

1R - 427-162

WORKPLANS

Date:

7-7-11

Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

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CERTIFIED MAIL

RETURN RECEIPT NO. 7008 1140 0001 3070 5795

July 7th, 2011

Mr. Edward Hansen

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

**RE: ICP Report and Corrective Action Plan (CAP)
Rice Operating Company – EME SWD System
EME jct. G-18 (1R427-162): UL/G sec. 18 T19S R37E**

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the EME Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the EME SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage/usage basis.

Background and Previous Work

The site is located approximately 3 miles north-west of Monument, New Mexico at UL/G sec. 18 T19S R37E as shown on the Site Location Map (Figure 1). NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 52 +/-feet, and after three quarters of monitor well sampling completed at the site, depth to groundwater has been determined to be 54 ft.

In 2004, ROC initiated work on the former EME G-18 junction box. The site was delineated using a backhoe and soil samples were screened at regular intervals for both hydrocarbons and chlorides. The excavation reached dimensions of 20 x 18 x 12 feet below ground surface (bgs) where composite samples were collected for laboratory verification. Laboratory tests of the site showed gasoline range organics (GRO) readings of 392 mg/kg in the 4-wall composite, 939 mg/kg in the bottom composite, and 302 mg/kg in the remediated backfill. Diesel range organics (DRO) ranged from 2690 mg/kg in the 4-wall composite, 6520 mg/kg in the bottom composite, and 4570 mg/kg in the remediated backfill. Chlorides at the site ranged from 126 mg/kg on the 4-wall composite, 617 mg/kg for the bottom composite at 12 ft bgs, and 298 mg/kg for the remediated backfill. BTEX was present in the 4-wall composite, the bottom composite and remediated backfill. At 6 feet bgs, a clay layer was

installed to inhibit further chloride migration and a compaction test was performed on April 16th, 2004. The soils were blended on site and then backfilled into the excavation. The area was contoured to the surrounding landscape and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. A new junction box was not required at the site.

On June 2nd, 2004, a soil bore was drilled at the site to determine the vertical extent of the contamination. Two attempts were made to drill the soil bore; however, the bore could not be advanced past 20 feet due to a hard rock stratum. The 20 feet sample was taken for laboratory verification of the field numbers. The chloride laboratory reading was 896 mg/kg, GRO was non-detect, and DRO was 266 mg/kg. BTEX readings at 20 ft were non-detect as well.

NMOCD was notified of potential groundwater impact on September 14th, 2004 and a junction box disclosure report (Appendix A) was submitted to NMOCD with all the 2004 junction box closures and disclosures.

ROC proposed additional investigative work at the site to determine if there was a potential for groundwater degradation from residual chlorides and/or hydrocarbons at the site.

Proposed Work Elements

1. Conduct vertical and lateral delineation of residual soil hydrocarbons and chlorides (see Appendix B for Quality Procedures).
 - a. Vertical sampling will be conducted until either one of the following criteria is met in the field.
 - i. Three samples in which the chloride concentration decreases and the third sample has a chloride concentration of ≤ 250 ppm.
 - ii. Three samples in which PID readings decrease and the third sample has a PID reading of ≤ 100 ppm.
 - iii. The sampling reaches the capillary fringe.
2. If warranted, install a monitor well to provide direct measurement of the potential groundwater impact at the site. (All monitor wells will be installed by EPA, NMOCD, and industry standards.)
3. Evaluate the risk of groundwater impact based on the information obtained.

ICP Investigative Results

As part of the Investigation and Characterization Plan approved by NMOCD on September 15th, 2010, five soil bores (SB-1 through SB-5) were advanced through the former junction box site on October 22nd and October 25th, 2010 (Figure 2). ROC personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID). Representative samples from the bores were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers (Appendix A). Laboratory readings showed chloride numbers ranging from a high of 848 mg/kg at 50 ft bgs in soil bore #2 to a low of <16 mg/kg at 10 ft bgs in soil bore #2 and at 15 ft bgs in soil bore #3. Laboratory readings for GRO showed non-detect in all soil bores except for SB #2 which showed a GRO reading of 132 mg/kg at 10 ft bgs and for SB #3 which showed a GRO reading of 111 mg/kg at 15 ft bgs. DRO readings showed non-detect in SB #4

and SB #5 and at 50 ft bgs in SB #1. Otherwise, DRO readings ranged from a high of 3,520 mg/kg at 15 ft bgs in SB #3 to a low of 22.3 mg/kg at 50 ft bgs in SB #2.

On December 6th, 2010, three monitor wells were installed at the site (Figure 3). Monitor well #1, the near-source monitor well, and Monitor well #2, the up gradient monitor well, were field tested for chlorides and screened in the field with a photo-ionization detector (PID). Two samples from monitor well #1 (5 ft and 45 ft bgs) were taken to a commercial laboratory for confirmation of field numbers. Monitor well #1 showed laboratory chloride readings of 16 mg/kg at 5 ft bgs and at 45 ft bgs. Both samples showed GRO readings of non-detect. The 5 ft bgs sample had a DRO reading of non-detect while the 45 ft bgs sample had a DRO reading of 131 mg/kg (Appendix B).

The monitor wells have been sampled three times since their installation (Figure 4). The wells were sampled on December 28th, 2010, March 4th, 2011, and May 31, 2011. As of the last sampling event, Monitor well #1 had a laboratory chloride reading of 550 mg/L, and a TDS reading of 1,560 mg/L. Monitor well #2 had a laboratory chloride reading of 44 mg/L and a TDS reading of 821 mg/L. Monitor well #3 had a laboratory reading of 80 mg/L and a TDS reading of 632 mg/L. All three monitor wells had BTEX levels of non-detect (Appendix C).

Recommendations

RECS submits the following as a Corrective Action Plan based on the data collected during the Investigation and Characterization phase of delineation.

Soil Remedy

The site has an existing clay liner measuring 20 ft x 18 ft at 6 ft bgs. ROC proposes to excavate the site to 44 ft x 49 ft by 4 to 5 ft bgs and properly seat a 20-mil, reinforced liner in the bottom of the excavation (Figure 5). The proposed liner will cover the existing clay liner installed at 6 ft bgs and will extend 10 ft beyond SB-2, SB-3, and SB-4 and will extend past SB-4 up to the newly installed concrete junction box. The liner will provide a barrier that will inhibit the downward migration of residual chlorides to groundwater. The soils placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID measurement below 100 ppm. Excavated soil will be evaluated for use as backfill and any soil requiring disposal will be properly disposed of at an NMOCD approved facility.

Upon completion of backfilling, the site will be prepared with soil amendments as needed and seeded with native vegetation. Vegetation above the liner will provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater.

