1R - 427-172

WORKPLANS

Date:
6-29-10

ARCADIS
Infrastructure, environment, buildings

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Environmental

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Mr. Ed Hansen
New Mexico Energy, Minerals, & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Date:
June 29, 2010

Contact:
Sharon E. Hall

Phone:
432 687-5400

Email:
shall@arcadis-us.com

Our ref:
MT000834.0001

Subject:

Corrective Action Plan
NMOCD Case #1R427-172
Eunice Monument Eumont (EME) SWD Gaither Boot
T19S, R36E, Section ~~43~~ 34, Unit I, Eunice, Lea County, New Mexico

Mr. Hansen:

On behalf of Rice Operating Company (ROC), ARCADIS U.S., Inc. (ARCADIS) respectfully submits this Corrective Action Plan (CAP) for the above-referenced site.

BACKGROUND

As requested in your September 4, 2008 email approval of the Additional Site Investigation Work Plan dated August 20, 2008, ARCADIS submitted the additional investigation results on behalf of Rice Operating Company (ROC) on November 4, 2008.

An upgradient monitor well was drilled on October 6, 2008 approximately 30 feet northwest of the former junction box location. The purpose of drilling this well was to identify if upgradient chloride impacts were present. Elevated chloride concentrations have been reported in this area since the 1950's.

As approved by NMOCD, if the background quality of the upgradient monitor well is similar to the downgradient well analytical results, a chloride mass removal work plan would be submitted to NMOCD. As this is the case, on behalf of ROC, I am submitting this CAP that includes an estimation of chloride mass that may have impacted this site and a plan for the removal of the estimated chloride mass.

CORRECTIVE ACTION PLAN

This CAP provides an estimation of the chloride mass that may have contributed to groundwater impacts at the former junction box location, and a plan for the removal of that chloride mass.

ROC proposes to remove chloride impacted groundwater at Gaither Boot using an existing groundwater recovery system at EME L-6 Boot (located approximately 3 miles southeast of Gaither Boot) site to maximize environmental benefit of the chloride mass removal effort. Our estimate conservatively reflects the net impact to groundwater at the site resulting from the former junction box. It does not take into account other sources or regional groundwater conditions. Impacted groundwater conditions are documented in this area since the 1950's (Ground-Water Report 6; Geology and Ground-Water Conditions in Southern Lea County, New Mexico; Alexander Nicholson, Jr. and Alfred Clebsch, Jr., U.S. Geological Survey in cooperation with the State Bureau of Mines and Mineral Resources Division of the New Mexico Institute of Mining and Technology and with the State engineer).

The following worst-case scenario estimate of chloride mass was calculated based on mass balance equations which are explained as follows:

Estimate of chloride mass in vadose zone

The estimated area of chloride impacts to soil is 1,200 square feet (30x40 ft). The thickness of the vadose zone is 47.5 feet, based on the average measured depth to groundwater below top of casing averaged in monitoring wells MW-1 and MW-2. The total area multiplied by the vadose zone thickness results in a total volume of 57,000 cubic feet (ft^3). Estimating the mass of the vadose zone at 100 pounds per cubic feet (lb/ft^3) corresponds to approximately 45.4 kilogram per cubic feet (kg/ft^3). Multiplying that factor by the volume of the impacted vadose zone results in weight of 2,587,800 kilogram (kg). The net difference between the average chloride concentrations in soil boring SB-1 (1,350 milligram per kilogram (mg/kg)) highest concentration observed inside the impact area, and average chloride concentration in soil boring SB-2 (208 mg/kg) observed outside the impact area was calculated. This net difference (1,142 mg/kg) is a conservative estimate of the chloride concentration in the vadose zone contributed by the former junction box. This chloride concentration multiplied by the mass of the vadose zone beneath the former junction box results in a chloride mass of 2,955 kg in the vadose zone. These calculations are shown in the following table.

Estimate of Chloride Mass in Vadose Zone:

Vadose Zone			
Parameter	**Unit**	**Value**	**Description**
Release Area	ft^2	1,200	Estimated Area of Plume
Vadose Zone Thickness	ft	47.5	Monitor Wells (MW-1 and MW-2) Average Depth to Water
Volume of Impacted Vadose Zone	ft^3	57,000	Release Area x Vadose Zone Thickness
Mass of Impacted Vadose Zone	kg	2,587,800	Volume of Impacted Vadose Zone x Mass Density (1 ft^3 of soil weighs ~45.4 kg or 100 lb/ft^3)
Chloride Concentration Added to Soil From Source	mg/kg	1,142	Difference between average soil concentrations in Soil Borings (SB-1 - SB-2)
Total Chloride Mass	**kg**	**2,955**	Mass of Impacted Vadose Zone x Chloride Concentration Added to Soil From Source

