	D 12:44				
120	D 13:02			120.0 2247.5	Bentonite Grout
		SC		(SC) Sand with clay, medium grain sand, slightly moist, light brown	
125	D 14:05			125.0 2242.5	
		CL		(CL) Clay, some medium grain sand, slightly moist, light brown	
130	D 14:10			130.0 2237.5	
		SM		(SM) Silty sand, trace clay, fine grain sand, slightly moist, light brown	
135	D 14:21			135.0 2232.5	
		SC		(SC) Sand with clay, fine grain sand, slightly moist, light brown	Blank Casing
140	D 14:30			140.0 2227.5	
		SC-CL		(SC-CL) Clayey sand - sandy clay, fine grained sand, light brown, slightly moist	
145	D 15:10				

WELL NUMBER BH - 23

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department
PROJECT NAME 2009 Groundwater Investigation
PROJECT NUMBER BH - 23
PROJECT LOCATION North East Side of Site

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
150	D 15:20	SC-CL		(SC-CL) Clayey sand - sandy clay, fine grained sand, light brown, slightly moist	
155				155.0 2212.5	
	D 15:37	CL		(CL) Clay with sand, trace silt, slightly moist, light brown	
160	D 15:57				
165	D 8:43 5/21/09			165.0 2202.5	
		SM		(SM) Silty sand with fine grain gravel, fine grain sand, slightly moist, light brown	Blank Casing
170	D 8:50			170.0 2197.5	
		SM		(SM) Silty sand with fine grain gravel, fine grain sand, dry, light brown	
175	D 9:05			175.0 2192.5	Bentonite Grout
		SM		(SM) Silty sand, fine to medium grain sand, light brown ... trace clay	
180	D 9:20			180.0 2187.5	
		SM		(SM) Silty sand, some clay, trace fine grain gravel, fine to medium grain sand, dry, light brown	
185	D 9:53			185.0 2182.5	
		SM		(SM) Silty sand, some clay, fine to medium grain sand, dry, light brown to white	
190	D 10:18			190.0 2177.5	
		SP-SM		(SP-SM) Sand, trace to some silt, trace fine grain gravel, medium to coarse grain sand, dry, light brown to white	
195	D 10:34				

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/12/10 16:05 - Z:\QUAZI_KANIZ\GINT\PROJECTS\BADLANDS BH - 23.GPJ

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department **PROJECT NAME** 2009 Groundwater Investigation

PROJECT NUMBER BH - 23 **PROJECT LOCATION** North East Side of Site

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
200	D 11:07	SP-SM		(SP-SM) Sand, trace to some silt, trace fine grain gravel, medium to coarse grain sand, dry, light brown to white	Bentonite Grout
205	D 11:45	SP-SM		205.0 2162.5 (SP-SM) Sand, some silt, fine to medium grain sand, dry, light brown to white	
210	D 12:10	SP-SM		210.0 2157.5 (SP-SM) Sand, trace to some silt, medium to coarse grain sand, dry, light brown to white	
215	D 12:47	SP		213.0 2154.5 (SP) Sand, trace silt, medium to coarse grain sand, trace fine grain gravel, dry, light brown to white	Blank Casing
220	D 13:12	SP-SM		220.0 2147.5 (SP-SM) Sand, some silt, fine to medium grain sand, dry, light brown to white	
225	D 13:35	SP-SM		225.0 2142.5 (SP-SM) Sand, some silt, fine to medium grain sand, dry, light brown	
230	D 14:00	SM		230.0 2137.5 (SM) Silty sand, fine to medium grain sand, slightly moist, light brown	
235	D 14:20	SP-SM		235.0 2132.5 (SP-SM) Sand, trace to some silt, fine to medium grain sand, dry, light brown mixed with white	
240	D 14:45	SP		240.0 2127.5 (SP) Sand, trace silt, medium to coarse grain sand, dry, light brown to white	Bentonite Grout
245	D 15:18	SP-SM		245.0 2122.5 (SP-SM) Sand, trace to some silt, fine to medium grain sand, dry, light brown to white	
250	D 15:43	SP		250.0 2117.5 (SP) Sand, trace silt, fine grain sand, dry, light brown to white	

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/12/10 16:05 - Z:\QUAZI, KANIZ\GINT\PROJECTS\BADLANDS BH - 23.GPJ

WELL NUMBER BH - 23

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department **PROJECT NAME** 2009 Groundwater Investigation

