



AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



App Number: pTO1424554698

1RP - 2940

CONOCOPHILLIPS COMPANY

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company ConocoPhillips Company	Contact Jesse A. Sosa	
Address 3300 N. "A" St., Bldg. 6 #247 Midland, TX 79705-5	Telephone No. (505)391-3126	
Facility Name Warren Unit Well #13	Facility Type Injection well	
Surface Owner NMOCD	Mineral Owner BLM	API No. 3002507881

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
Q	34	20S	38E	660	South	1980	East	Lea

Latitude N 32 31.4394 Longitude W 103.08.0580

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 441	Volume Recovered 21
Source of Release inch steel injection line	Date and Hour of Occurrence 7/4/13 8:00 am	Hour of Discovery 7/7 9am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? Jesse Sosa	Date and Hour July 8, 2013 7:45 am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*


Describe Cause of Problem and Remedial Action Taken.*

MSO was notified of an Injection line leaking 300 yards west of WU well #13. Employee isolated 2 inch steel line (25+ years) at the WU injection header and well.

Describe Area Affected and Cleanup Action Taken.*

Employee called vacuum truck and 21 BPW was recovered. Spill volume is approximately 441 BPW. Two affected areas are 64' wide X 89' long X 60" deep and 44' long X 70' wide X 36" deep. Further assessment is needed for more accurate spill volumes. NMOCD was notified and C-141 report will follow when full assessment is done.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Jesse A. Sosa		Approved by Environmental Specialist:	
Title: HSER Lead	Approval Date:	Expiration Date:	
E-mail Address: Jesse.A.Sosa@conocophillips.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 07/18/2013	Phone: (505)391-3126		

* Attach Additional Sheets If Necessary

Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

August 14th, 2013

Geoffrey Leking

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau – District 1

1625 N. French Dr.

Hobbs, NM 88240-9273

RE: Corrective Action Plan (CAP)

Conoco-Phillips – Warren Unit Well #13 Injection Line Release

UL/N sec. 34 T20S R38E

API No. 3002507881

Mr. Leking:

Conoco-Phillips has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the site referenced above.

An accidental discharge of produced water occurred from an injection line located 300 yards west of the Warren Unit #13 well on July 4th, 2013. A total of 441 barrels of produced water was released into the pasture. A vacuum truck was called to the site and recovered 21 barrels of produced water. NMOCD was notified of the release on July 8th, 2013, and an initial C-141 was submitted by Conoco-Phillips to NMOCD on July 18th, 2013 (Appendix A). The site is located in UL/N sec. 34 T20S R38E, in Lea County, New Mexico. Soil bore installation at the site determined that the depth to groundwater is approximately located at 71 ft bgs.

RECS personnel were on site beginning on July 12th, 2013 to initiate work on the release. The release and surrounding area were mapped and photos were taken of the release area. On July 17th, 2013, RECS received verbal permission from NMOCD to conduct verticals at the site. Eight verticals were installed at the site to determine the extent of the release (Figure 1). As the verticals were installed, field samples were taken every foot and field tested for chlorides and hydrocarbons. Representative samples were taken to a commercial laboratory for analysis. Verticals 1-3, located inside the release area, showed elevated laboratory chloride levels at all depths in the three verticals. Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) readings returned results of non-detect throughout all depths in the three verticals. Verticals 4-8, located outside the release area, showed laboratory chloride levels below 250 mg/kg throughout the five verticals and at all depths. GRO and DRO readings returned results of non-detect throughout the five verticals and at all depths (Appendix B).

To further delineate the site, soil bores were installed at the site on July 26th and on August 6th and 7th, 2013. A total of 20 soil bores were installed at the site (Figure 2 and 3). Between the July and August soil bore installations events, a caliche road was installed across the area to serve as a base for the soil bore rig. As the soil bores were

advanced, samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples were taken to a commercial laboratory for analysis (Appendix C). Based on the soil bore data, as the release moves downward through the vadose zone, it hits a semi-permeable layer at 20-25 ft bgs, where the release moves horizontally over this layer. The outer soil bores delineate the edges of the release.

SB-20 was installed at the site on July 26th, 2013 to determine the depth to groundwater at the site. The bore was installed to a depth of 82 ft bgs and then left open for over 48 hours to allow groundwater to accumulate. The bore was gauged on July 29th, 2013 and depth to groundwater was determined to be at approximately 71 ft bgs. NMOCD was notified of potential groundwater impact at the site on July 26th, 2013.

Photo documentation of these activities can be found in Appendix D.

Corrective Action Plan

RECS recommends that Conoco-Phillips excavate an area of 140 ft x 170 ft to a depth of approximately 4-5 ft bgs. A 20-mil reinforced poly liner will be installed and properly seated throughout the base of the excavation (Figure 2). The liner will provide a barrier that will inhibit the downward migration of residual constituents to groundwater. Approximately 2,000 yards of soil from the release area will be disposed of at a NMOCD approved facility. The remaining excavated soil will be evaluated for use as backfill and any soils requiring disposal will be properly disposed of at a NMOCD approved facility. Soils placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID reading below 100 ppm. The site will be backfilled with the remaining excavated soil and then clean soil will be imported to the site to replace the soil disposed of at a NMOCD approved facility. The excavation will be brought up to surface level with the imported soil and the site will be contoured to the surrounding location. The disturbed area will then be seeded with a blend of native vegetation. Vegetation provides an infiltration barrier for the site, since plants capture water through their roots thereby reducing the amount of water traveling through the vadose zone to groundwater.

It is evident from the soil bore data that the release may have affected groundwater beneath the site. Therefore, RECS recommends that Conoco-Phillips install a source monitor well at the site (Figure 2). The monitor well will be installed once the excavation for liner installation is completed. The monitor well will be sampled quarterly for chlorides and TDS. Additional monitor wells may need to be installed to fully delineate groundwater. Once the monitor well(s) have been sampled and the data analyzed, Conoco-Phillips will submit a report to NMOCD detailing the groundwater data and either proposing a groundwater remedy or requesting site closure.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

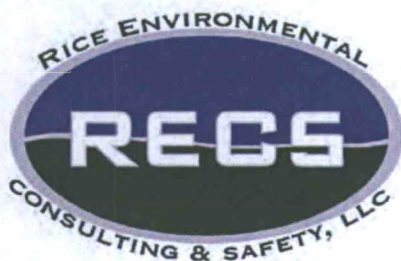
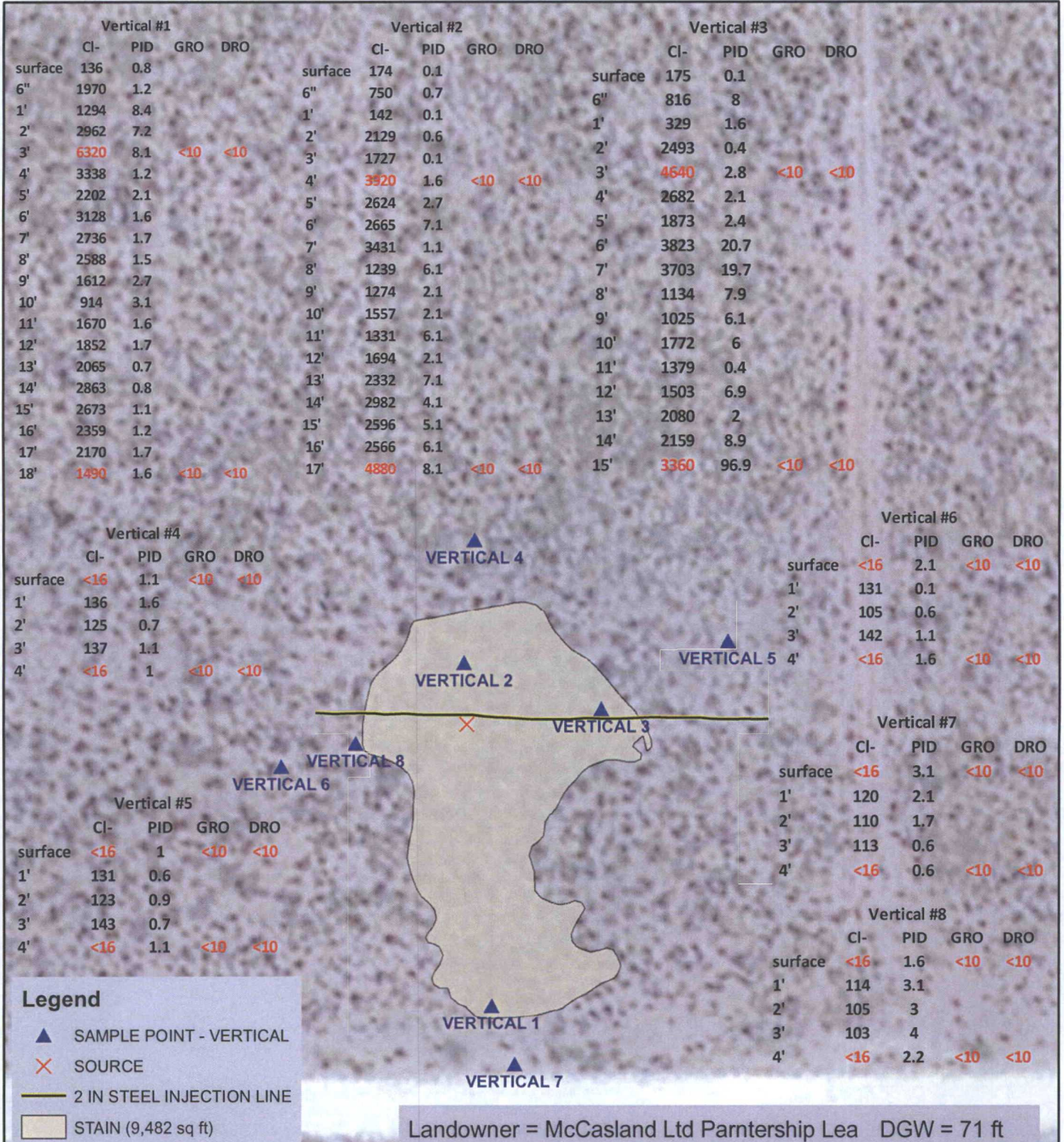


Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Vertical Data
- Figure 2 – SB 1-3 Installation Data and Proposed MW Location
- Figure 3 – SB- 4-19 Installation Data and Proposed MW Location
- Appendix A – Initial C-141
- Appendix B – Vertical Installation Laboratory Analyses
- Appendix C – Soil Bore Installation Documentation
- Appendix D – Photo Documentation

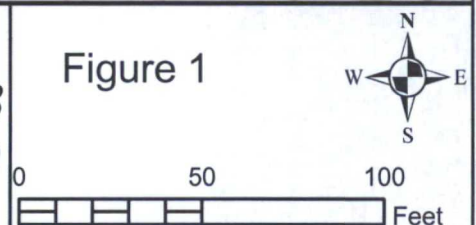
Vertical Data



CONOCO PHILLIPS WARREN UNIT #013 INJECTION LINE AD

LEGALS UL/ N Sec. 34
T20S - R38E
LEA COUNTY, NM

Figure 1



GPS date: 7-18-2013 KN
Drawing date: 7-24-2013
Drafted by: L. Weinheimer

Legend

SOIL BORE

×

SOURCE

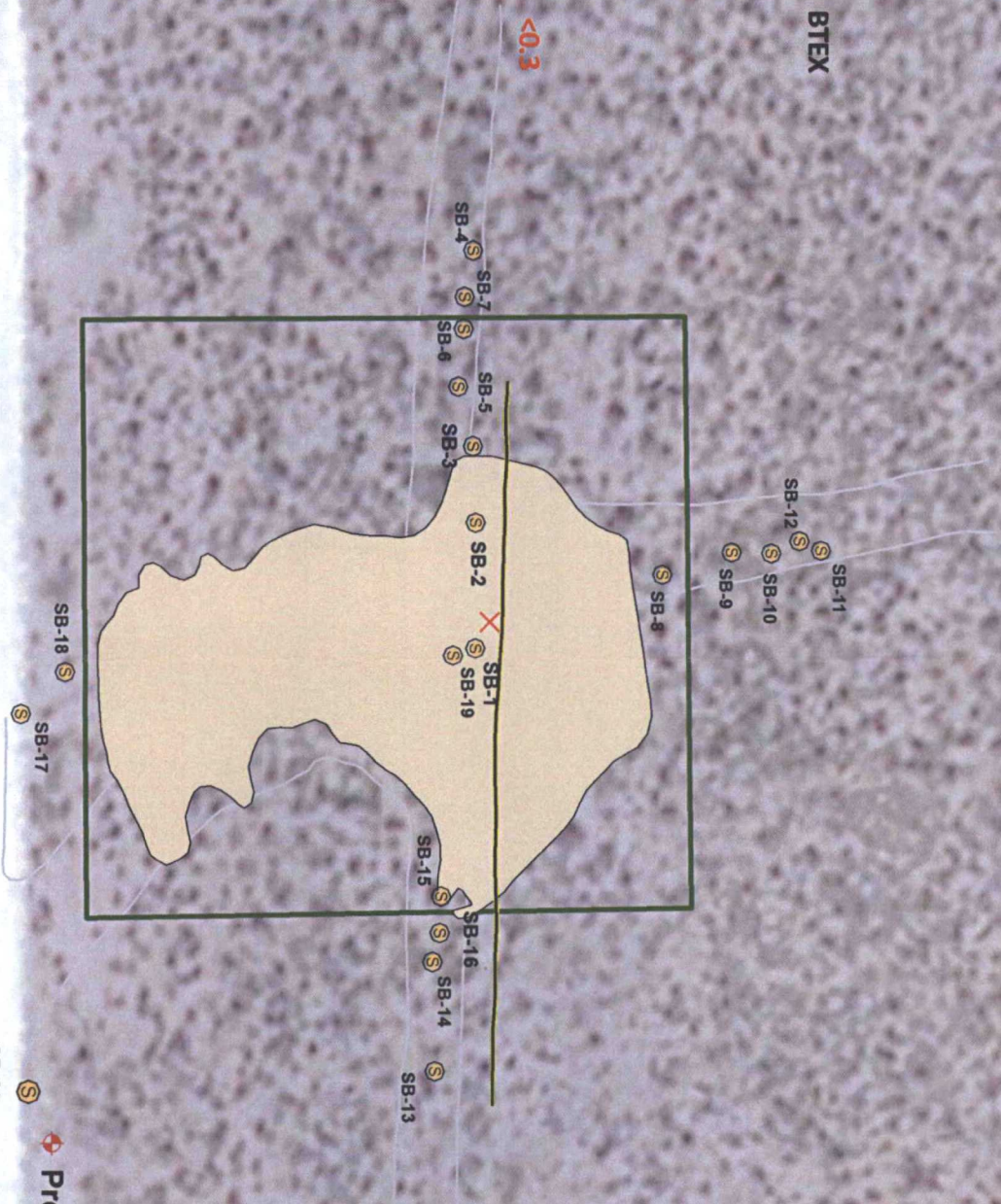
INSTALLED CALICHE PAD

2 IN STEEL INJECTION LINE

STAIN - 9,482 sq ft

PROPOSED LINER - 23,800 sq ft
(140' x 170' @ 4-5' bgs)

SB-1									
Depth	CI	PID	GRO	DRO	B	T	E	X	BTEX
SS	417	0.1							
3	834	0.5							
6	3868	1.9							
9	1621	6.1							
12	1460	0.7							
15	2567	7.1							
18	5120	3.5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
21	4377	0.5							
24	4400	0.4							
27	2916	0.3							
30	2569	0.8							
33	3145	0.5							
36	3146	0.6							
39	3645	0.4							
42	2863	0							
45	2334	0							
48	2693	0.1							
51	2810	0							
54	2610	0							
57	2629	0.3							
60	2406	0							
63	2304	0							
66	2000	0	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3



SB-2									
Depth	CI	PID	GRO	DRO	B	T	E	X	BTEX
SS	2267	0.1							
5	2307	0.1							
10	2583	0.1							
15	1453	0.1							
20	3098	0.1							
25	3509	0.1							
30	3778	0.1							
35	3880	0.1	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
40	3048	0.1							
45	2758	0.5							
50	2999	0.5							
55	2650	0.2							
60	2838	0.1							
65	2120	0.1	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

SB-3									
Depth	CI	PID	GRO	DRO	B	T	E	X	BTEX
SS	<16	0	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
5	249	0.1							
10	1580	0.1	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Landowner = McCasland Ltd Partnership Lea

DGW = 71 ft

RICE ENVIRONMENTAL

RECS

CONOCOPHILLIPS

LEGALS UI/ N Sec. 34

T20S - R38E

LEA COUNTY, NM

CONOCO PHILLIPS

WARREN UNIT #013

INJECTION LINE AD

Soil Bore Data And

Proposed Monitor Well

0 50 100 Feet

GPS date: 8-7-2013 JK

Drawing date: 8/7/13

Drafted by: LS

W N E S

Legend

- SOIL BORE
- INSTALLED CALICHE PAD
- SOURCE
- 2 IN STEEL INJECTION LINE
- STAIN - 9,482 sq ft
- PROPOSED LINER - 23,800 sq ft (140' x 170' @ 4-5' bgs)

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	137	0.6			
5	110	0.8	<16	<10	<10
10	119	0.5			
15	329	0.1			
20	2059	0.1			
25	2404	0.1	2600	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	258	0.7			
5	145	0.6	48	<10	<10
10	108	0.7			
15	138	0.5			
20	1967	0.5	1390	<10	<10
25	573	0.6			
30	522	0.5			
35	268	0.5			
40	152	0.2	256	<10	<10
45	153	0.2	64	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	102	0.5			
5	86	0.7	<16	<10	<10
10	111	1.1			
15	78	1.5			
20	1706	0.7	1600	<10	<10
25	416	0.5	416	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	84	1.3			
5	154	0.07	<16	<10	<10
10	102	0.08			
15	175	0.08			
20	80	0.07			
25	134	0.06	<16	<10	<10
30	117	0.06	<16	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	141	0.8			
5	83	1.7	<16	<10	<10
10	101	0.6			
15	115	0.4			
20	1147	1.7	1280	<10	<10
25	351	0.7			
30	182	0.9	128	<10	<10
35	167	0.7	96	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	109	1.5			
5	100	1	<16	<10	<10
10	109	1			
15	79	0.7			
20	1270	0.5	1010	<10	<10
25	152	0.5	48	<10	<10
30	120	0.3	16	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	93	3			
5	90	2.1	<16	<10	<10
10	115	4			
15	238	0.8			
20	1025	0.8			
25	1293	0.5	1600	<10	<10
30	108	0.6	32	<10	<10
35	115	0.6	64	<10	<10