Estimate of chloride mass in groundwater

The approach for estimating the chloride mass in the groundwater is similar to that estimated for the vadose zone above. Again, an area of 1,200 ft^2 is the estimated area of impact. The aquifer thickness is estimated to be 16 ft (depth to water table at approximately 47 ft below ground surface (ft bgs) subtracted from aquifer bottom estimated at approximately 63 ft bgs). The total area multiplied by the thickness of the aquifer and its porosity (0.25) results in a saturated pore space volume of 4,800 cubic ft (ft^3) or 135,921 liters (L). The net difference between monitoring well MW-1 average chloride concentration (2,650 milligrams per liter (mg/L)) observed near the "source" and monitoring well MW-2 average chloride concentration (1,275 mg/L) observed upgradient was calculated. This net difference (1,375 mg/L) is conservatively presumed to be the chloride concentration in groundwater contributed by the former junction box. This chloride concentration multiplied by the saturated pore space volume results in a chloride mass of 189 kilograms (kg). These calculations are shown in the following table:

Estimate of Chloride Mass in Groundwater:

Groundwater			
Parameter	**Unit**	**Value**	**Description**
Release Area	ft^2	1,200	Estimated Area of Plume
Aquifer Thickness	ft	16	Monitor Well (MW-1 and MW-2) Boring Logs
Porosity	%	0.25	Professional estimate for water saturated pore volume
Volume of Impacted Groundwater Below Site	ft^3	4,800	Release Area x Aquifer Thickness x Porosity
Volume of Impacted Groundwater Below Site	L	135,921	Conversion from ft^3 to Liter
Chloride Concentration Added to Soil From Source	mg/L	1375	Difference between average concentration in Monitor Wells (MW-1 and MW-2)
Total Chloride Mass	**kg**	**189**	Volume of Impacted Groundwater Below Site x Chloride Concentration Added to Soil from Source

Estimate of Groundwater Recovery System Removal

The combined estimated chloride mass in soil and groundwater results in a representative chloride mass of 3,144 kg.

The groundwater recovery system located at EME L-6 Boot, extracting water with chloride concentration of 11,200 mg/L, could extract about 61.1 kg/day, assuming an average pumping rate of 1 gallon per minute (gpm) can be achieved. At that rate, it would take approximately 52 days and the equivalent of 1,660 barrels to remove 3,144 kg of chloride mass. These calculations are shown in the following table:

Estimated Groundwater Recovery System Removal:

Groundwater Recovery System Removal			
Parameter	**Unit**	**Value**	**Description**
Groundwater Concentration	mg/L	11,200	Groundwater Concentration from Recovery Wells at EME L-6 Boot
Groundwater Concentration	kg/gal	0.0424	Conversion from mg/L to kg/gal
Pumping Rate	gal/min	1	Given
Extraction Rate	kg/min	0.0424	Pumping Rate x groundwater concentration (kg/gal)
Extraction Rate	kg/day	61.1	Conversion from kg/min to kg/day
Representative Total Chloride Mass	kg	3,144	From above
Volume Removal	gal	69,705	Pumping Rate x Estimated Removal Time x 60 min/hour x 24 hour/day
Volume Removal	bbl	1,660	Conversion from gal to bbl
Estimated Removal Time	**day**	**52**	Representative Total Chloride Mass / Extraction Rate

The design and specifications of the groundwater recovery system include a recovery well submersible pump capable of discharging at a minimum of 1 gpm. Water from the recovery well will be utilized in pipeline and well maintenance operations.

ROC is the service provider (agent) for the EME Salt Water Disposal (SWD) System and has no ownership of any portion of pipeline, well or facility. The EME SWD System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this proposed chloride mass removalfor this site. If you have any questions, do not hesitate to contact me or Hack Conder.

Sincerely,
ARCADIS U.S., Inc.

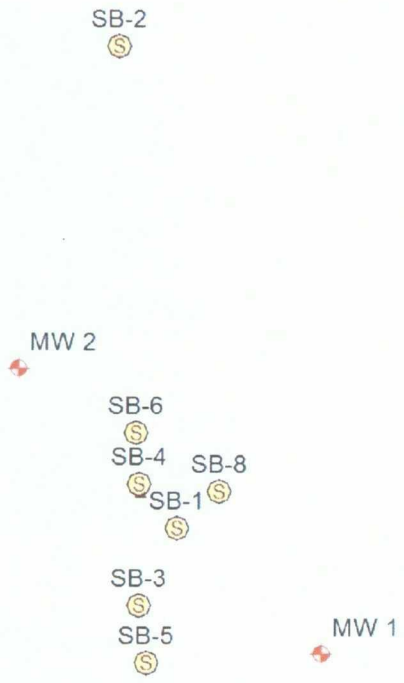
Sharon E. Hall
Associate Vice President

Copies:

Hack Conder, ROC
Marvin Burrows, ROC

Attachments:
Figures 1, 2 and 3
Soil Boring Logs

Soil Data



SB-1

Depth	Cl-	LAB
5	340	
10	692	
15	1234	
20	2450	
25	1921	
30	1529	
35	1285	1490

SB-2

Depth	Cl-	LAB
5	528	
10	285	
15	159	57.6
20	139	
25	111	
30	114	
35	117	101

SB-3

Depth	Cl-	LAB
5	547	
10	592	
15	1084	
20	1500	
25	752	
30	625	
35	307	
40	436	
45	150	418
50	171	
55	459	