PROJECT NUMBER BH - 23 **PROJECT LOCATION** North East Side of Site

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		SP		(SP) Sand, trace silt, fine grain sand, dry, light brown to white	
255	D 16:05			255.0 2112.5	Blank Casing
		SM		(SM) Silty sand, fine to medium grain sand, dry, light brown	
260	D 16:32			260.0 2107.5	
		CL		(CL) Clay, trace to some medium grain sand, dry, brown - red	
265	D 8:03 5/22/09			265.0 2102.5	
		CL		(CL) Clay, trace fine to medium grain sand, low plasticity, dry, brown - red	
270	D 8:27			270.0 2097.5	
		CL		(CL) Clay with fine to medium grain sand, some silt, low plasticity, brown - red	
275	D 8:47			275.0 2092.5	
		SC		(SC) Clayey sand, fine to medium grain sand, low plasticity, dry, yellow brown	
280	D 9:01			280.0 2087.5	
		SM		(SM) Sand with silt, fine to medium grain sand, dry, light brown	
285	D 9:30			285.0 2082.5	Bentonite Grout
		SC-SM		(SC-SM) Sand, fine grain sand, with low plasticity clay, with silt, dry, yellow brown	
290	D 9:47			... fine to medium grain sand	
295	D 10:00			... light brown	Blank Casing
300	D 10:20			300.0 2067.5	
		SM		(SM) Sand with silt, medium grain sand, dry, light brown	Hydrated

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/12/10 16:05 - Z:\QUAZI, KANIZ\GINT\PROJECTS\BADLANDS BH - 23.GPJ

WELL NUMBER BH - 23

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department **PROJECT NAME** 2009 Groundwater Investigation

PROJECT NUMBER BH - 23 **PROJECT LOCATION** North East Side of Site

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
		SM		(SM) Sand with silt, medium grain sand, dry, light brown ... dense, slow drilling rate	Bentonite Chip Seal
305	D 11:08			305.0 2062.5	
				(SP-SM) Sand, some silt, fine to coarse grain sand, dry, light brown	No. 60 Transition Sand from 304' to 309'
310	D 12:08				
315	D 12:33			... fine to coarse grain sand	Filter Pack No. 10/20 Silica Sand
320	D 12:50	SP-SM			
325	D 13:12				
330	D 13:18				
335	D 13:30			▼ - 333.83 ft (bgs) at 5-27-09 ... light brown to yellow brown ... dense, slow drilling	
340	D 14:05	SC-SM		340.0 2027.5 (SC-SM) Sand with silt, with low plasticity clay, fine to coarse grain sand, dry, yellow to red brown	
345	D 14:30	SC		345.0 2022.5 (SC) Sand with low plasticity clay, fine to coarse grain sand, dry, yellow to red brown	
350	D 14:48	CL		350.0 2017.5 (CL) Clay, with fine to coarse grain sand, low plasticity, dry, red	0.02" Slotted Casing 4" Sch 80 PVC with Flush Threaded

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WELL NUMBER BH - 23

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management Department
PROJECT NAME 2009 Groundwater Investigation
PROJECT NUMBER BH - 23
PROJECT LOCATION North East Side of Site

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
355		CL		355.0 (CL) Clay, with fine to coarse grain sand, low plasticity, dry, red 2012.5	Connections
	D 15:00	SC-SM		(SC-SM) Sand with low plasticity clay, with silt, fine to coarse grain sand, dry, red	0.02" Slotted Casing 4" Sch 80 PVC with Flush Threaded Connections
360	D 15:05			360.0 2007.5	
		SP-SM		(SP-SM) Sand, some silt, fine to medium grain sand, dry, yellow to white brown	
365	D 15:30			365.0 2002.5	Silt Sump- Blank Casing
		SM		(SM) Sand with silt, fine to medium grain sand, dry, yellow brown	
370	D 15:40			370.0 1997.5	Bottom Cap Borehole Slough

Drilling completed to 370.0 feet below ground surface (bgs).
Borehole open to 370.0 feet bgs prior to well construction.
No groundwater encountered during drilling.
Sample type number: D = disturbed sample collected from air return cyclone.