Groundwater Remedy

ROC proposed to conduct a 6-month source removal and test pumping program. The purpose of this pumping program is to determine if groundwater may be restored within a reasonable time and to assist in the evaluation of groundwater alternatives. The near-source monitoring well (MW-1) will be plugged and replaced with a 4 inch monitor well. Removed groundwater will be

used in pipeline maintenance operations. Once the test pumping program is complete, ROC will assess the program to determine the best option for site groundwater remediation.

Upon completion of the CAP work elements, ROC will submit a report to the OCD with recommendations.

ROC appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

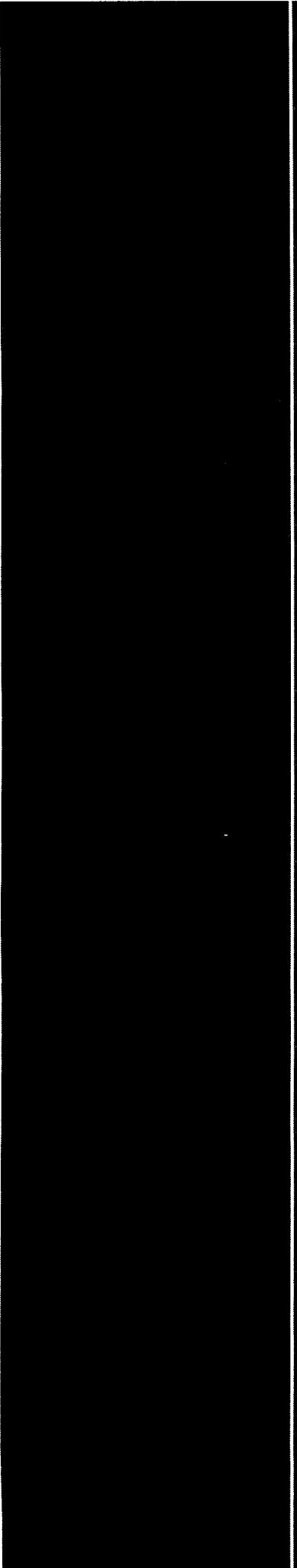


Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Site location map
- Figure 2 – Soil bore information plat
- Figure 3 – Monitor well installation plat
- Figure 4 – Monitor well sampling plat
- Figure 5 – Proposed liner plat

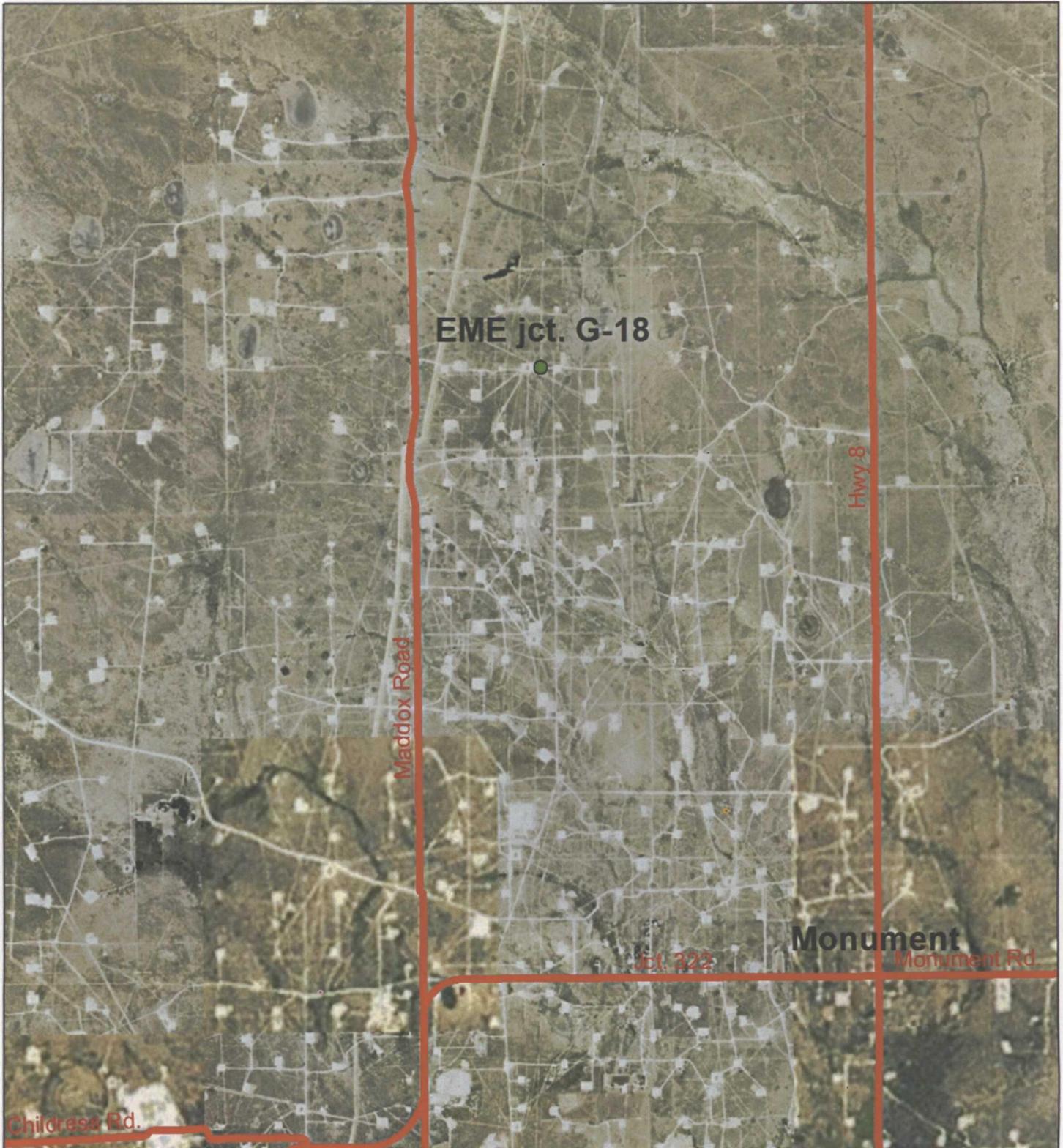
- Appendix A – Soil bore and MW installation logs and labs
- Appendix B – Monitor well sampling analysis



Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Location

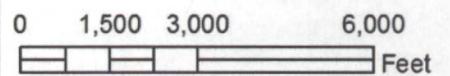


EME jct. G-18

Legals: UL/G sec. 18
T19S R37E

Case #: 1R427-162

Figure 1



Drawing date: 7-6-11
Drafted by: L. Weinheimer

Soil bore information

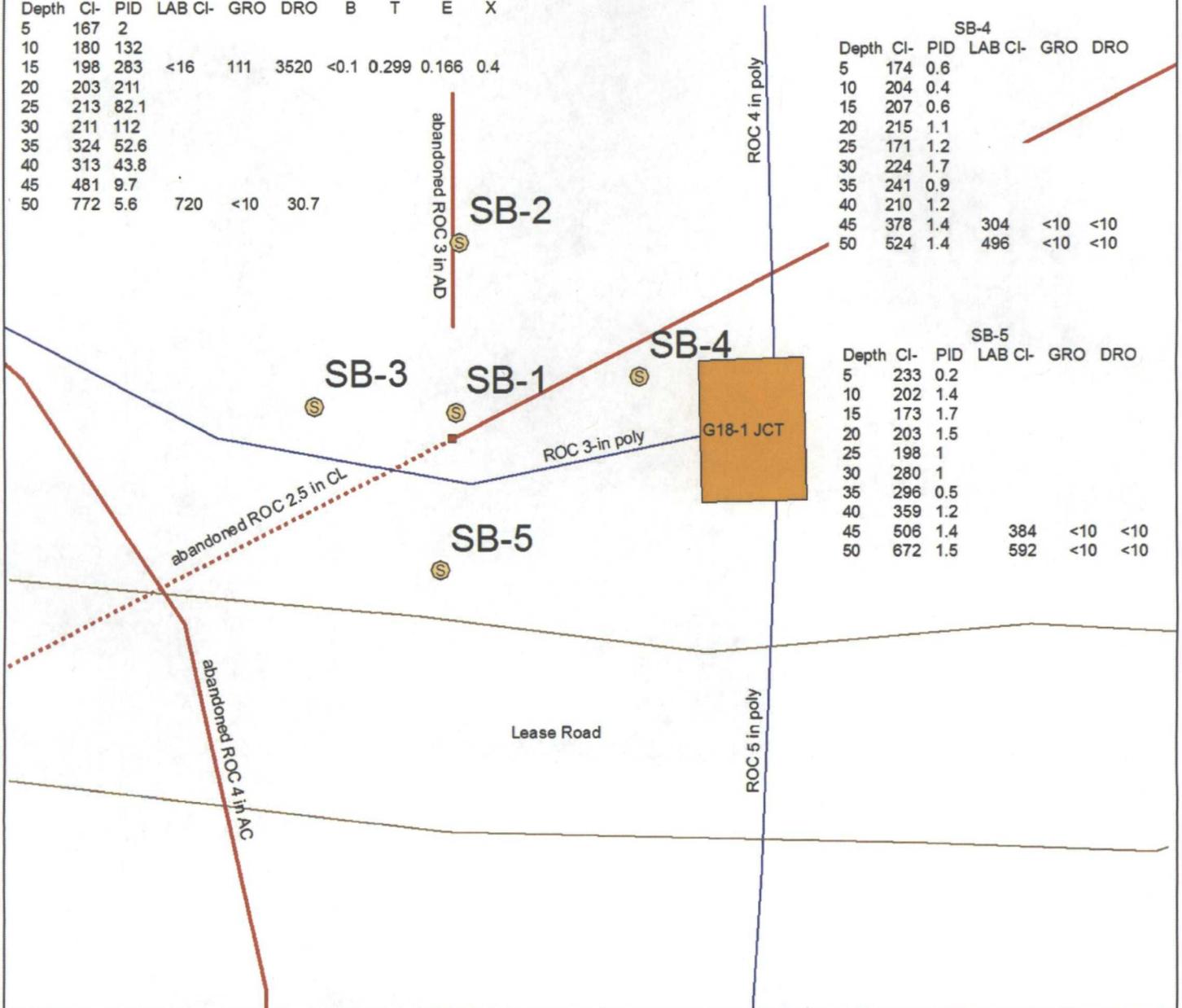
SB-1									
Depth	CI-	PID	LAB CI-	GRO	DRO	B	T	E	X
15	169	7.9							
20	149	215	16	<10	1100	<0.1	<0.1	<0.1	<0.3
25	179	155							
30	193	24							
35	270	15							
40	255	8.6							
45	594	5							
50	653	3.1	592	<10	<10				

SB-2									
Depth	CI-	PID	LAB CI-	GRO	DRO	B	T	E	X
5	171	0.6							
10	170	195	<16	132	3340	<0.5	0.216	0.237	1.24
15	225	121							
20	168	115							
25	175	75.4							
30	179	103							
35	148	89.7							
40	230	11.2							
45	598	8.8							
50	856	2.5	848	<10	22.3				

SB-3									
Depth	CI-	PID	LAB CI-	GRO	DRO	B	T	E	X
5	167	2							
10	180	132							
15	198	283	<16	111	3520	<0.1	0.299	0.166	0.4
20	203	211							
25	213	82.1							
30	211	112							
35	324	52.6							
40	313	43.8							
45	481	9.7							
50	772	5.6	720	<10	30.7				

SB-4					
Depth	CI-	PID	LAB CI-	GRO	DRO
5	174	0.6			
10	204	0.4			
15	207	0.6			
20	215	1.1			
25	171	1.2			
30	224	1.7			
35	241	0.9			
40	210	1.2			
45	378	1.4	304	<10	<10
50	524	1.4	496	<10	<10

SB-5					
Depth	CI-	PID	LAB CI-	GRO	DRO
5	233	0.2			
10	202	1.4			
15	173	1.7			
20	203	1.5			
25	198	1			
30	280	1			
35	296	0.5			
40	359	1.2			
45	506	1.4	384	<10	<10
50	672	1.5	592	<10	<10