SB-4

Depth	Cl-	LAB
5	37	
10	675	
15	2073	
20	1534	
25	861	
30	789	
35	783	
40	629	
45	393	
50	320	419
55	614	

SB-5

Depth	Cl-	LAB
5	568	
10	543	
15	760	896
20	592	
25	515	
30	664	
35	634	
40	422	
45	701	
50	395	784

SB-6

Depth	Cl-	LAB
5	335	
10	403	384
15	314	
20	266	
25	311	
30	58	48

SB-7

Depth	Cl-
5	311
10	535
15	228
20	328
25	181
30	308

SB-8

Depth	Cl-
5	786
10	1254
15	892
20	712
25	1215
30	672
35	679
40	554
45	449
50	332
55	525

SB-9

Depth	Cl-
5	331
10	494
15	286
20	223
25	225
30	315

MW-1

Depth	Cl-	LAB
10	753	432
45	502	432

MW-2

Depth	Cl-	LAB
5	629	
10	412	
15	845	
20	1032	
25	1269	1250
30	375	
35	344	
40	475	
45	343	
50	312	224

RICE ENVIRONMENTAL COMPANY REC

EME Gaither boot

Legals: UL/I sec. 34
T19S R36E
NMOCD Case #: 1R427-172

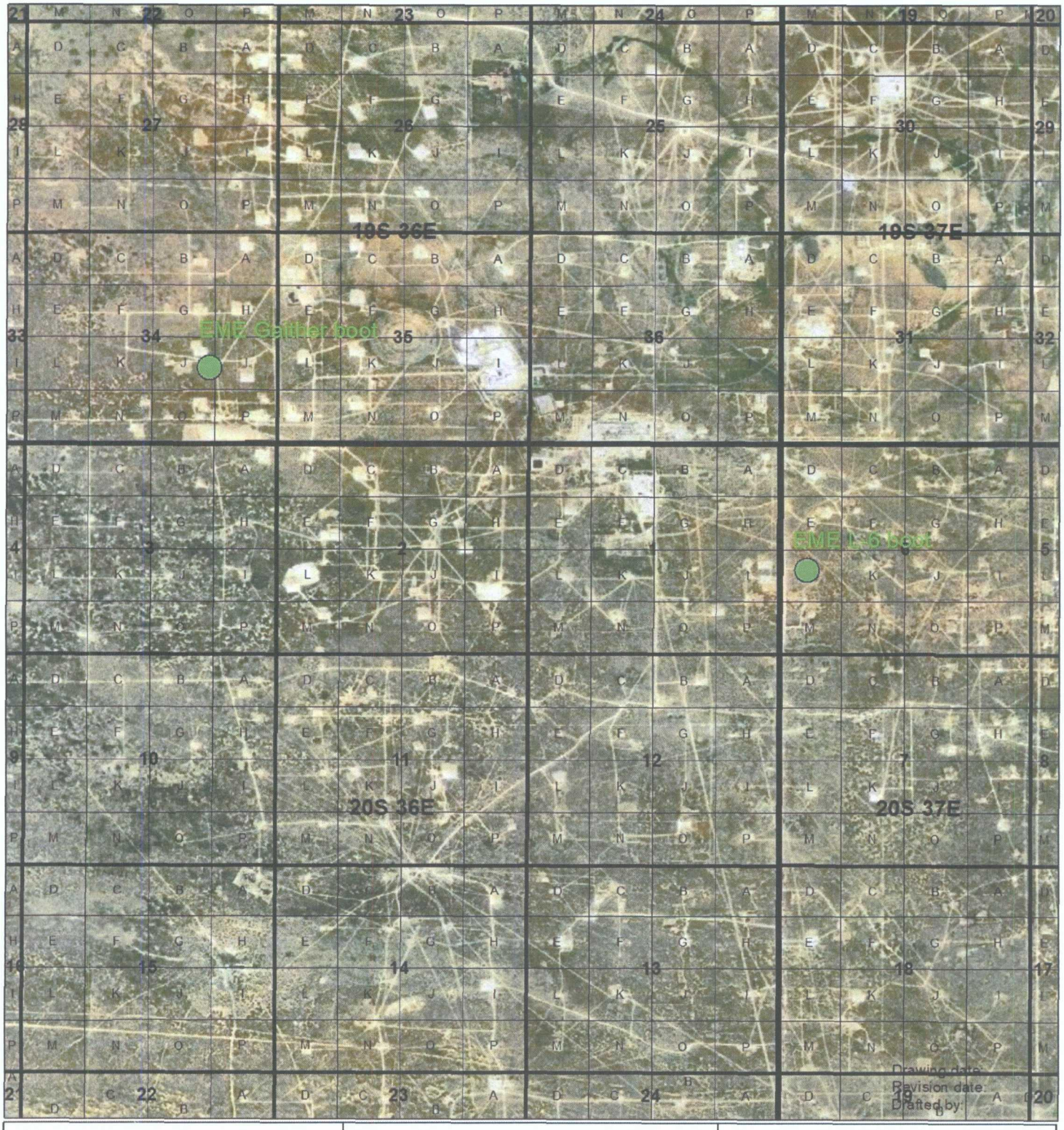
FIGURE 1

N W E S

0 5 10 20 Feet

Drawing date: 6-25-10
Drafted by: L. Weinheimer