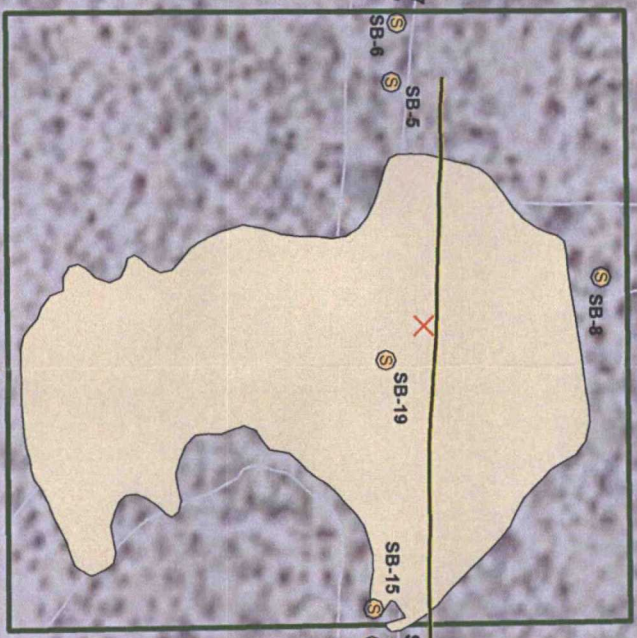
DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	56	6			
5	55	7.6	<16	<10	<10
10	2544	5.8			
15	603	3.2			
20	1647	1.4			
25	4011	2.2	5200	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	114	2.3			
5	84	1.6	<16	<10	<10
10	118	1			
15	99	0.8			
20	106	0.6			
25	169	0.5	112	<10	<10
30	108	0.3	48	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	137	0.3			
5	147	1.6	<16	<10	<10
10	105	0.9			
15	159	0.8			
20	2294	0.5			
25	3067	0.5	3440	<10	38.9

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	131	0.7			
5	112	0.8	<16	<10	<10
10	91	0.2			
15	109	0.2			
20	2529	0.2			
25	2140	0.1	2960	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	137	0.3			
5	147	1.6	<16	<10	<10
10	105	0.9			
15	159	0.8			
20	2294	0.5			
25	3067	0.5	3440	<10	38.9



Proposed Monitor Well Location

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	84	3.1			
5	62	3.6	<16	<10	<10
10	57	4.7			
15	104	0.8			
20	79	0.6			
25	61	0.4	<16	<10	<10
30	61	0.6	<16	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	118	0.7			
5	86	0.6	<16	<10	<10
10	59	0.4			
15	51	0.5			
20	88	0.2			
25	85	0.4			
30	82	0.5	<16	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	88	0.7			
5	123	0.5	96	<10	<10
10	108	1.1			
15	125	0.7			
20	150	0.5			
25	196	0.6	160	<10	<10
30	195	0.3	144	<10	<10

DEPTH	CI-	PID	LAB CI-	GRO	DRO
SS	91	0.6			
5	77	0.7	<16	<10	<10
10	89	0.1			
15	1853	0.5	1650	<10	<10
20	1030	0.4			
25	487	0.1			
30	105	0.2	112	<10	<10
35	111	0.1	96	<10	11.7

DEPTH	CI-	PID
50	2643	0.2
55	2424	0.1
60	3059	0.1
65	2236	0.1

Landowner = McCasland Ltd Partnership Lea DGW = 71 ft

LEGALS UL/ N Sec. 34

T20S - R38E

LEA COUNTY, NM

RECS

RICE ENVIRONMENTAL

CONOCO PHILLIPS

WARREN UNIT #013

INJECTION LINE AND

Soil Bore Data And

Proposed Monitor Well

Location

GPS date: 8-7-2013 JK

Drawing date: 8/14/13

Drafted by: LS

0

50

100

Feet

N

W

E

S

July 24, 2013

HACK CONDER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: WARREN UNIT #13 AD

Enclosed are the results of analyses for samples received by the laboratory on 07/19/13 8:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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 (V1, 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 ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/19/2013
 Reported: 07/24/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/18/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERTICAL 1 @ 3' (H301698-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6320	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	90.5 %	65.2-140							
Surrogate: 1-Chlorooctadecane	110 %	63.6-154							


Sample ID: VERTICAL 1 @ 18' (H301698-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1490	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	86.5 %	65.2-140							
Surrogate: 1-Chlorooctadecane	108 %	63.6-154							

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 ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/19/2013
 Reported: 07/24/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/18/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERTICAL 2 @ 4' (H301698-03)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	81.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	97.0 %	63.6-154							


Sample ID: VERTICAL 2 @ 17' (H301698-04)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4880	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	86.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	103 %	63.6-154							

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/19/2013
 Reported: 07/24/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/18/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERTICAL 3 @ 3' (H301698-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	89.6 %	65.2-140							
Surrogate: 1-Chlorooctadecane	110 %	63.6-154							

Sample ID: VERTICAL 3 @ 15' (H301698-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3360	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	78.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	96.6 %	63.6-154							

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 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/19/2013
 Reported: 07/24/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/18/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERTICAL 4 @ SURFACE (H301698-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	90.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	109 %	63.6-154							

Sample ID: VERTICAL 4 @ 4' (H301698-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	184	91.8	200	1.99	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	193	96.6	200	3.15	
Surrogate: 1-Chlorooctane	87.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	102 %	63.6-154							

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 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/19/2013
 Reported: 07/24/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/18/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERTICAL 5 @ SURFACE (H301698-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	93.6 %	65.2-140							
Surrogate: 1-Chlorooctadecane	110 %	63.6-154							


Sample ID: VERTICAL 5 @ 4' (H301698-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/23/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/23/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	71.6 %	65.2-140							
Surrogate: 1-Chlorooctadecane	85.0 %	63.6-154							

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HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 07/19/2013
Reported: 07/24/2013
Project Name: WARREN UNIT #13 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/18/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: VERTICAL 6 @ SURFACE (H301698-11)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/23/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/23/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	91.1 %	65.2-140							
Surrogate: 1-Chlorooctadecane	109 %	63.6-154							

Sample ID: VERTICAL 6 @ 4' (H301698-12)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	432	108	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	88.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	108 %	63.6-154							

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HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 07/19/2013
Reported: 07/24/2013
Project Name: WARREN UNIT #13 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/18/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: VERTICAL 7 @ SURFACE (H301698-13)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	71.1 %	65.2-140							
Surrogate: 1-Chlorooctadecane	88.0 %	63.6-154							

Sample ID: VERTICAL 7 @ 4' (H301698-14)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	416	104	400	0.00	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	101 %	65.2-140							
Surrogate: 1-Chlorooctadecane	122 %	63.6-154							

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 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/19/2013
 Reported: 07/24/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/18/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: VERTICAL 8 @ SURFACE (H301698-15)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	416	104	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/23/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/23/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	85.9 %	65.2-140							
Surrogate: 1-Chlorooctadecane	101 %	63.6-154							

Sample ID: VERTICAL 8 @ 4' (H301698-16)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/23/2013	ND	416	104	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/22/2013	ND	183	91.5	200	4.00	
DRO >C10-C28	<10.0	10.0	07/22/2013	ND	190	95.2	200	9.00	
Surrogate: 1-Chlorooctane	65.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	72.8 %	63.6-154							

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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

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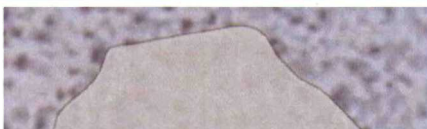

Celey D. Keene, Lab Director/Quality Manager



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(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

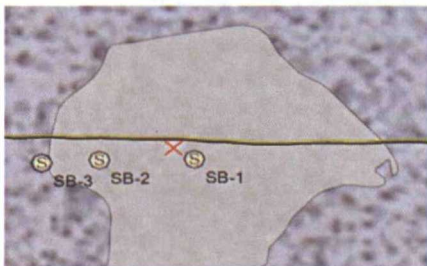

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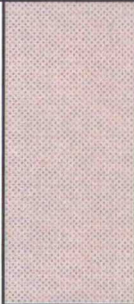





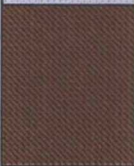



Logger:	Jake Kamplain & Kyle Norman			
Driller:	White Drilling			
Drilling Method:	Air rotary	<p>Conoco Phillips Warren Well ID:</p> <p>Unit #13 Injection Line SB-1</p>		
Start Date:	7/26/2013			
End Date:	7/26/2013			
Comments: SB-1 is located 7 ft southeast of the source of the release. Samples were taken from split spoon.			Location: UL/N sec. 34 T20S R38E	
DRAFTED BY: L. Weinheimer			Lat: 32°31'26.923"N County: Lea	
TD = 66 ft GW = 71 ft			Long: 103°8'13.052"W State: NM	

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	417		0.1			
				Tan/Gray Sand		
3 ft	834		0.5			
				Black/Gray Sand With Some Caliche		
6 ft	3868		1.9			
				Gray Sand		
9 ft	1621		6.1			
				Gray Sand With Some Caliche		
12 ft	1460		0.7			
15 ft	2567		7.1	Moist Brown Sand		
18 ft	4919	Cl- 5120	3.5			
B <0.05 T <0.05 E <0.05			GRO <10			
X <0.15 BTEX <0.3			DRO <10			
21 ft	4377		0.5			