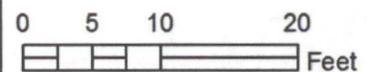


EME jct. G-18

**Legals: UL/G sec. 18
T19S R37E**

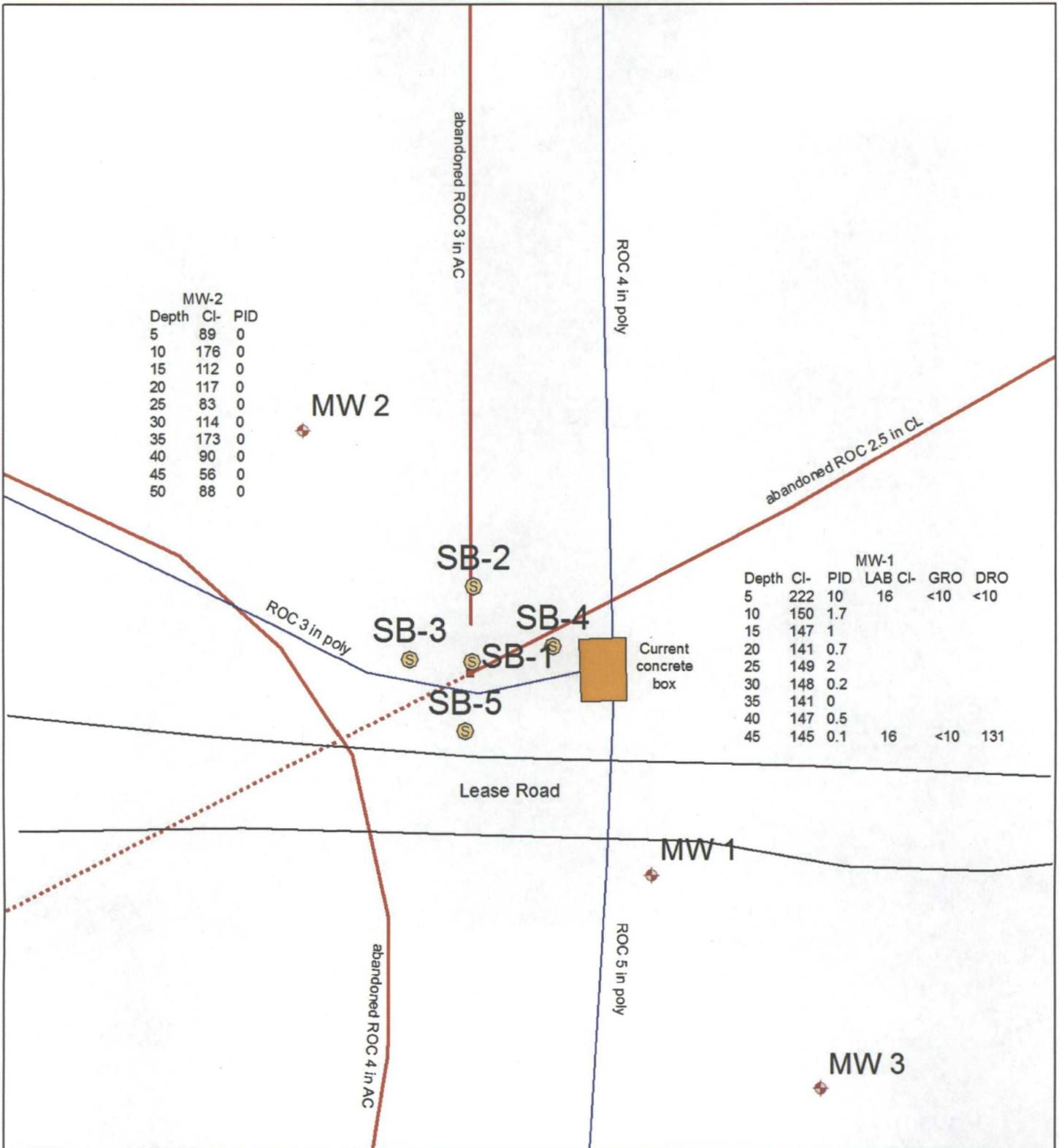
Case #: 1R427-162

Figure 2



Drawing date: 11-2-10
Drafted by: L. Weinheimer

Monitor well installation

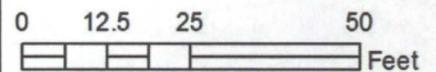


EME jct. G-18

Legals: UL/G sec. 18
T19S R37E

Case #: 1R427-162

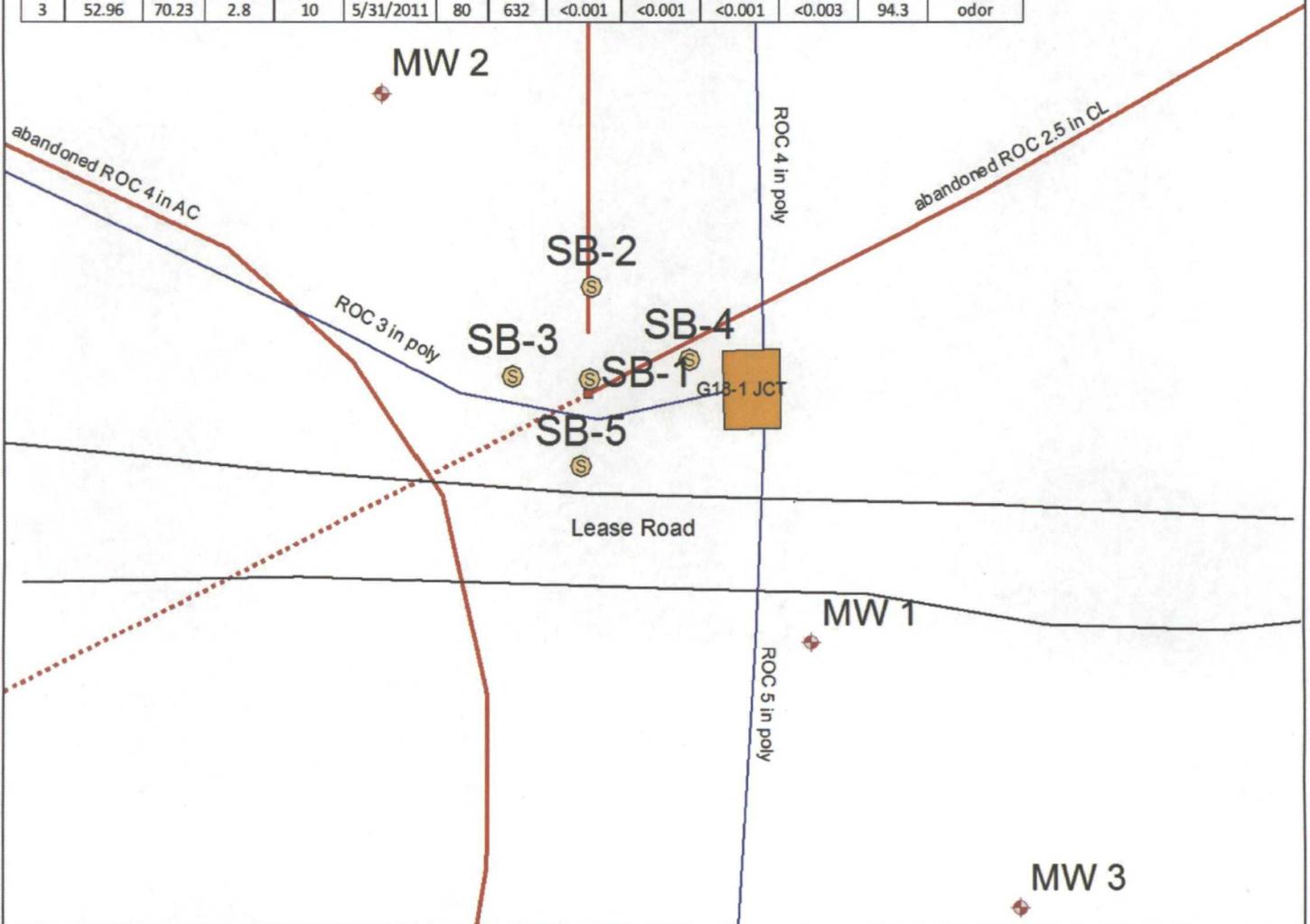
Figure 3



Drawing date: 12-21-10
Drafted by: L. Weinheimer

Monitor well sampling

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	53.51	68.28	2.4	8	12/28/2010	630	1810	<0.001	<0.001	<0.001	<0.003	308	Clear no odor
1	53.71	68.28	2.3	8	3/4/2011	470	1670	<0.001	<0.001	<0.001	<0.003	282	Clear no odor
1	54.11	68.28	2.3	8	5/31/2011	550	1560	<0.001	<0.001	<0.001	<0.003	217	Clear no odor
2	53.38	70.22	2.7	10	12/28/2010	44	557	<0.001	<0.001	<0.001	<0.003	149	Clear no odor
2	53.58	70.22	2.7	10	3/4/2011	32	715	<0.001	<0.001	<0.001	<0.003	191	Clear no odor
2	53.98	70.22	2.6	10	5/31/2011	44	821	<0.001	<0.001	<0.001	<0.003	243	Clear no odor
3	52.33	70.2	2.9	10	12/28/2010	140	804	<0.001	<0.001	<0.001	<0.003	134	Clear no odor
3	52.55	70.23	2.8	10	3/4/2011	80	687	<0.001	<0.001	<0.001	<0.003	97	Clear no odor
3	52.96	70.23	2.8	10	5/31/2011	80	632	<0.001	<0.001	<0.001	<0.003	94.3	Clear no odor