EME Gaither boot to EME L-6 boot



RICE ENVIRONMENTAL COMPANY

REC

Gaither boot
Legals: UL/I sec. 34 T19S R36E
NMOCD Case #: 1R427-172

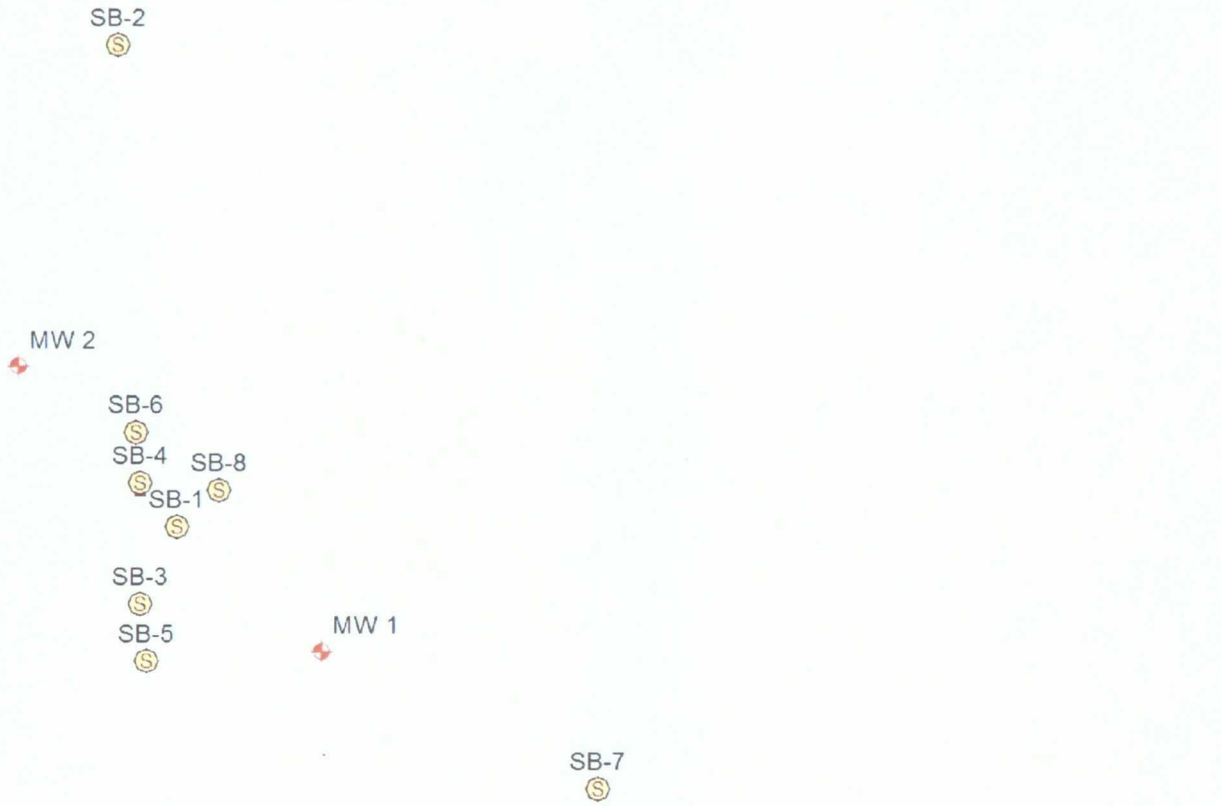
EME L-6 boot
Legals: UL/L sec. 6 T20S R37E

FIGURE 2

N
W E
S

0 1,500 3,000 6,000
Feet

MW Sampling Data



MW#	Depth to Water	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
1	47.27	6/3/2009	2900	5840	<0.001	<0.001	<0.001	<0.003	304
1	47.34	9/1/2009	2750	5660	<0.001	<0.001	<0.001	<0.003	315
1	47.49	11/13/2009	2650	4690	<0.001	<0.001	<0.001	<0.003	290
1	47.61	3/2/2010	2300	4680	<0.001	<0.001	<0.001	<0.003	458

MW#	Depth to Water	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
2	47.54	6/3/2009	1700	3270	<0.001	<0.001	<0.001	<0.003	246
2	47.6	9/1/2009	2250	5390	<0.001	<0.001	<0.001	<0.003	127
2	47.74	11/13/2009	1480	2810	<0.001	<0.001	<0.001	<0.003	199
2	47.88	3/2/2010	1470	3210	<0.001	<0.001	<0.001	<0.003	316