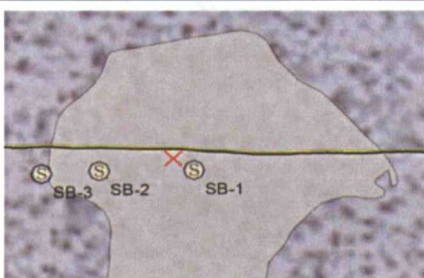



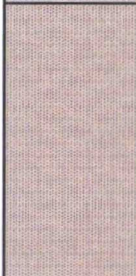
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction						
24 ft	4400		0.4	Moist Brown Sand								
27 ft	2916		0.3									
30 ft	2569		0.8	Moist Red Sand With Some Caliche								
33 ft	3145		0.5									
36 ft	3146		0.6									
39 ft	3645		0.4									
42 ft	2863		0.0						Caliche With Some Sandstone			
45 ft	2334		0.0						Moist Red/Tan Sand With Some Sandstone			
48 ft	2693		0.1									
51 ft	2810		0.0									
54 ft	2610		0.0									

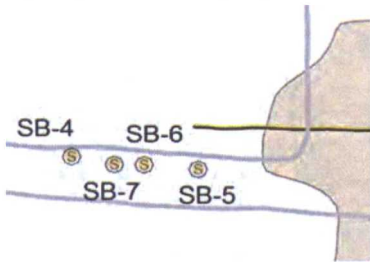

(feet) Depth	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
60 ft	2406		0.0	Moist Red/Tan Sand With Some Sandstone		
57 ft	2629		0.3			
63 ft	2304		0.0			
66 ft	1918	CI- 2000	0.0			
				X < 0.15 BTEX < 0.3		
				B < 0.05 T < 0.05 E < 0.05		
				GRO	> 10	
				DRO	> 10	

Logger:	Jake Kamplain & Kyle Norman			
Driller:	White Drilling			
Drilling Method:	Air rotary		Conoco Phillips Warren Well ID:	SB-2
Start Date:	7/26/2013		Unit #13 Injection Line	
End Date:	7/26/2013			
Comments: SB-2 is located 24 ft WSW of the source of the release. Samples were taken from split spoon. DRAFTED BY: L. Weinheimer TD = 65 ft GW = 71 ft			Location: UL/N sec. 34 T20S R38E Lat: 32°31'26.934"N County: Lea Long: 103°8'13.393"W State: NM	

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand		
SS	2267		0.1			
5 ft	2307		0.1	Tan Sand With Some Caliche		
10 ft	2583		0.1			
				Tan/Gray Sand		
15 ft	1453		0.1			
20 ft	3098		0.1	Brown Sand With Some Sandstone		
25 ft	3509		0.1			
				Red Sand With Some Sandstone		
30 ft	3778		0.1			
35 ft	3829	CI-3880	0.1			bentonite seal

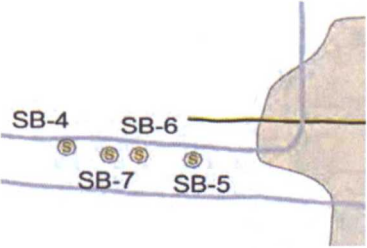


Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
	B <0.05 T <0.05 E <0.05		GRO <10	Red Sand With Some Sandstone		
	X <0.15 BTEX <0.3		DRO <10			
40 ft	3048		0.1			
45 ft	2758		0.5			
50 ft	2999		0.5			
55 ft	2650		0.2			
60 ft	2838		0.1			
65 ft	2254	Cl- 2120	0.1			
	B <0.05 T <0.05 E <0.05		GRO <10			
	X <0.15 BTEX <0.3		DRO <10			

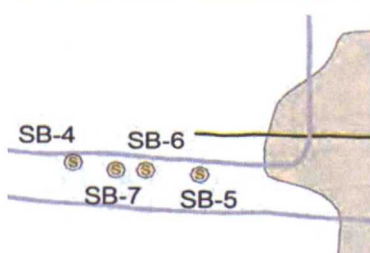






Logger:	Jake Kamplain & Kyle Norman					
Driller:	White Drilling					
Drilling Method:	Air rotary		Conoco Phillips Warren Well ID:			
Start Date:	7/26/2013		Unit #13 Injection Line SB-3			
End Date:	7/26/2013	Comments: SB-3 is located 42 ft WSW of the source of the release. Samples were taken from split spoon. DRAFTED BY: L. Weinheimer TD = 10 ft GW = 71 ft		Location: UL/N sec. 34 T20S R38E Lat: 32°31'26.931"N County: Lea Long: 103°8'13.598"W State: NM		
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand		 bentonite seal
SS	232	Cl- <16	0			
B <0.05 T <0.05 E <0.05			GRO <10			
X <0.15 BTEX <0.3			DRO <10			
5 ft	249		0.1	Tan Sand With Some Caliche		
10 ft	1694	Cl- 1580	0.1			
B <0.05 T <0.05 E <0.05			GRO <10			
X <0.15 BTEX <0.3			DRO <10			

Logger:	Kyle Norman		
Driller:	White Drilling		
Drilling Method:	Air rotary		Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-4
Start Date:	8/6/2013		
End Date:	8/6/2013		

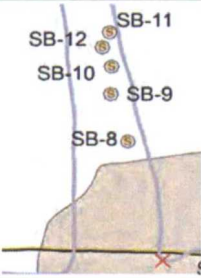

Comments: SB-4 is location 86 ft west of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 30 ft GW = 71 ft	Location: UL/N sec. 34 T210S R38E Lat: 32°31'26.931"N County: Lea Long: 103°8'14.125"W State: NM
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Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	114		2.3			
5 ft	84	Cl- <16	1.6	Tan Sand		
		GRO <10				
		DRO <10				
10 ft	118		1.0			
				Tan/Brown Sand		bentonite seal
15 ft	99		0.8			
20 ft	106		0.6			
25 ft	169	Cl- 112	0.5			
		GRO <10				
		DRO <10				
30 ft	108	Cl- 48	0.3			
		GRO <10				
		DRO <10				

Logger:	Kyle Norman					
Driller:	White Drilling			Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-5		
Drilling Method:	Air rotary					
Start Date:	8/6/2013					
End Date:	8/6/2013	Comments: SB-5 is location 55 ft west of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 25 ft GW = 71 ft			Location: UL/N sec. 34 T210S R38E Lat: 32°31'26.893"N County: Lea Long: 103°8'13.755"W State: NM	
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Red/Brown Sand		 bentonite seal
SS	137		0.3			
				Brown Sand		
5 ft	147	Cl- <16	1.6			
		GRO <10		Tan Sand		
		DRO <10				
10 ft	105		0.9			
				Moist Tan Sand		
15 ft	159		0.8			
				Moist Red/Brown Sand		
20 ft	2294		0.5			
				Moist Tan Sand		
25 ft	3067	Cl- 3440	0.5			
		GRO <10				
		DRO 38.9				

Logger:	Kyle Norman					
Driller:	White Drilling		Conoco Phillips Warren Well ID:			
Drilling Method:	Air rotary		Unit #13 Injection Line			
Start Date:	8/6/2013		SB-6			
End Date:	8/6/2013					
Comments: SB-6 is location 68 ft west of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 25 ftGW = 71 ft			Location: UL/N sec. 34 T210S R38E Lat: 32°31'26.914"NCounty: Lea Long: 103°8'13.91"WState: NM			
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		 bentonite seal
SS	131		0.7			
5 ft	112	Cl- <16	0.8	Tan Sand		
		GRO <10				
		DRO <10				
10 ft	91		0.2	Moist Tan Sand		
15 ft	109		0.2	Moist Red/Brown Sand		
20 ft	2529		0.2	Moist Tan Sand		
25 ft	2140	Cl- 2360	0.1			
		GRO <10				
		DRO <10				


Logger:	Kyle Norman					
Driller:	White Drilling		Conoco Phillips Warren Well ID:			
Drilling Method:	Air rotary		Unit #13 Injection Line SB-7			
Start Date:	8/6/2013					
End Date:	8/6/2013					
Comments: SB-7 is location 75 ft west of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 35 ft GW = 71 ft			Location: UL/N sec. 34 T210S R38E Lat: 32°31'26.914"N County: Lea Long: 103°8'14.002"W State: NM			
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	141		0.8			
5 ft	83	Cl- <16	1.7	Tan Sand		
		GRO <10				
		DRO <10				
10 ft	101		0.6			
				Moist Brown/Tan Sand		
15 ft	115		0.4			
20 ft	1147	Cl- 1280	1.7	Brown/Tan Sand		
		GRO <10				
		DRO <10				
25 ft	351		0.7			
				Red/Brown Sand		bentonite seal
30 ft	182	Cl- 128	0.9			
		GRO <10				
		DRO <10				
35 ft	167	Cl- 96	0.7			
		GRO <10				
		DRO <10				