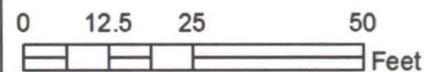


EME jct. G-18

**Legals: UL/G sec. 18
T19S R37E**

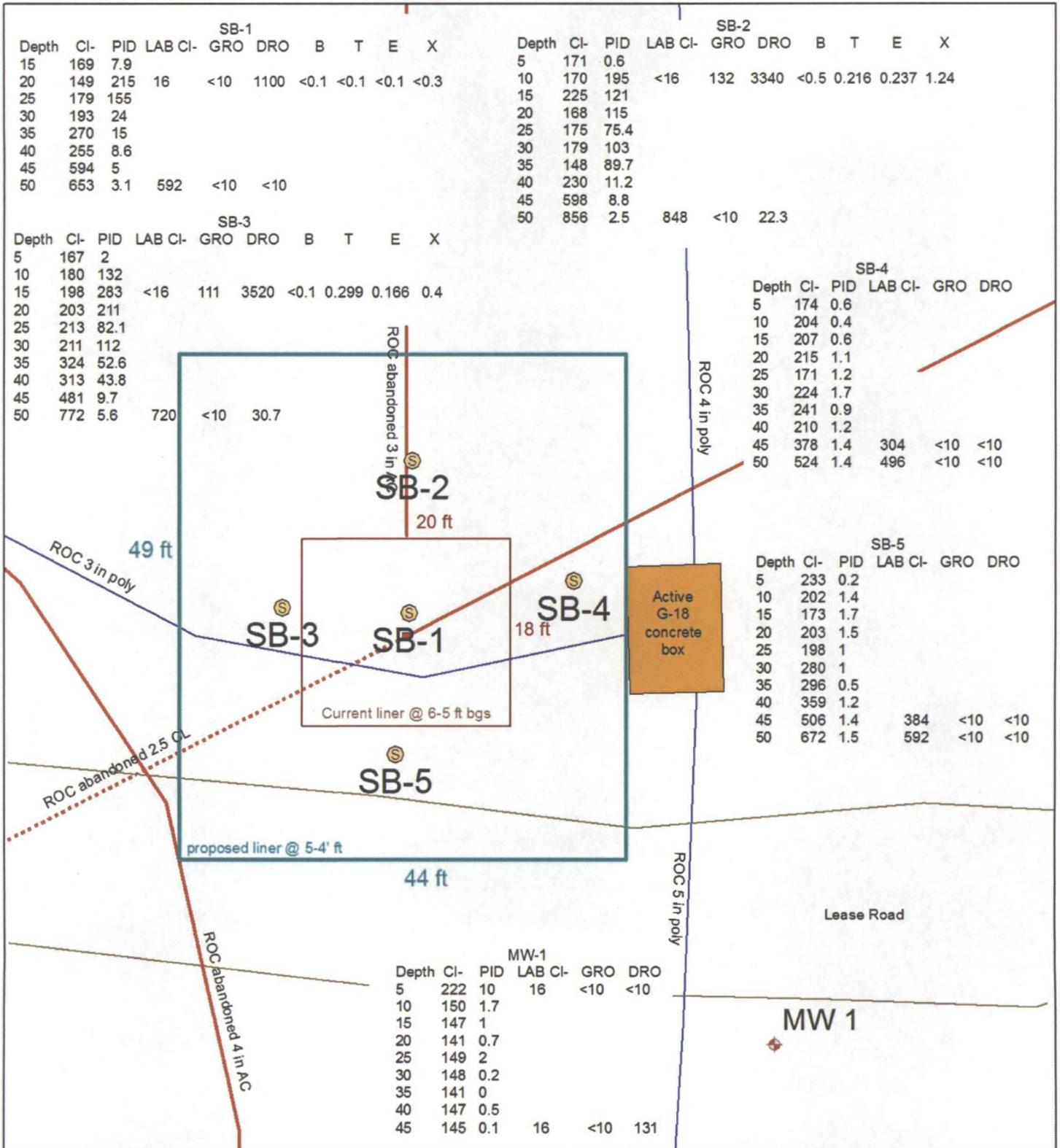
Case #: 1R427-162

Figure 4



Drawing date: 5-9-10
Drafted by: L. Weinheimer

Proposed liner

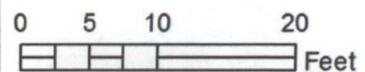


EME jct. G-18

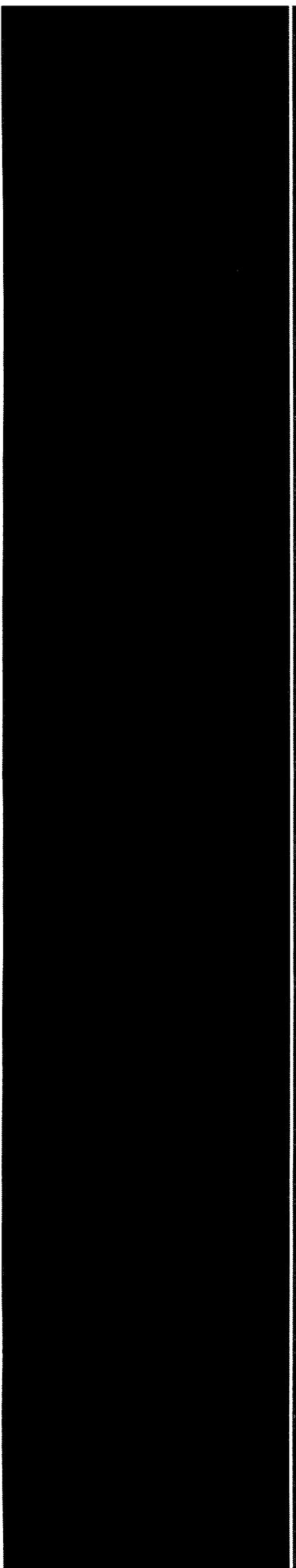
**Legals: UL/G sec. 18
T19S R37E**

Case #: 1R427-162

Figure 5



Drawing date: 5-9-11
Drafted by: L. Weinheimer

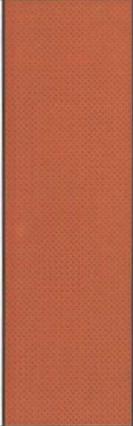


Appendix A

Soil bore and MW installation logs and labs

RICE Environmental Consulting and Safety (RECS)

P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Red sandy loam.		
45 ft	598		8.8			
50 ft	856	Cl- 848	2.5			
		GRO <10				
		DRO 22.3				

Logger:	Jordan Woodfin			
Driller:	Harrison & Cooper, Inc.			
Drilling Method:	Air rotary		Project Name:	Well ID:
Start Date:	10/22/2010		EME jct. G-18	SB-3
End Date:	10/22/2010	Project Consultant: RECS		
Comments: Located 12 ft west of the former junction box site. All samples were from cuttings.			Location: UL/G sec. 18 T19S R37E	
DRAFTED BY: L. WEINHEIMER			Lat: 32°39'44.056"N	County: LEA
TD = 50 ft		GW = 50 ft		Long: 103°17'23.643"W
			State: NM	

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Dark brown coarse sand and cemented sandstone fragments.		
5 ft	167		2.0			
				Grey sand and sandstone.		
10 ft	180		132.0			
15 ft	198	Cl- <16	283.0			
	B <0.1 T 0.299	GRO 111				
	E 0.166 X 0.4	DRO 3520				
20 ft	203		211.0			
				Tan cemented sandstone and some coarse sand.		
25 ft	213		82.1			
				Tan very fine sand and sandstone fragments.		
30 ft	211		112.0			
35 ft	324		52.6			
40 ft	313		43.8			

} bentonite seal

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Red sandy loam.		
45 ft	481		9.7			
50 ft	772	Cl- 720	5.6			
		GRO <10				
		DRO 30.7				

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
		GRO <10		Red sand. Moist.		
		DRO <10				
50 ft	524	Cl- 496	1.4			
		GRO <10				
		DRO <10				

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
45 ft	506	Cl-384	1.4			
		GRO <10				
		DRO <10				
50 ft	672	Cl-592	1.5			
		GRO <10				
		DRO <10				

November 01, 2010

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: EME JCT G-18

Enclosed are the results of analyses for samples received by the laboratory on 10/25/10 8:19.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	10/25/2010	Sampling Date:	10/22/2010
Reported:	11/01/2010	Sampling Type:	Soil
Project Name:	EME JCT G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME JCT G-18		

Sample ID: SB #1 @ 20' (H021138-01)

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.100	0.100	10/28/2010	ND	1.01	101	1.00			
Toluene*	<0.100	0.100	10/28/2010	ND	0.995	99.5	1.00			
Ethylbenzene*	<0.100	0.100	10/28/2010	ND	1.08	108	1.00			
Total Xylenes*	<0.300	0.300	10/28/2010	ND	3.11	104	3.00			

Surrogate Dibromofluoromethane 84.8 % 80-120
 Surrogate: Toluene-d8 93.7 % 80-120