RICE ENVIRONMENTAL COMPANY REC

EME Gaither boot

Legals: UL/I sec. 34
T19S R36E
NMOCD Case #: 1R427-172

FIGURE 3

N W E S

0 5 10 20 Feet

Drawing date: 6-25-10
Drafted by: L. Weinheimer

BORING LOG

BORING NO. SB-1

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432 687-5400 Fax: 432 687-5401

PROJECT NUMBER:	MT000910.0001	DRILLING CO:	Atkins
CLIENT NAME:	Rice Operating Company	DRILLING METHOD:	HSA
PROJECT NAME:	Eunice Monument Eumont SWD Gaither Boot	DRILLER:	M. Bates
SITE LOCATION:	Lea County, New Mexico	LOGGER:	R. Lang
UNIQUE NUMBER:	31-014-00905 FILE NAME: SB-1.dat	DATE BEGUN:	11/27/07 DATE COMPLETED: 11/27/07

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	PID READING	CHLORIDES	LITHOLOGY	DESCRIPTION
0									
-5		Split Spoon			0.4	0.0	340		SANDSTONE: 2.5YR 4/6 red and 2.5YR 8/1 white, fine grained, subangular, fill material.
-10		Split Spoon			0.8	0.6	692		SANDSTONE: 2.5YR 6/8 light red, fine to medium grained, fair sorting, soft, backfill.
-15		Split Spoon			1.8	0.0	1234		SANDSTONE: 2.5YR 8/3 pink, fine to medium grained, well rounded to subrounded, fair sorting, soft.
-20		Split Spoon			2.0	0.0	2450		SANDSTONE: 2.5YR 7/6 light red, fine to medium grained, well rounded to subrounded, fair sorting, soft, some black grains.
-25		Shovel			0.2	0.7	1921		NOTE: At -26.0' switched to drilling with air because of lack of recovery.
-30		Shovel			NR	0.0	1528		
-35		Shovel			NR	0.0	1284		NOTE: At -35.0' - -40.0' lost circulation with air; no recovery -35.0' - -40.0'.
-40					NR				

BORING LOG

BORING NO. SB-2

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432 687-5400 Fax: 432 687-5401

PROJECT NUMBER: MT000910.0001
CLIENT NAME: Rice Operating Company
PROJECT NAME: Eunice Monument Eumont SWD Gaither Boot
SITE LOCATION: Lea County, New Mexico
UNIQUE NUMBER: 31-014-00906 FILE NAME: SB-2.dat

DRILLING CO: Atkins
DRILLING METHOD: HSA
DRILLER: M. Bates
LOGGER: R. Lang
DATE BEGUN: 11/27/07 DATE COMPLETED: 11/27/07

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	PID READING	CHLORIDES	LITHOLOGY	DESCRIPTION
0									
-5		Shovel				1.0	528		SANDSTONE: 7.5YR 8/3 pink, fine grained, subangular, well sorted, soft, dry.
-10		Shovel				0.0	285		
-15		Shovel				0.6	159		SANDSTONE: 5YR 7/4 pink, fine to medium grained, subrounded to well rounded, fair sorting, soft, moist.
-20		Shovel				0.0	139		
-25		Shovel				0.0	111		
-30		Shovel				0.0	114		
-35		Shovel				0.0	117		

BORING LOG

BORING NO. SB-3

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432 687-5400 Fax: 432 687-5401

PROJECT NUMBER: MT000910.0001
CLIENT NAME: Rice Operating Company
PROJECT NAME: Eunice Monument Eumont SWD Gaither Boot
SITE LOCATION: Lea County, New Mexico
UNIQUE NUMBER: 31-014-00907 FILE NAME: SB-3.dat

DRILLING CO: Atkins
DRILLING METHOD: HSA
DRILLER: M. Bates
LOGGER: R. Lang
DATE BEGUN: 11/27/07 DATE COMPLETED: 11/27/07

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	PID READING	CHLORIDES	LITHOLOGY	DESCRIPTION
0									
-5		SC				0.0	347		SANDSTONE: 2.5YR 8/1 white, fine grained, subangular, fair sorting, very soft, CALICHE cement, feldspathic black grains.
-10		SC				0.0	592		
-15		SC				0.0	1083		
-20		SC				0.0	1500		
-25		SC				0.0	792		SANDSTONE: 5YR 8/4 pink, medium to fine grained, well rounded to subrounded, fair sorting, very soft.
-30		SC				0.0	625		
-35		SC				0.0	307		
-40		SC				0.0	436		
-45		SC				0.0	150		
-50		SC				0.0	171		
-55		SC				0.0	459		SANDSTONE: 10R 6/8 light red, SILT to medium grained, subangular to well rounded, poorly sorted, soft, argillaceous.