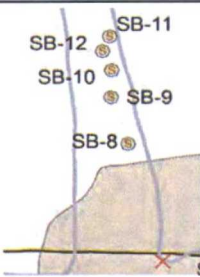



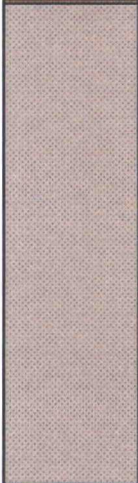


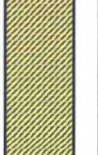

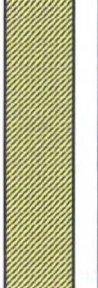
Logger:	Kyle Norman					
Driller:	White Drilling					
Drilling Method:	Air rotary		Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-8			
Start Date:	8/6/2013					
End Date:	8/6/2013					
Comments: SB-8 is location 48 ft NW of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 25 ft GW = 71 ft			Location: UL/N sec. 34 T210S R38E Lat: 32°31'27.451"N County: Lea Long: 103°8'13.25"W State: NM			
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	137		0.6			
5 ft	110	Cl- <16	0.8	Tan Sand		
		GRO <10				
		DRO <10				
10 ft	119		0.5	Moist Tan Sand		
15 ft	329		0.1	Moist Red/Brown Sand		bentonite seal
20 ft	2059		0.1			
25 ft	2404	Cl- 2600	0.1			
		GRO <10				
		DRO <10				

Logger:	Kyle Norman		
Driller:	White Drilling		
Drilling Method:	Air rotary		Conoco Phillips Warren Well ID:
Start Date:	8/6/2013		Unit #13 Injection Line
End Date:	8/6/2013		SB-9
Comments: SB-9 is location 69 ft NW of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 45 ft GW = 71 ft			Location: UL/N sec. 34 T210S R38E Lat: 32°31'27.639"N County: Lea Long: 103°8'13.315"W State: NM

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
SS	258		0.7	Brown Sand		
5 ft	145	CI-48	0.6			
		GRO <10		Tan Sand		
		DRO <10				
10 ft	108		0.7			
15 ft	138		0.5	Tan/Brown Sand		
20 ft	1967	CI-1390	0.5			
		GRO <10		Tan Sand		
		DRO <10				
25 ft	573		0.6			
30 ft	522		0.5	Brown Sand		
35 ft	268		0.5			

bentonite
seal

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Tan Sand With Some Sandstone		
40 ft	152	Cl- 256	0.2			
		GRO <10				
		DRO <10				
45 ft	153	Cl- 64	0.2			
		GRO <10				
		DRO <10				

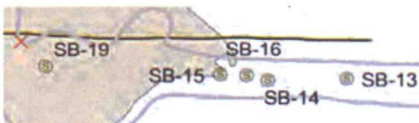

Logger:	Kyle Norman						
Driller:	White Drilling		Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-10				
Drilling Method:	Air rotary						
Start Date:	8/6/2013						
End Date:	8/6/2013						
Comments: SB-10 is location 79 ft NW of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 25 ft GW = 71 ft			Location: UL/N sec. 34 T210S R38E Lat: 32°31'27.746"N County: Lea Long: 103°8'13.304"W State: NM				
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction	
				Brown Sand			bentonite seal
SS	102		0.5				
				Brown/Tan Sand			bentonite seal
5 ft	86	Cl- <16 GRO <10 DRO <10	0.7				
10 ft	111		1.1				
15 ft	78		1.5	Tan/Red Sand			bentonite seal
20 ft	1706	Cl- 1600 GRO <10 DRO <10	0.7	Brown/Tan Sand			bentonite seal
25 ft	416	Cl- 416 GRO <10 DRO <10	0.5				

Logger:	Kyle Norman			
Driller:	White Drilling			
Drilling Method:	Air rotary		Conoco Phillips Warren	Well ID:
Start Date:	8/6/2013		Unit #13 Injection Line	SB-11
End Date:	8/6/2013	Comments: SB-11 is location 92 ft NW of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 30 ft GW = 71 ft		Location: UL/N sec. 34 T210S R38E Lat: 32°31'27.886"N County: Lea Long: 103°8'13.32"W State: NM

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	84		1.3			
5 ft	154	Cl- <16 GRO <10 DRO <10	0.7	Tan Sand		
10 ft	102		0.8			
15 ft	175		0.8	Red/Brown Sand		 bentonite seal
20 ft	80		0.7			
25 ft	134	Cl- <16 GRO <10 DRO <10	0.6			
30 ft	117	Cl- <16 GRO <10 DRO <10	0.6			

Logger:	Kyle Norman			
Driller:	White Drilling			
Drilling Method:	Air rotary			
Start Date:	8/6/2013			
End Date:	8/6/2013			
Comments: SB-12 is location 86 ft NW of the source of the release All samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 30 ft GW = 71 ft			Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-12	
Location: UL/N sec. 34 T210S R38E Lat: 32°31'27.821"N County: Lea Long: 103°8'13.347"W State: NM				

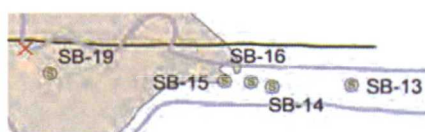

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	109		1.5			
5 ft	100	Cl- <16 GRO <10 DRO <10	1	Tan Sand		
10 ft	109		1			
15 ft	79		0.7			
20 ft	1270	Cl- 1010 GRO <10 DRO <10	0.5	Red/Brown Sand		
25 ft	152	Cl- 48 GRO <10 DRO <10	0.5			
30 ft	120	Cl- 16 GRO <10 DRO <10	0.3			


Logger:	Kyle Norman		
Driller:	White Drilling		
Drilling Method:	Air rotary		
Start Date:	8/7/2013		
End Date:	8/7/2013		
Comments: SB-13 is located 105 ft east of the release point. All the samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 30 ft GW = 71 ft			Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-13



Location: UL/N sec. 34 T20S R38E Lat: 32°31'26.829"N County: Lea Long: 103°8'11.909"W State: NM



Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	118	Cl- <16	0.7			
		GRO <10		Tan/Brown Sand		
		DRO <10				
5 ft	86		0.6			
				Tan Sand		
10 ft	59		0.4			
15 ft	51		0.5			
				Moist Tan Sand		
20 ft	88		0.2			
				Tan Sand		
25 ft	85		0.4			
30 ft	82	Cl- <16	0.5			
		GRO <10				
		DRO <10				



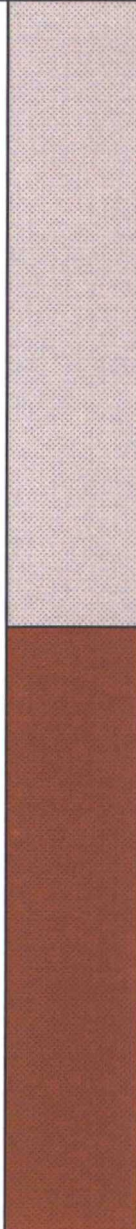

bentonite
seal









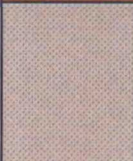





Logger:	Kyle Norman			
Driller:	White Drilling		Conoco Phillips Warren Unit #13 Injection Line Well ID: SB-14	
Drilling Method:	Air rotary			
Start Date:	8/7/2013			
End Date:	8/7/2013			
Comments: SB-14 is located 79 ft east of the release point. All the samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 30 ft GW = 71 ft			Location: UL/N sec. 34 T20S R38E Lat: 32°31'26.829"N County: Lea Long: 103°8'12.205"W State: NM	

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		 bentonite seal
SS	84		3.1			
				Tan/Brown Sand		
5 ft	62	Cl- <16 GRO <10 DRO <10	3.6			
				Tan Sand		
10 ft	57		4.7			
				Moist Tan Sand		
15 ft	104		0.8			
20 ft	79		0.6			
25 ft	61	Cl- <16 GRO <10 DRO <10	0.4			
				Moist Red/Brown Sand		
30 ft	61	Cl- <16 GRO <10 DRO <10	0.6			

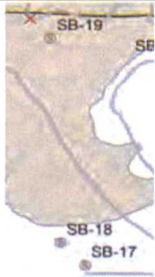

Logger:	Kyle Norman					
Driller:	White Drilling					
Drilling Method:	Air rotary					
Start Date:	8/7/2013					
End Date:	8/7/2013					
Comments: SB-15 is located 64 ft east of the release point. All the samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 25 ft GW = 71 ft			Conoco Phillips Warren Unit #13 Injection Line Well ID: SB-15 Location: UL/N sec. 34 T20S R38E Lat: 32°31'26.849"N County: Lea Long: 103°8'12.383"W State: NM			
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	56		6.0			
				Moist Brown Sand		
5 ft	55	Cl- <16	7.6			
		GRO <10		Moist Tan Sand		
		DRO <10				
10 ft	2544		5.8			
15 ft	603		3.2			
				Moist Red/Brown Sand		bentonite seal
20 ft	1647		1.4			
25 ft	4011	Cl- 5200	2.2			
		GRO <10				
		DRO <10				

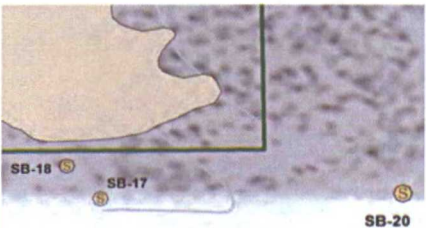

Logger:	Kyle Norman						
Driller:	White Drilling						
Drilling Method:	Air rotary		Conoco Phillips Warren Unit #13 Injection Line	Well ID: SB-16			
Start Date:	8/7/2013						
End Date:	8/7/2013						
Comments: SB-16 is located 72 ft east of the release point. All the samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 35 ft GW = 71 ft			Location: UL/N sec. 34 T20S R38E Lat: 32°31'26.849"N County: Lea Long: 103°8'12.284"W State: NM				
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction	
SS	93		3.0	Brown Sand			
5 ft	90	Cl- <16 GRO <10 DRO <10	2.1	Tan Sand			
10 ft	115		4.0				bentonite seal
15 ft	238		0.8	Moist Tan Sand			
20 ft	1025		0.8				
25 ft	1293	Cl- 1600 GRO <10 DRO <10	0.5	Moist Red/Brown Sand			
30 ft	108	Cl- 32 GRO <10 DRO <10	0.6				
35 ft	115	Cl- 64 GRO <10 DRO <10	0.6	Red/Brown Sand			