WELL NUMBER BH - 24

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management
PROJECT NAME Badlands BH - 24 Shallow Investigation
PROJECT NUMBER BH - 24
PROJECT LOCATION Northeast of the Cycle Park
DATE STARTED 5/27/09 **COMPLETED** 6/3/09
GROUND ELEVATION 2210.81 ft **HOLE SIZE** 10"
DRILLING CONTRACTOR Layne Christensen Company
GROUND WATER LEVELS:
DRILLING METHOD Tricone Air Rotary
AT TIME OF DRILLING --- None measured
LOGGED BY Panda Workman **CHECKED BY** Todd Shibata
AT END OF DRILLING 244.00 ft / Elev 1966.81 ft 6/2/2009
NOTES
AFTER DRILLING 224.00 ft / Elev 1986.81 ft 6/3/2009

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		WELL DIAGRAM
0						
		CL		(CL) Clay, some fine to medium grain sand, low plasticity, some silt, slightly moist, red brown		Well cap and above ground well monument
5	D 16:48			5.0	2205.8	
		CL		(CL) Clay, some fine to medium grain sand, low plasticity, some silt, slightly moist, red brown		
10	D 16:52			10.0	2200.8	Cement grout
		SM		(SM) Silty sand, fine to coarse grain sand, slightly moist, brown		
15	D 16:54			15.0	2195.8	
		SM		(SM) Silty sand, fine to coarse grain sand, with angular fine grain gravel, slightly moist, brown		
20	D 16:56			20.0	2190.8	Blank Casing 4" Dia. Sch 80 PVC with Flush Threaded Connections
		SC		(SC) Clayey sand, fine to coarse grain sand, low plasticity, with angular fine grain gravel, low plasticity, brown		
25	D 11:30 5/28/09			25.0	2185.8	
		SC		(SC) Sand with low plasticity clay, fine to coarse grain sand, moist, brown		
				29.0	2181.8	
30	D 11:35	GP		(GP) Gravel, fine to coarse grain sub-angular gravel, with clay, with fine to coarse grain sand, brown		
				31.0	2179.8	
				INTERLAYERED GP, SC AND CL (GP) Fine to coarse grain sub-angular, poorly graded gravel, with clay, with fine to medium grain sand, moist, brown (SC) Clayey sand, fine to medium grain sand, low plasticity, moist, brown (CL) Clay, some fine to medium grain sand, low plasticity, moist, brown		
35	D 11:45					Cement grout
40	D 11:49					
45	D 12:18			45.0	2165.8	

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WELL NUMBER BH - 24

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management **PROJECT NAME** Badlands BH - 24 Shallow Investigation

PROJECT NUMBER BH - 24 **PROJECT LOCATION** Northeast of the Cycle Park

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
45				(CL) Clay, low plasticity, with fine to coarse grain sand, yellow brown, moist	
50	D 12:20	CL		... interlayered with fine grain, subrounded gravel, from 47-51'	
55	D 12:32			55.0 2155.8	
		SC		(SC) Sand, fine to medium grain sand, with clay and silt, moist, brown to yellow brown	
60	D 12:43			... interlayered with fine grain, subrounded gravel, from 57-60'	Bentonite Grout
65	D 13:01			65.0 2145.8	
		SM		(SM) Sand, fine to medium grain sand, with silt, moist, yellow brown	
70	D 13:12			... interlayered with fine grain, subrounded gravel, from 66 - 69'	Hydrated Bentonite Chip Seal
				70.0 2140.8	
		SC		(SC) Sand, fine to medium grain sand, with clay, moist, yellow brown	
75	D 13:22			... interlayered with fine grain, subrounded gravel, from 74 - 80'	No. 60 Transition Sand from 73.5' to 79.0'
80	D 13:30			81.0 2129.8	
		CL		(CL) Clay, low plasticity, sandy, fine to medium grain, slightly moist, red brown to brown	
85	D 14:01			86.0 2124.8	
		GP		(GP) Gravel, fine grain, subrounded, brown	Filter Pack No. 10/20 Silica Sand
90	D 14:05			... interlayered with fine to medium grain sand with clay, moist, yellow brown	
95	D 14:11				

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WELL NUMBER BH - 24

County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management **PROJECT NAME** Badlands BH - 24 Shallow Investigation

PROJECT NUMBER BH - 24 **PROJECT LOCATION** Northeast of the Cycle Park

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
100	D 14:21	GP		(GP) Gravel, fine grain, subrounded, brown	0.02" Slotted Casing 4" Dia. Sch 80 PVC with Flush Threaded Connections
				101.0 2109.8	
	D 8:10 5/29/09	SP-SM		(SP-SM) Sand, some silt, fine to medium grain, light brown, very moist ... no soil cuttings return, very moist, soil clogged in the hole	
105				... no soil cuttings return from 105' to 115'	
110	D 8:18			... water added to hole to facilitate soil cuttings return	
115	D 9:15			115.0 2095.8	
		GP		(GP) Gravel, subrounded, fine grain, with clay, with fine to medium grain sand, brown ... water in soil cuttings return	
120	D 9:45			120.0 2090.8	Filter Pack
		GP		(GP) Gravel, subrounded, fine grain, with clay, with fine to coarse grain sand, brown	
125	D 9:42			... no sample retrieved, soil/water mixture passes through gravel screen	
130	D 9:47			... no sample retrived, soil/water mixture passes through gravel screen	
135	D 10:02			135.0 2075.8	0.02" Slotted Casing 4" Dia. Sch 80 PVC with Flush Threaded Connections
		SM		(SM) Sand, fine to coarse grain sand, with fine grain gravel, with silt, brown, water in cuttings return	
140	D 10:11			140.0 2070.8	
		SM		(SM) Sand, fine grain, some fine grain gravel, with silt, brown, water in cuttings return	
145	D 10:30			145.0 2065.8	
		GP		(GP) Gravel, fine grain, subangular, with clay, with coarse grain sand, brown, wet	