BORING LOG

BORING NO. SB-4

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432 687-5400 Fax: 432 687-5401

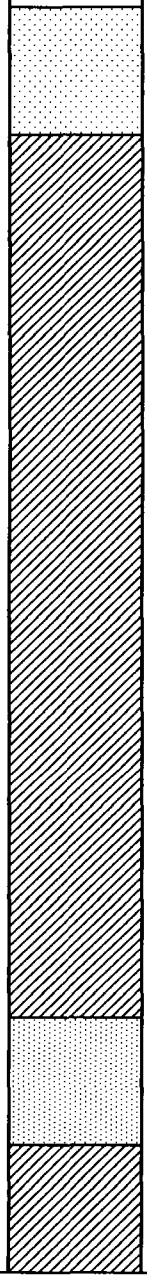
PROJECT NUMBER:	MT000910.0001	DRILLING CO:	Atkins
CLIENT NAME:	Rice Operating Company	DRILLING METHOD:	HSA
PROJECT NAME:	Eunice Monument Eumont SWD Gaither Boot	DRILLER:	M. Bates
SITE LOCATION:	Lea County, New Mexico	LOGGER:	R. Lang
UNIQUE NUMBER:	31-014-00908 FILE NAME: SB-4.dat	DATE BEGUN:	11/27/07 DATE COMPLETED: 11/27/07

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	PID READING	CHLORIDES	LITHOLOGY	DESCRIPTION
0									
-5						0.0	364		SANDSTONE: 5YR 8/4 pink, medium to fine grained, subrounded to subangular, poorly sorted, soft.
-10						0.0	675		
-15						0.0	2073		SANDSTONE: 5YR 8/4 pink, medium to fine grained, fair sorting, very soft, contains CALICHE.
-20						0.0	1534		
-25						0.0	862		
-30						0.0	789		
-35						0.0	784		
-40						0.0	629		
-45						0.0	393		
-50						0.0	320		SANDSTONE: 10R 6/6 light red, SILT to medium grained SAND, subangular to well rounded, poorly sorted, feldspathic.
-55						0.0	614		GRAVEL: multicolored, broken CHERT fragments, encountered water at approximately -52.0' in hole. Water level -44.59'.

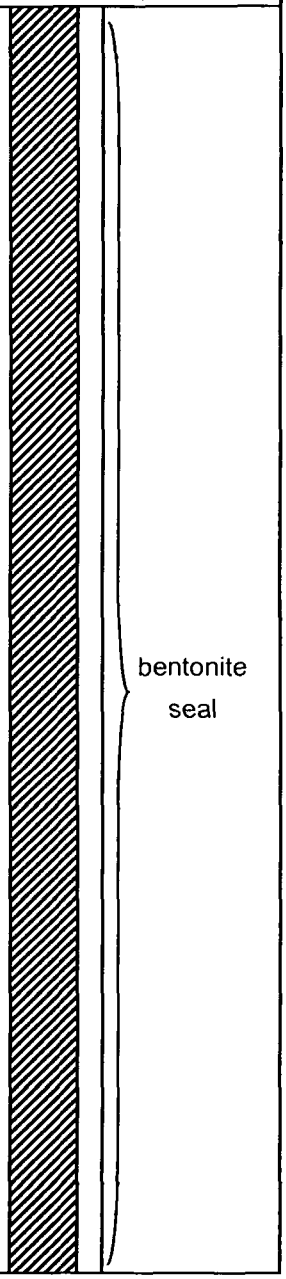
Logger:	Lara Weinheimer	**Client:**	**Well ID:**
Driller:	Atkins Drilling	RICE Operating Company	
Drilling Method:	Split spoon	**Project Name:**	
Start Date:	11-30-07	EME Gaither boot	
End Date:	11-30-07	**Location:**	SB - 5
Comments: Located 15 ft south of source of frmr jct. box site TD = 50 ft GW = 51 ft		EME SWD System unit 'I' Sec.34 T19S, R36E Lea County, NM	

Depth (feet)	chloride field tests	PID	Description
			0 - 5 ft
			VERY FINE TO MEDIUM SAND
5	568		orangy-brown, dry
10	543		
			5 -25 ft
			VERY FINE TO FINE SAND
15	760	8.5	some caliche, brown, dry
20	592	3.7	
25	515	1.4	
			25 - 30 ft
			VERY FINE TO FINE SAND
30	664	1.2	brown, dry
			30 - 35 ft
			VERY FINE TO FINE SAND
35	634	1.1	light brown, dry
			35 - 40 ft
			VERY FINE TO FINE SAND
40	422		some clay, brown, dry
			40 - 45 ft
			FINE TO MEDIUM SAND
45	701		light brown, dry
			45 - 50 ft
			VERY FINE TO FINE SAND
50	395		light brown, dry