Logger:	Kyle Norman						
Driller:	White Drilling						
Drilling Method:	Air rotary			Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-17			
Start Date:	8/7/2013						
End Date:	8/7/2013						
Comments: SB-17 is located 131 ft south of the release point. All the samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 30 ft GW = 71 ft				Location: UL/N sec. 34 T20S R38E Lat: 32°31'25.7"N County: Lea Long: 103°8'12.873"W State: NM			
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction	
				Tan Sand			
SS	88		0.7				
5 ft	123	CI-96	0.5	Moist Tan Sand			
		GRO <10					
		DRO <10					
10 ft	108		1.1				
				Moist Red/Brown Sand			
15 ft	125		0.7				
20 ft	150		0.5	Red/Brown Sand			
25 ft	196	CI-160	0.6				
		GRO <10					
		DRO <10					
30 ft	195	CI-144	0.3				
		GRO <10					
		DRO <10					

Logger:	Kyle Norman					
Driller:	White Drilling			Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-18		
Drilling Method:	Air rotary					
Start Date:	8/7/2013					
End Date:	8/7/2013	Comments: SB-18 is located 118 ft south of the release point. All the samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 35 ft GW = 71 ft			Location: UL/N sec. 34 T20S R38E Lat: 32°31'25.822"N County: Lea Long: 103°8'12.985"W State: NM	
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				Brown Sand		
SS	91		0.6			
				Tan Sand		
5 ft	77	Cl- <16	0.7			
		GRO <10				
		DRO <10				
10 ft	89		0.1	Moist Red/Brown Sand		
15 ft	1853	Cl- 1650	0.5	Moist Tan/Brown Sand		
		GRO <10				
		DRO <10				
20 ft	1030		0.4	Tan/Brown Sand		
25 ft	487		0.1			
30 ft	105	Cl- 112	0.2	Tan Sand		
		GRO <10				
		DRO <10				
35 ft	111	Cl- 96	0.1			
		GRO <10				
		DRO 11.7				

bentonite
seal

Logger:	Kyle Norman						
Driller:	White Drilling						
Drilling Method:	Air rotary		Conoco Phillips Warren Well ID:				
Start Date:	8/7/2013		Unit #13 Injection Line SB-19				
End Date:	8/7/2013	Comments: SB-19 is located 12 ft southeast of the release point. All the samples were from cuttings. DRAFTED BY: L. Weinheimer TD = 65 ft GW = 71 ft		Location: UL/N sec. 34 T20S R38E Lat: 32°31'26.885"N County: Lea Long: 103°8'13.038"W State: NM			
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction	
				Red/Brown Sand With Sandstone			bentonite seal
50 ft	2643		0.2				
55 ft	2424		0.1				
60 ft	3059		0.1				
65 ft	2236		0.1				

Logger:	Jake Kamplain & Kyle Norman		
Driller:	White Drilling		
Drilling Method:	Air rotary		Conoco Phillips Warren Well ID: Unit #13 Injection Line SB-20
Start Date:	7/26/2013		
End Date:	7/26/2013		

Comments: SB-20 is located 166 ft southwest of the source of the release. Samples were taken from split spoon. DRAFTED BY: L. Weinheimer TD = 82 ft GW = 71 ft	Location: UL/N sec. 34 T20S R38E Lat: 32°31'25.713"N County: Lea Long: 103°8'11.864"W State: NM
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Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction			
				NO SAMPLES TAKEN AS SB WAS INSTALLED					
SS									
5 ft									
10 ft									
15 ft									
20 ft									
25 ft									
30 ft									
35 ft									

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction		
				NO SAMPLES TAKEN AS THE SB WAS INSTALLED						
40 ft										
45 ft										
50 ft										
55 ft										
60 ft										
65 ft										
70 ft										
75 ft										
80 ft										
82 ft										

plugged in
total with
bentonite



August 05, 2013

HACK CONDER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: WARREN UNIT #13 AD

Enclosed are the results of analyses for samples received by the laboratory on 07/30/13 8:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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 (V1, 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,



Caley D. Keene

Lab Director/Quality Manager

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 07/30/2013
Reported: 08/05/2013
Project Name: WARREN UNIT #13 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/26/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB #1 @ 18' (H301784-01)

BTEx 8021B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTEX	<0.300	0.300	08/01/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	07/30/2013	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	
DRO >C10-C28	<10.0	10.0	07/31/2013	ND	199	99.3	200	3.94	

Surrogate: 1-Chlorooctane 78.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 63.6-154

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/30/2013
 Reported: 08/05/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/26/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB #1 @ 66' (H301784-02)

BTEX 8021B		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTEX	<0.300	0.300	08/01/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	07/30/2013	ND	400	100	400	3.92	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	
DRO >C10-C28	<10.0	10.0	07/31/2013	ND	199	99.3	200	3.94	


Surrogate: 1-Chlorooctane 88.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 115 % 63.6-154

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* = Accredited Analyte

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Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/30/2013
 Reported: 08/05/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/26/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB #2 @ 35' (H301784-03)

BTX 8021B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTX	<0.300	0.300	08/01/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3880	16.0	07/30/2013	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	
DRO >C10-C28	<10.0	10.0	07/31/2013	ND	199	99.3	200	3.94	

Surrogate: 1-Chlorooctane 80.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

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Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 07/30/2013
Reported: 08/05/2013
Project Name: WARREN UNIT #13 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/26/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB #2 @ 65' (H301784-04)

BTX 8021B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTX	<0.300	0.300	08/01/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	07/30/2013	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	
DRO >C10-C28	<10.0	10.0	07/31/2013	ND	199	99.3	200	3.94	

Surrogate: 1-Chlorooctane 78.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

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 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 07/30/2013
 Reported: 08/05/2013
 Project Name: WARREN UNIT #13 AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 07/26/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB #3 @ SURFACE (H301784-05)

BTEX 8021B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTEX	<0.300	0.300	08/01/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/30/2013	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	
DRO >C10-C28	<10.0	10.0	07/31/2013	ND	199	99.3	200	3.94	

Surrogate: 1-Chlorooctane 90.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 114 % 63.6-154

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Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 07/30/2013
Reported: 08/05/2013
Project Name: WARREN UNIT #13 AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 07/26/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB #3 @ 10' (H301784-06)

BTEx 8021B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/01/2013	ND	2.04	102	2.00	2.20	
Toluene*	<0.050	0.050	08/01/2013	ND	2.05	102	2.00	1.43	
Ethylbenzene*	<0.050	0.050	08/01/2013	ND	2.15	108	2.00	0.897	
Total Xylenes*	<0.150	0.150	08/01/2013	ND	6.63	110	6.00	1.41	
Total BTEX	<0.300	0.300	08/01/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1580	16.0	07/30/2013	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2013	ND	185	92.3	200	2.16	
DRO >C10-C28	<10.0	10.0	07/31/2013	ND	199	99.3	200	3.94	

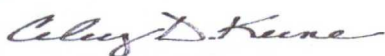
Surrogate: 1-Chlorooctane 83.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 107 % 63.6-154

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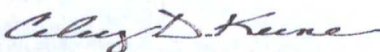
Celey D. Keene, Lab Director/Quality Manager

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

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Celey D. Keene, Lab Director/Quality Manager

ORDINAL 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

[illegible]

August 13, 2013

HACK CONDER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: WARREN UNIT #13 INJECTION LINE AD

Enclosed are the results of analyses for samples received by the laboratory on 08/08/13 10:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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 (V1, 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 ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/06/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-4 @ 5' (H301856-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	97.6 %	65.2-140							
Surrogate: 1-Chlorooctadecane	117 %	63.6-154							

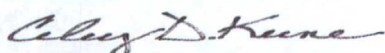
Sample ID: SB-4 @ 25' (H301856-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	97.3 %	65.2-140							
Surrogate: 1-Chlorooctadecane	117 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/06/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-4 @ 30' (H301856-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	97.3 %	65.2-140							
Surrogate: 1-Chlorooctadecane	116 %	63.6-154							

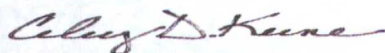
Sample ID: SB-5 @ 5' (H301856-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	96.4 %	65.2-140							
Surrogate: 1-Chlorooctadecane	117 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY

HACK CONDER

419 W. CAIN

HOBBS NM, 88240

Fax To: (575) 397-1471

Received:	08/08/2013	Sampling Date:	08/06/2013
Reported:	08/13/2013	Sampling Type:	Soil
Project Name:	WARREN UNIT #13 INJECTION LINE AD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SB-5 @ 25' (H301856-05)

Chloride, SM4500Cl-B									
Analyzed By: AP									
mg/kg									
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3440	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M									
DRO > C10-C28	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
GRO C6-C10	38.9	10.0	08/10/2013	ND	193	96.3	200	3.04	