GENERAL BH / TP / WELL - GINT STD US.GDT - 9/2/10 14:13 - Z:\QUAZI, KANIZ\GINT\PROJECTS\BADLANDS BH - 24.GPJ

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County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management **PROJECT NAME** Badlands BH - 24 Shallow Investigation

PROJECT NUMBER BH - 24 **PROJECT LOCATION** Northeast of the Cycle Park

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION		WELL DIAGRAM
150	D	GP		(GP) Gravel, fine grain, subangular, with clay, with coarse grain sand, brown, wet		
	10:30			150.0	2060.8	Filter Pack
		GP		(GP) Gravel, fine grain, subangular, sandy, fine to coarse grain sand, with clay, brown		
155	D 10:40			155.0	2055.8	
		SC		(SC) Clayey sand, fine to coarse grain sand, trace fine grain gravel, very moist, brown		
160	D			160.0	2050.8	Filter Pack
	10:50	SC		(SC) Sand, fine to coarse grain, with clay, some fine grain gravel, subangular, very moist, brown to yellow brown		
165	D			165.0	2045.8	
	11:22	SM		(SM) Sand, fine grain, with silt, very moist, yellow brown		
170	D			170.0	2040.8	
	11:25	SM		(SM) Sand, fine to medium grain, with silt, very moist, yellow brown		
175	D			175.0	2035.8	0.02" Slotted Casing 4" Dia. Sch 80 PVC with Flush Threaded Connections
	11:30	SC		(SC) Clayey sand, fine to coarse grain, trace gravel, moist, yellow brown to brown		
180	D 11:33			... with clay		
185	D			185.0	2025.8	
	12:00	SC		(SC) Sand, fine to medium grain, with clay, trace fine grain gravel, moist, yellow brown		
190	D			190.0	2020.8	Filter Pack
	12:05	SP-SM		(SP-SM) Sand, fine to medium grain, some silt, moist, yellow brown		
195	D 12:10			... trace fine grain gravel		

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County of Riverside
Waste Management Department

CLIENT Riverside County Waste Management **PROJECT NAME** Badlands BH - 24 Shallow Investigation

PROJECT NUMBER BH - 24 **PROJECT LOCATION** Northeast of the Cycle Park

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
200	D 12:15			(SP-SM) Sand, fine to medium grain, some silt, moist, yellow brown ... fine to coarse grain sand, no gravel	Filter Pack
205	D 12:40	SP-SM		... fine to medium grain sand	
210	D 12:42				
215	D 12:45			215.0 1995.8 (SC) Sand, fine to coarse grain, with clay, trace fine grain gravel, moist, yellow brown	0.02" Slotted Casing 4" Dia. Sch 80 PVC with Flush Threaded Connections
220	D 12:50	SC SP-SC		220.0 1990.8 (SP-SC) Sand, fine to coarse grain, some clay, trace fine grain gravel, moist, yellow brown to brown	
225	D 13:02	SP		225.0 1985.8 (SP) Sand, fine grain sand, moist, yellow brown	
230	D 13:10				
235	D 13:17				Filter Pack
240	D 13:25	SM		240.0 1970.8 (SM) Silty sand, fine grain, moist, gray brown	
245	D 13:39	SP		245.0 1965.8 (SP) Sand, fine grain, trace silt, moist, yellow brown	
250	D 11:46			250.0 1960.8 (SP-SM) Sand, some silt, moist, yellow brown to yellow	0.02" Slotted

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County of Riverside
Waste Management Department

WELL NUMBER BH - 24

CLIENT Riverside County Waste Management
PROJECT NAME Badlands BH - 24 Shallow Investigation
PROJECT NUMBER BH - 24
PROJECT LOCATION Northeast of the Cycle Park