Lithology

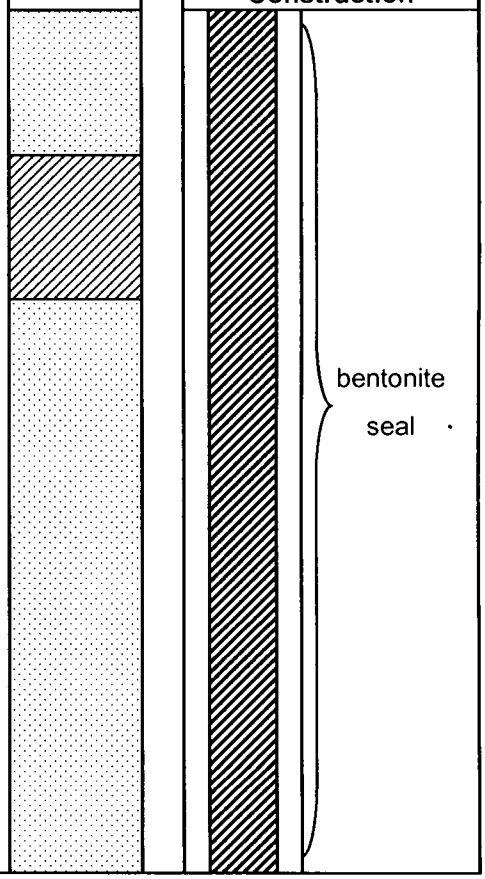


Soil Bore Construction



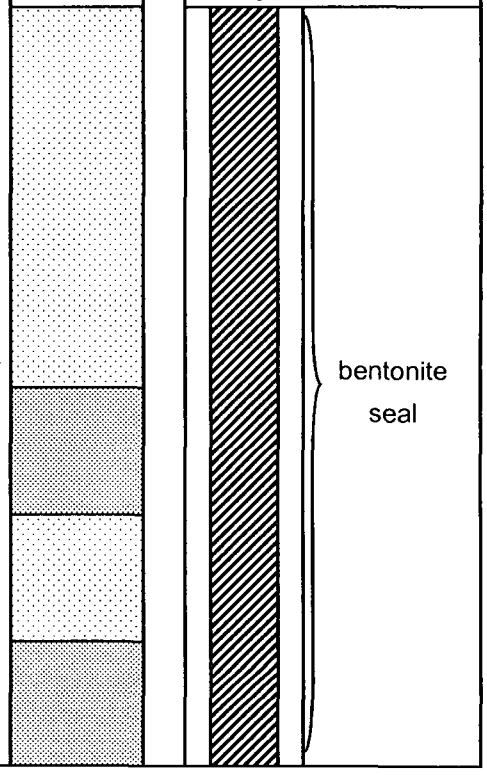
Logger:	Lara Weinheimer	**Client:**	**Well ID:**
Driller:	Atkins Drilling	RICE Operating Company	
Drilling Method:	Split spoon	**Project Name:**	
Start Date:	11-30-07	EME Gaither boot	
End Date:	11-30-07	**Location:**	SB - 6
Comments: Located 5 ft north of frmr jct. box site TD = 50 ft GW = 51 ft		EME SWD System unit 'I' Sec.34 T19S, R36E Lea County, NM	

Depth (feet)	chloride field tests	PID	Description
			0 - 5 ft
			VERY FINE TO FINE SAND
5	335		some caliche, brown, dry
			5 - 10 ft
			VERY FINE TO MEDIUM SAND
10	403		brown, dry
			10 - 30 ft
			VERY FINE TO FINE SAND
15	314	3.8	some rock, light brown, dry
20	266		
25	311		
30	58		



Logger:	Lara Weinheimer	**Client:**	**Well ID:**
Driller:	Harrison & Cooper Drilling	RICE Operating Company	
Drilling Method:	Split spoon	**Project Name:**	
Start Date:	12-20-07	EME Gaither boot	
End Date:	12-20-07	**Location:**	SB - 7
Comments: Located 46 ft at 110° of N from frmr. jct. box site TD = 30 ft GW = 55 ft		EME SWD System unit 'I' Sec.34 T19S, R36E Lea County, NM	

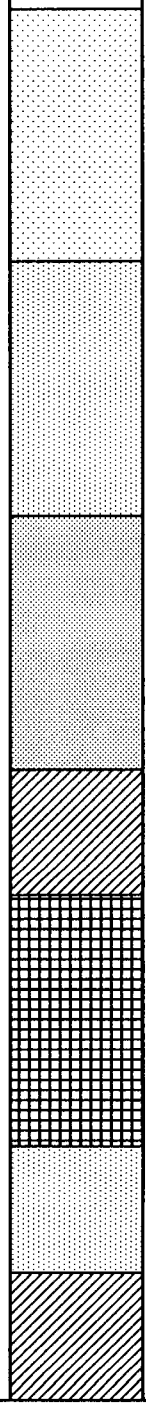
Depth (feet)	chloride field tests	PID	Description
			0 - 5 ft
			VERY FINE TO FINE SAND
5	311	0.4	some rock, light brown, dry
			5 - 15 ft
10	535	0	VERY FINE TO FINE SAND
			light brown, dry
15	228	0	
			15 - 20 ft
			VERY FINE TO FINE SAND AND CALICHE
20	328	0	light brown, dry
			20 - 25 ft
			VERY FINE TO FINE SAND
25	181	0	some rock, light brown, dry
			25 - 30 ft
			VERY FINE TO FINE SAND AND CALICHE
30	308	0	light brown, dry