Surrogate: I-Chlorooctane 97.0 %

65.2-140

Surrogate: I-Chlorooctadecane 118 %

63.6-154

Sample ID: SB-6 @ 5' (H301856-06)

Chloride, SM4500Cl-B									
Analyzed By: AP									
mg/kg									
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M									
DRO > C10-C28	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
GRO C6-C10	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	

Surrogate: I-Chlorooctane 101 %

65.2-140

Surrogate: I-Chlorooctadecane 118 %

63.6-154

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C. D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/06/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-6 @ 25' (H301856-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	98.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	115 %	63.6-154							

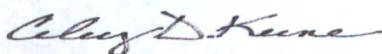
Sample ID: SB-7 @ 5' (H301856-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	94.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	114 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/06/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-7 @ 20' (H301856-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	94.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	114 %	63.6-154							

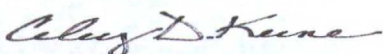
Sample ID: SB-7 @ 30' (H301856-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	97.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	116 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/06/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-7 @ 35' (H301856-11)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	94.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	114 %	63.6-154							

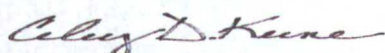
Sample ID: SB-8 @ 5' (H301856-12)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	99.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	118 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/06/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-8 @ 25' (H301856-13)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2600	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	99.6 %	65.2-140							
Surrogate: 1-Chlorooctadecane	117 %	63.6-154							

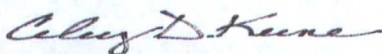
Sample ID: SB-9 @ 5' (H301856-14)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/10/2013	ND	181	90.4	200	2.80	
DRO >C10-C28	<10.0	10.0	08/10/2013	ND	193	96.3	200	3.04	
Surrogate: 1-Chlorooctane	101 %	65.2-140							
Surrogate: 1-Chlorooctadecane	120 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/06/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-9 @ 20' (H301856-15)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	88.4 %	65.2-140							
Surrogate: 1-Chlorooctadecane	107 %	63.6-154							

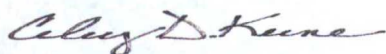
Sample ID: SB-9 @ 40' (H301856-16)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	86.1 %	65.2-140							
Surrogate: 1-Chlorooctadecane	109 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/06/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-9 @ 45' (H301856-17)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/12/2013	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	87.9 %	65.2-140							
Surrogate: 1-Chlorooctadecane	104 %	63.6-154							

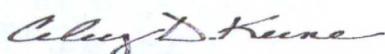
Sample ID: SB-10 @ 5' (H301856-18)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	83.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	102 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/06/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-10 @ 20' (H301856-19)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	89.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	106 %	63.6-154							

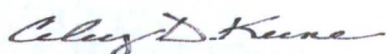
Sample ID: SB-10 @ 25' (H301856-20)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	90.3 %	65.2-140							
Surrogate: 1-Chlorooctadecane	107 %	63.6-154							

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Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/06/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-11 @ 5' (H301856-21)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	84.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	98.7 %	63.6-154							

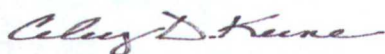
Sample ID: SB-11 @ 25' (H301856-22)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	91.3 %	65.2-140							
Surrogate: 1-Chlorooctadecane	103 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/06/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-11 @ 30' (H301856-23)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	88.3 %	65.2-140							
Surrogate: 1-Chlorooctadecane	103 %	63.6-154							

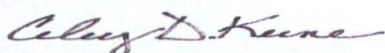
Sample ID: SB-12 @ 5' (H301856-24)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	86.4 %	65.2-140							
Surrogate: 1-Chlorooctadecane	100 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/06/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-12 @ 20' (H301856-25)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	91.6 %	65.2-140							
Surrogate: 1-Chlorooctadecane	106 %	63.6-154							

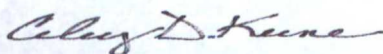
Sample ID: SB-12 @ 25' (H301856-26)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	89.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	107 %	63.6-154							

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Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/06/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-12 @ 30' (H301856-27)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	87.4 %	65.2-140							
Surrogate: 1-Chlorooctadecane	103 %	63.6-154							

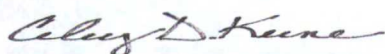
Sample ID: SB-13 @ SURFACE (H301856-28)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	87.4 %	65.2-140							
Surrogate: 1-Chlorooctadecane	103 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/07/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-13 @ 30' (H301856-29)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	91.8 %	65.2-140							
Surrogate: 1-Chlorooctadecane	108 %	63.6-154							

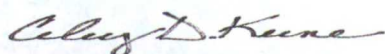
Sample ID: SB-14 @ 5' (H301856-30)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	83.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	99.6 %	63.6-154							

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Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/07/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-14 @ 25' (H301856-31)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	90.9 %	65.2-140							
Surrogate: 1-Chlorooctadecane	105 %	63.6-154							

Sample ID: SB-14 @ 30' (H301856-32)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	88.1 %	65.2-140							
Surrogate: 1-Chlorooctadecane	107 %	63.6-154							

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Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/07/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-15 @ 5' (H301856-33)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	92.5 %	65.2-140							
Surrogate: 1-Chlorooctadecane	106 %	63.6-154							

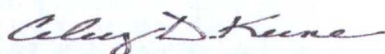
Sample ID: SB-15 @ 25' (H301856-34)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/11/2013	ND	185	92.6	200	3.63	
DRO >C10-C28	<10.0	10.0	08/11/2013	ND	194	96.8	200	4.57	
Surrogate: 1-Chlorooctane	88.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	109 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/07/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-16 @ 5' (H301856-35)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	90.3 %	65.2-140							
Surrogate: 1-Chlorooctadecane	110 %	63.6-154							

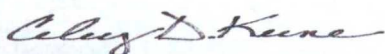
Sample ID: SB-16 @ 25' (H301856-36)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	92.9 %	65.2-140							
Surrogate: 1-Chlorooctadecane	113 %	63.6-154							

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Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/07/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-16 @ 30' (H301856-37)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	89.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	109 %	63.6-154							

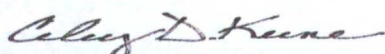
Sample ID: SB-16 @ 35' (H301856-38)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	92.7 %	65.2-140							
Surrogate: 1-Chlorooctadecane	111 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/07/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-17 @ 5' (H301856-39)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	88.5 %	65.2-140							
Surrogate: 1-Chlorooctadecane	107 %	63.6-154							

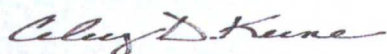
Sample ID: SB-17 @ 25' (H301856-40)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	90.1 %	65.2-140							
Surrogate: 1-Chlorooctadecane	111 %	63.6-154							

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Analytical Results For:

RICE ENVIRONMENTAL CONSULTING & SAFETY
HACK CONDER
419 W. CAIN
HOBBS NM, 88240
Fax To: (575) 397-1471

Received: 08/08/2013
Reported: 08/13/2013
Project Name: WARREN UNIT #13 INJECTION LINE AD
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 08/07/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SB-17 @ 30' (H301856-41)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	89.6 %	65.2-140							
Surrogate: 1-Chlorooctadecane	107 %	63.6-154							

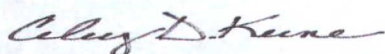
Sample ID: SB-18 @ 5' (H301856-42)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	91.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	107 %	63.6-154							

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Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/07/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-18 @ 15' (H301856-43)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1650	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	89.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	111 %	63.6-154							

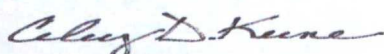
Sample ID: SB-18 @ 30' (H301856-44)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	<10.0	10.0	08/12/2013	ND	205	103	200	4.93	
Surrogate: 1-Chlorooctane	91.2 %	65.2-140							
Surrogate: 1-Chlorooctadecane	111 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 RICE ENVIRONMENTAL CONSULTING & SAFETY
 HACK CONDER
 419 W. CAIN
 HOBBS NM, 88240
 Fax To: (575) 397-1471

 Received: 08/08/2013
 Reported: 08/13/2013
 Project Name: WARREN UNIT #13 INJECTION LINE AD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/07/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SB-18 @ 35' (H301856-45)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/12/2013	ND	416	104	400	3.92	
TPH 8015M		mg/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/12/2013	ND	189	94.7	200	1.66	
DRO >C10-C28	11.7	10.0	08/12/2013	ND	205	103	200	4.93	

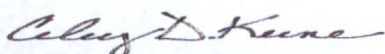
Surrogate: 1-Chlorooctane 103 % 65.2-140

Surrogate: 1-Chlorooctadecane 126 % 63.6-154

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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

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

185

[illegible]

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(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

2
4
5

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



ARDINAL LABORATORIES

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(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3 of 5

Company Name: RECS		P.O. #:		ANALYSIS REQUEST	
Project Manager: Hack Conder		Company:			
Address: 419 W. Cain		Attn:			
City: Hobbs		Address:			
Phone #: 575-393-2967		City:			
Fax #: 575-393-2967		State:			
Project Owner:		Zip:			
Project Name:		Phone #:			
Project Location: Warren Unit #13 Injection Line AD		Fax #:			
Sampler Name: Kyle Norman					
FOR LAB USE ONLY					
Lab I.D.		Sample I.D.			
H301856		(G)RAB OR (C)OMP.			
# CONTAINERS		GROUNDWATER			
WASTEWATER		SOIL			
OIL		SLUDGE			
OTHER :		ACID/BASE:			
ICE / COOL		OTHER :			
DATE		TIME			
8/6/13		01:25		✓	
8/6/13		01:45		✓	
8/6/13		01:55		✓	
8/6/13		02:15		✓	
8/6/13		02:45		✓	
8/6/13		02:55		✓	
8/6/13		03:15		✓	
Chlorides		TPH 8015 M			
BTEX		Texas TPH			
Complete Cations/Anions		TDS			