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
255	D 13:52	SP-SM		(SP-SM) Sand, some silt, moist, yellow brown to yellow	Casing 4" Dia. Sch 80 PVC with Flush Threaded Connections
260	D 14:08			260.0 1950.8	
		SC		(SC) Sand, fine grain, with clay, moist, red-yellow	
265				... no soil cuttings return	
270	D 14:50			270.0 1940.8	Filter Pack
		GP		(GP) Gravel, fine grain, with fine to coarse grain sand, with clay, moist, brown	
				272.5 1938.3	
	D 14:58	SP-SM		(SP-SM) Sand, fine to coarse grain, some silt, with trace fine grain gravel, moist, brown	
275				275.0 1935.8	
		GP		(GP) Gravel, fine grain, subangular, with medium to coarse grain sand, with clay, moist, brown	Silt Sump-Blank Casing
	D 15:03				Bottom cap
280				280.0 1930.8	Borehole Slough

Drilling completed to 280.0 feet below ground surface (bgs).
Borehole open to 280.0 feet bgs prior to well construction.
Sample type number: D = disturbed sample collected from air return cyclone.

Riverside County Board of Supervisors
Request to Speak

Submit request to Clerk of Board (right of podium), Speakers are entitled to three (3) minutes, subject to Board Rules listed on the reverse side of this form.

SPEAKER'S NAME: Holmstrom, B.

Address: _____
(only if follow-up mail response requested)

City: _____ **Zip:** _____

Phone #: _____

Date: _____ **Agenda #** 12-1C

PLEASE STATE YOUR POSITION BELOW:

Position on "Regular" (non-appealed) Agenda Item:

_____**Support** _____**Oppose** _____**Neutral**

Note: If you are here for an agenda item that is filed for "Appeal", please state separately your position on the appeal below:

_____**Support** _____**Oppose** _____**Neutral**

I give my 3 minutes to: _____

BOARD RULES

Requests to Address Board on "Agenda" Items:

You may request to be heard on a published agenda item. Requests to be heard must be submitted to the Clerk of the Board before the scheduled meeting time.

Requests to Address Board on items that are "NOT" on the Agenda:

Notwithstanding any other provisions of these rules, member of the public shall have the right to address the Board during the mid-morning "Oral Communications" segment of the published agenda. Said purpose for address must pertain to issues which are under the direct jurisdiction of the Board of Supervisors. YOUR TIME WILL BE LIMITED TO THREE (3) MINUTES.

Power Point Presentations/Printed Material:

Speakers who intend to conduct a formalized Power Point presentation or provide printed material must notify the Clerk of the Board's Office by 12 noon on the Monday preceding the Tuesday Board meeting, insuring that the Clerk's Office has sufficient copies of all printed materials and at least one (1) copy of the Power Point CD. Copies of printed material given to the Clerk (by Monday noon deadline) will be provided to each Supervisor. If you have the need to use the overhead "Elmo" projector at the Board meeting, please insure your material is clear and with proper contrast, notifying the Clerk well ahead of the meeting, of your intent to use the Elmo.

Individual Speaker Limits:

Individual speakers are limited to a maximum of three (3) minutes. Please step up to the podium when the Chairman calls your name and begin speaking immediately. Pull the microphone to your mouth so that the Board, audience, and audio recording system hear you clearly. Once you start speaking, the "green" podium light will light. The "yellow" light will come on when you have one (1) minute remaining. When you have 30 seconds remaining, the "yellow" light will begin flash, indicating you must quickly wrap up your comments. Your time is up when the "red" light flashes. The Chairman adheres to a strict three (3) minutes per speaker. ***Note: If you intend to give your time to a "Group/Organized Presentation", please state so clearly at the very bottom of the reverse side of this form.***

Group/Organized Presentations:

Group/organized presentations with more than one (1) speaker will be limited to nine (9) minutes at the Chairman's discretion. The organizer of the presentation will automatically receive the first three (3) minutes, with the remaining six (6) minutes relinquished by other speakers, as requested by them on a completed "Request to Speak" form, and clearly indicated at the front bottom of the form.

Addressing the Board & Acknowledgement by Chairman:

The Chairman will determine what order the speakers will address the Board, and will call on all speakers in pairs. The first speaker should immediately step to the podium and begin addressing the Board. The second speaker should take up a position in one of the chamber aisles in order to quickly step up to the podium after the preceding speaker. This is to afford an efficient and timely Board meeting, giving all attendees the opportunity to make their case. Speakers are prohibited from making personal attacks, and/or using coarse, crude, profane or vulgar language while speaking to the Board members, staff, the general public and/or meeting participants. Such behavior, at the discretion of the Board Chairman may result in removal from the Board Chambers by Sheriff Deputies.