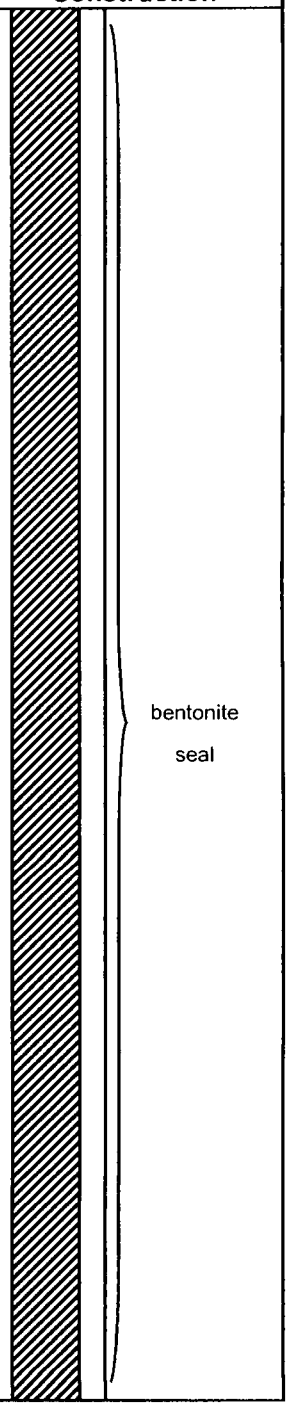
Logger:	Lara Weinheimer	**Client:**	**Well ID:**
Driller:	Harrison & Cooper Drilling	RICE Operating Company	
Drilling Method:	Split spoon 0-15 ft, cuttings 20-55ft	**Project Name:**	
Start Date:	12-20-07	EME Gaither boot	
End Date:	12-20-07	**Location:**	SB - 8
Comments: Located 6 ft east of frmr. jct. box site TD = 55 ft GW = 55 ft		EME SWD System unit 'I' Sec.34 T19S, R36E Lea County, NM	

Depth (feet)	chloride field tests	PID	Description
			0 - 10 ft VERY FINE TO MEDIUM SAND some rock, light brown, dry
5	786	0	
10	1254	0	
			10 - 20 ft VERY FINE TO FINE SAND some rock, light brown, dry
15	892	0	
20	712	—	
			20 - 30 ft VERY FINE TO FINE SAND WITH CALICHE light brown, dry
25	1215	—	
30	672	0	
			30 - 35 ft FINE TO MEDIUM SAND some rock, dark tan, dry
35	679	—	
			35 - 45 ft FINE TO COARSE SAND some rock, light brown, slightly moist
40	554	—	
45	449	0	
			45 - 50 ft VERY FINE TO FINE SAND some rock, light brown, slightly moist
50	332	—	
			50 - 55 ft FINE TO MEDIUM SAND some rock, reddish-brown, slightly moist
55	525	—	

Lithology



Soil Bore Construction



Logger:	Lara Weinheimer	**Client:** RICE Operating Company	**Well ID:** SB - 9
Driller:	Harrison & Cooper Drilling		
Drilling Method:	Air Rotary	**Project Name:** EME Gaither boot	
Start Date:	12-21-07		
End Date:	12-21-07	**Location:** EME SWD System unit 'I' Sec.34 T19S, R36E Lea County, NM	
Comments: Located 99 ft at 290° of N to frmr. jct. box site TD = 30 ft GW = 55 ft			

Depth (feet)	chloride field tests	PID	Description
			0 - 5 ft
			VERY FINE TO FINE SAND
5	331	2.3	some rock, light brown, dry
			5 - 10 ft
			VERY FINE TO FINE SAND
10	494	40.9	some rock, reddish-brown, dry
			10 - 15 ft
			VERY FINE TO FINE SAND
15	286	36.1	some rock, light brown, dry
			15 - 20 ft
			VERY FINE TO FINE SAND
20	223	14.2	reddish-brown, dry
			20 - 30 ft
25	225	7.2	VERY FINE TO FINE SAND
			some rock, light brown, dry
30	315	5.8	

Lithology

Soil Bore Construction

bentonite seal

Hansen, Edward J., EMNRD

From: Katie Jones [kjones@riceswd.com]
Sent: Friday, July 16, 2010 8:18 AM
To: Hansen, Edward J., EMNRD
Cc: Hack Conder; Hall, Sharon
Subject: EME Gaither boot CAP Addendum (1R427-172)

Mr. Hansen,

The following is an addendum to EME Gaither boot (1R427-172) Corrective Action Plan (CAP) submitted to NMOCD on 6/30/2010. The following paragraph should be included between paragraph one and two on page 5. If you need any other information, please contact me or Hack Conder.

"Surface restoration activities at this site will be performed as follows. Current overburden will be scraped to an approximate depth of six (6) inches to one (1) ft below ground surface (bgs). All scraped soil will be properly disposed at an NMOCD approved facility. Clean, imported soil will be blended with the appropriate amendments and returned to the scraped area. The disturbed area will then be seeded with native vegetation and monitored for growth."

Thank you.

Katie Jones
Environmental Project Coordinator
RICE Operating Company