 Surrogate 4-Bromofluorobenzene 96.2 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/25/2010	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/25/2010	ND	170	85.2	200	12.2		
DRO >C10-C28	1100	10.0	10/25/2010	ND	194	96.8	200	12.2		

Surrogate: 1-Chlorooctane 93.5 % 70-130
 Surrogate 1-Chlorooctadecane 106 % 70-130

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	10/25/2010	Sampling Date:	10/22/2010
Reported:	11/01/2010	Sampling Type:	Soil
Project Name:	EME JCT G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME JCT G-18		

Sample ID: SB #1 @ 50' (H021138-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	10/25/2010	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/25/2010	ND	170	85.2	200	12.2		
DRO >C10-C28	<10.0	10.0	10/25/2010	ND	194	96.8	200	12.2		

Surrogate 1-Chlorooctane 98.8 % 70-130
 Surrogate 1-Chlorooctadecane 102 % 70-130

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received: 10/25/2010
 Reported: 11/01/2010
 Project Name: EME JCT G-18
 Project Number: NONE GIVEN
 Project Location: EME JCT G-18

Sampling Date: 10/22/2010
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB #2 @ 10' (H021138-03)

BTEX 8021B		mg/kg		Analyzed By: cms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/29/2010	ND	2.05	102	2.00			
Toluene*	0.216	0.050	10/29/2010	ND	1.85	92.4	2.00			
Ethylbenzene*	0.237	0.050	10/29/2010	ND	1.75	87.3	2.00			
Total Xylenes*	1.24	0.150	10/29/2010	ND	5.25	87.4	6.00			

Surrogate 4-Bromofluorobenzene (PII) 90.5 % 80-120

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/25/2010	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	132	10.0	10/25/2010	ND	170	85.2	200	12.2		
DRO >C10-C28	3340	10.0	10/25/2010	ND	194	96.8	200	12.2		

Surrogate 1-Chlorooctane 104 % 70-130

Surrogate 1-Chlorooctadecane 103 % 70-130

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received: 10/25/2010
 Reported: 11/01/2010
 Project Name: EME JCT G-18
 Project Number: NONE GIVEN
 Project Location: EME JCT G-18

Sampling Date: 10/22/2010
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB #2 @ 50' (H021138-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	848	16.0	10/25/2010	ND	416	104	400	3.92		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/25/2010	ND	170	85.2	200	12.2		
DRO >C10-C28	22.3	10.0	10/25/2010	ND	194	96.8	200	12.2		

Surrogate: 1-Chlorooctane 99.7 % 70-130
 Surrogate: 1-Chlorooctadecane 105 % 70-130

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	10/25/2010	Sampling Date:	10/22/2010
Reported:	11/01/2010	Sampling Type:	Soil
Project Name:	EME JCT G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME JCT G-18		

Sample ID: SB #3 @ 15' (H021138-05)

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.100	0.100	10/28/2010	ND	1.01	101	1.00			
Toluene*	0.299	0.100	10/28/2010	ND	0.995	99.5	1.00			
Ethylbenzene*	0.166	0.100	10/28/2010	ND	1.08	108	1.00			
Total Xylenes*	0.400	0.300	10/28/2010	ND	3.11	104	3.00			

Surrogate: Dibromofluoromethane 89.7 % 80-120
 Surrogate: Toluene-d8 97.6 % 80-120
 Surrogate: 4-Bromofluorobenzene 96.2 % 80-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/25/2010	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	111	10.0	10/25/2010	ND	170	85.2	200	12.2		
DRO >C10-C28	3520	10.0	10/25/2010	ND	194	96.8	200	12.2		

Surrogate: 1-Chlorooctane 108 % 70-130
 Surrogate: 1-Chlorooctadecane 107 % 70-130

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received: 10/25/2010
 Reported: 11/01/2010
 Project Name: EME JCT G-18
 Project Number: NONE GIVEN
 Project Location: EME JCT G-18

Sampling Date: 10/22/2010
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB #3 @ 50' (H021138-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	720	16.0	10/25/2010	ND	416	104	400	3.92		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/25/2010	ND	170	85.2	200	12.2		
DRO >C10-C28	30.7	10.0	10/25/2010	ND	194	96.8	200	12.2		

Surrogate 1-Chlorooctane 101 % 70-130

Surrogate: 1-Chlorooctadecane 106 % 70-130

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

October 27, 2010

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: EME JCT G-18

Enclosed are the results of analyses for samples received by the laboratory on 10/25/10 16:45.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received: 10/25/2010
 Reported: 10/27/2010
 Project Name: EME JCT G-18
 Project Number: NONE GIVEN
 Project Location: EME JCT G-18

Sampling Date: 10/25/2010
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB #4 @ 45 FT (H021145-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	10/26/2010	ND	416	104	400	3.92		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/26/2010	ND	168	84.1	200	2.09		
DRO >C10-C28	<10.0	10.0	10/26/2010	ND	221	111	200	0.403		

Surrogate 1-Chlorooctane 98.2 % 70-130
 Surrogate 1-Chlorooctadecane 96.0 % 70-130

Sample ID: SB #4 @ 50 FT (H021145-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	10/26/2010	ND	416	104	400	3.92		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/26/2010	ND	168	84.1	200	2.09		
DRO >C10-C28	<10.0	10.0	10/26/2010	ND	221	111	200	0.403		

Surrogate 1-Chlorooctane 106 % 70-130
 Surrogate 1-Chlorooctadecane 105 % 70-130

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	10/25/2010	Sampling Date:	10/25/2010
Reported:	10/27/2010	Sampling Type:	Soil
Project Name:	EME JCT G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EME JCT G-18		

Sample ID: SB #5 @ 45 FT (H021145-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	10/26/2010	ND	416	104	400	3.92		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/26/2010	ND	168	84.1	200	2.09		
DRO >C10-C28	<10.0	10.0	10/26/2010	ND	221	111	200	0.403		
<i>Surrogate: 1-Chlorooctane</i>	<i>106 %</i>	<i>70-130</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>103 %</i>	<i>70-130</i>								

Sample ID: SB #5 @ 50 FT (H021145-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	10/26/2010	ND	416	104	400	3.92		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	10/26/2010	ND	168	84.1	200	2.09		
DRO >C10-C28	<10.0	10.0	10/26/2010	ND	221	111	200	0.403		
<i>Surrogate: 1-Chlorooctane</i>	<i>107 %</i>	<i>70-130</i>								
<i>Surrogate: 1-Chlorooctadecane</i>	<i>106 %</i>	<i>70-130</i>								

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Rice Operating Company		P.O. #:		ANALYSIS REQUEST																				
Project Manager: Hack Conder		Company:		Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions																
Address: 122 West Taylor		Attn:																						
City: Hobbs	State: NM	Zip: 88240	Address:																					
Phone #: 575-393-9174	Fax #: 575-397-1471	City:	State: Zip:																					
Project #:	Project Owner:	Phone #:	Fax #:																					
Project Name: EME Jct G-18																								
Project Location: EME Jct G-18																								
Sampler Name: Jordan Woodfin																								
FOR LAB USE ONLY																								
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS						MATRIX				PRESEV.	SAMPLING										
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME										
H21145-1	SB #4 @ 45ft		1			✓				✓			10/25/10	11:00	✓	✓								
2	SB #4 @ 50ft		1			✓				✓			10/25/10	11:15	✓	✓								
3	SB #5 @ 45ft		1			✓				✓			10/25/10	12:00	✓	✓								
4	SB #5 @ 50ft		1			✓				✓			10/25/10	12:10	✓	✓								

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>Jordan Woodfin</i>	Date: 10-25-10	Received By:	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time:		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date: 10/25/10	Received By: <i>Jodi Benson</i>	REMARKS:	
	Time: 4:15		email results	
Delivered By: (Circle One)	Sample Condition	CHECKED BY:	Hconder@riceswd.com; jwoodfin@riceswd.com;	
☒ UPS - Bus - Other:	Cool Intact	(Initials)	Lweinheimer@riceswd.com kjones@riceswd.com	
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>JW</i>		

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

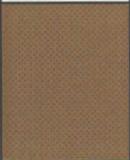
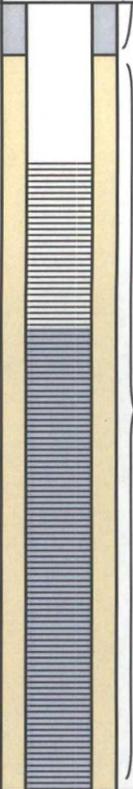
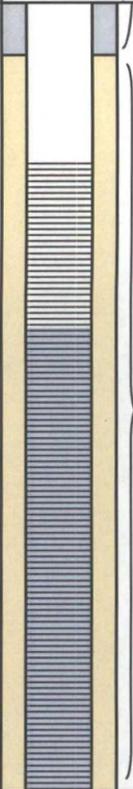
#26

NEED SAMPLES BACK, PLEASE

Logger:	Jordan Woodfin		
Driller:	Harrison & Cooper, Inc.		
Drilling Method:	Air rotary		
Start Date:	12/6/2010		
End Date:	12/6/2010		Project Name: EME jct. G-18 Well ID: MW-1 Project Consultant: RECS
Comments: Located 54 ft south east of the former junction box site.			Location: UL/G sec. 18 T19S R37E
DRAFTED BY: L. Weinheimer			Lat: 32°39'43.626"N
TD = 65 ft		GW = 50 ft	Long: 103°17'23.081"W
			County: LEA
			State: NM

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Light brown to tan fine sand and caliche		2 in PVC
5 ft	222	Cl-16	10			
		GRO <10		Tan to light brown silty sand		
		DRO <10				
10 ft	150		1.7			
15 ft	147		1			
				Tan silty sand and caliche fragments		
20 ft	141		0.7			
25 ft	149		2			
				Light brown silty sand		
30 ft	148		0.2			
				Tan fine sand with cemented sandstone fragments		
35 ft	141		0			
40 ft	147		0.5			

bentonite seal

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Light brown very fine sand		
45 ft	145	Cl-16	0.1			
		GRO <10		NO SAMPLES TAKEN		
		DRO 131				
50 ft						
55 ft						
60 ft						
65 ft						

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Light brown very fine silty sand		
50 ft	88		0			
				NO SAMPLES TAKEN		sand pack
55 ft						
60 ft						
65 ft						

Depth (feet)	chloride field tests	LAB	PID	Description	Lithology	Well Construction
45 ft						 <p>sand pack</p>
50 ft						
55 ft						
60 ft						
65 ft						



December 09, 2010

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: EME JCT G-18

Enclosed are the results of analyses for samples received by the laboratory on 12/07/10 7:45.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Cley D. Keene". The signature is written in a cursive style with a large initial "C".

Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received: 12/07/2010
 Reported: 12/09/2010
 Project Name: EME JCT G-18
 Project Number: NONE GIVEN
 Project Location: EME JCT G-18

Sampling Date: 12/06/2010
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: MW-1 @ 5' (H021462-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/07/2010	ND	432	108	400	0.00		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/08/2010	ND	193	96.5	200	19.4		
DRO >C10-C28	<10.0	10.0	12/08/2010	ND	190	94.8	200	9.14		

Surrogate: 1-Chlorooctane 105 % 70-130
 Surrogate: 1-Chlorooctadecane 104 % 70-130

Sample ID: MW-1 @ 45' (H021462-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/07/2010	ND	432	108	400	0.00		
TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/08/2010	ND	193	96.5	200	19.4		
DRO >C10-C28	131	10.0	12/08/2010	ND	190	94.8	200	9.14		

Surrogate: 1-Chlorooctane 107 % 70-130
 Surrogate: 1-Chlorooctadecane 109 % 70-130

Cardinal Laboratories

*=Accredited Analyte

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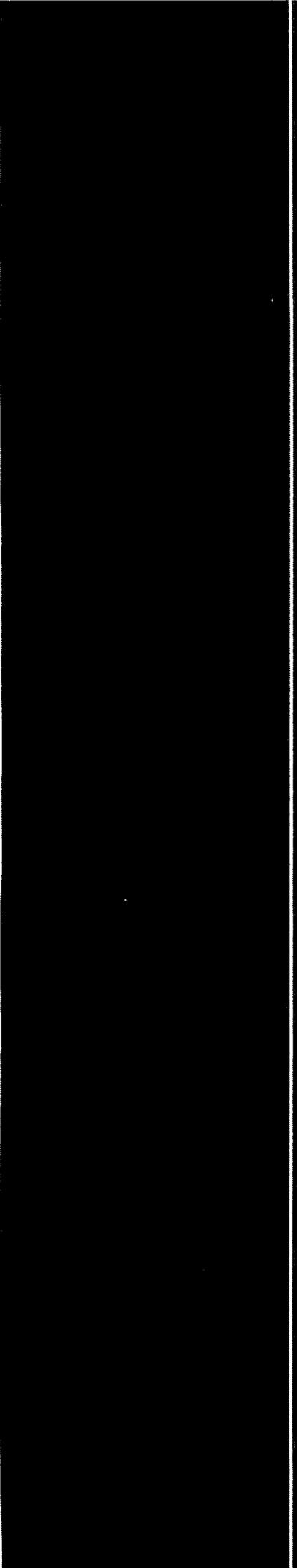


Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report





Appendix B

Monitor well sampling analysis

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

June 04, 2011

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: EME JUNCTION G-18

Enclosed are the results of analyses for samples received by the laboratory on 06/01/11 13:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	06/01/2011	Sampling Date:	05/31/2011
Reported:	06/04/2011	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R37E-SEC18 G - LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H101123-01)

BTEX 8021B		mg/L		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	06/02/2011	ND	0.055	110	0.0500	3.16		
Toluene*	<0.001	0.001	06/02/2011	ND	0.054	108	0.0500	3.51		
Ethylbenzene*	<0.001	0.001	06/02/2011	ND	0.054	108	0.0500	3.08		
Total Xylenes*	<0.003	0.003	06/02/2011	ND	0.160	107	0.150	3.14		

Surrogate: 4-Bromofluorobenzene (PIE) 94.6% 80-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	550	4.00	06/02/2011	ND	104	104	100	0.00		

Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate	217	10.0	06/02/2011	ND	44.3	111	40.0	1.99		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS	1560	5.00	06/02/2011	ND	254	106	240	0.00		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 06/01/2011
 Reported: 06/04/2011
 Project Name: EME JUNCTION G-18
 Project Number: NONE GIVEN
 Project Location: T19S-R37E-SEC18 G - LEA CTY., NM

 Sampling Date: 05/31/2011
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: MONITOR WELL #2 (H101123-02)

BTEX 8021B		mg/L		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	06/02/2011	ND	0.055	110	0.0500	3.16		
Toluene*	<0.001	0.001	06/02/2011	ND	0.054	108	0.0500	3.51		
Ethylbenzene*	<0.001	0.001	06/02/2011	ND	0.054	108	0.0500	3.08		
Total Xylenes*	<0.003	0.003	06/02/2011	ND	0.160	107	0.150	3.14		

Surrogate 4-Bromofluorobenzene (PIL) 94.6% 80-120

Chloride, SM4500CI-B		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	44.0	4.00	06/02/2011	ND	104	104	100	0.00		

Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate	243	10.0	06/02/2011	ND	44.3	111	40.0	1.99		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS	821	5.00	06/02/2011	ND	254	106	240	0.00		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	06/01/2011	Sampling Date:	05/31/2011
Reported:	06/04/2011	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R37E-SEC18 G - LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H101123-03)

BTEX 8021B		mg/L		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	06/02/2011	ND	0.055	110	0.0500	3.16		
Toluene*	<0.001	0.001	06/02/2011	ND	0.054	108	0.0500	3.51		
Ethylbenzene*	<0.001	0.001	06/02/2011	ND	0.054	108	0.0500	3.08		
Total Xylenes*	<0.003	0.003	06/02/2011	ND	0.160	107	0.150	3.14		

Surrogate: 4-Bromofluorobenzene (PIL) 95.2 % 80-120

Chloride, SM4500CI-B		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	4.00	06/02/2011	ND	104	104	100	0.00		

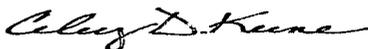
Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate	94.3	10.0	06/02/2011	ND	44.3	111	40.0	1.99		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS	632	5.00	06/02/2011	ND	254	106	240	0.00		

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

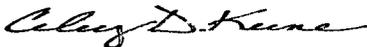
Notes and Definitions

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- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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