Relinquished By: <i>h301856</i>		Date: 8-8-13		Received By: <i>Wade Henderson</i>	
Relinquished By: <i>h301856</i>		Date: 8-8-13		Received By: <i>Wade Henderson</i>	
Time: 10:40		Time: 10:40			
Delivered By: (Circle One)		Sample Condition		CHECKED BY: <i>h301856</i>	
Sampler - UPS - Bus - Other:		Cool <input checked="" type="checkbox"/> Warm <input type="checkbox"/>			
		No <input type="checkbox"/> Yes <input checked="" type="checkbox"/>			

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

#54

email results:
Knorman@rice-ecs.com
jkamplain@rice-ecs.com; hconder@rice-ecs.com;
lweinheimer@rice-ecs.com

ORDINAL 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

504

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

505

ARDINAL 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

[illegible]

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

#54

Conoco Phillips Warren Unit #13 Injection Line AD

Unit Letter N, Section 34, T20S, R38E



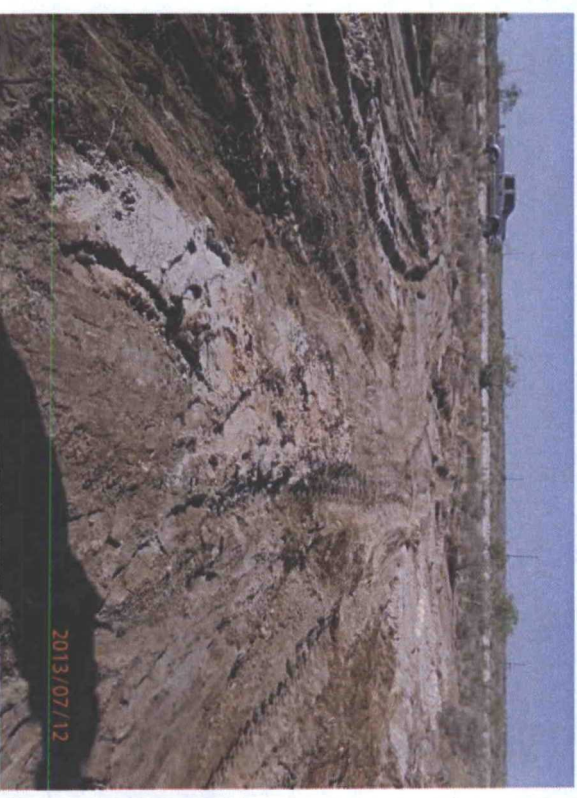
Initial release area, facing south 7/12/13



Initial release area, facing west 7/12/13



Initial release area, facing northeast 7/12/13



Initial release area, facing south 7/12/13



Installing vertical #1, facing west

7/18/13



Import caliche to build surface for soil bore installations facing, west

7/18/13



Installing vertical #2, facing west

7/18/13



Installing vertical #3, facing west

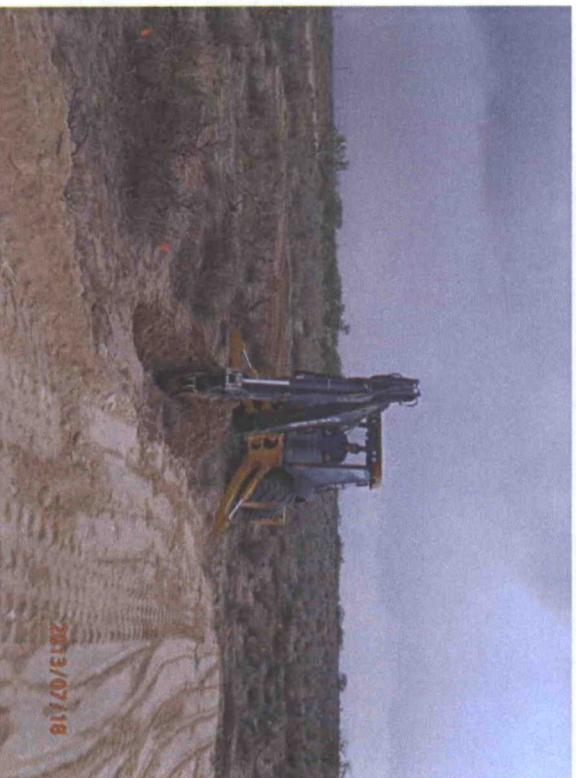
7/18/13



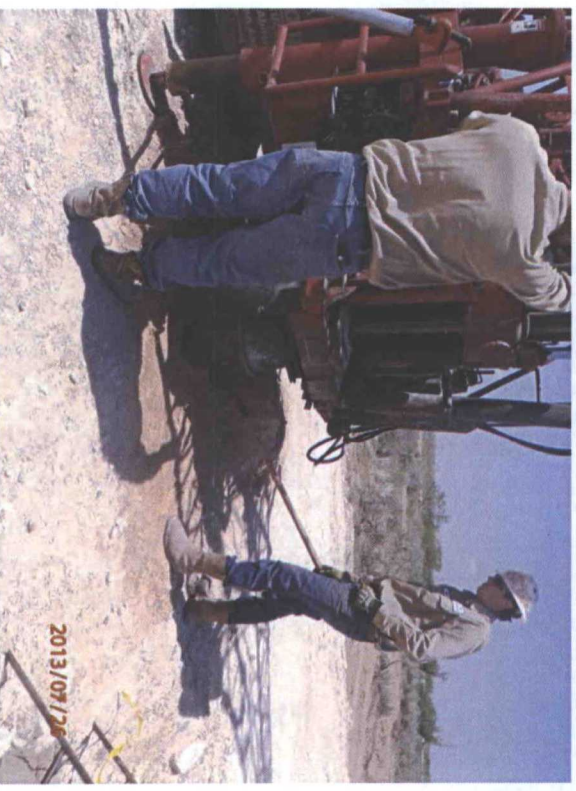
Installing vertical #4, facing west 7/18/13



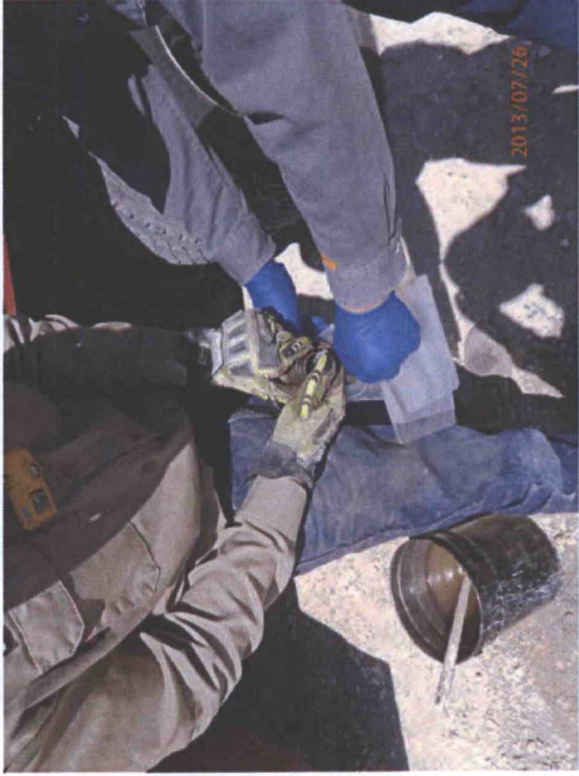
Installing vertical #5, facing north 7/18/13



Installing vertical #7, facing south 7/18/13



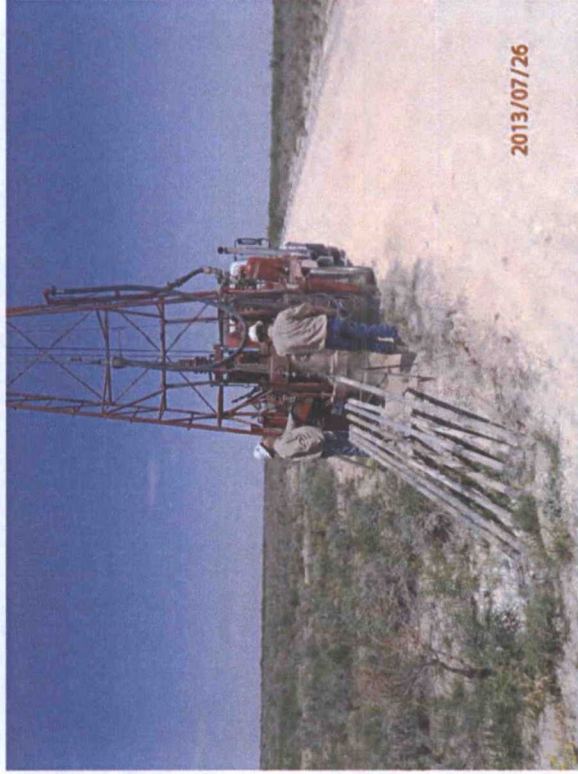
Installing soil bore #1, facing southwest 7/26/13



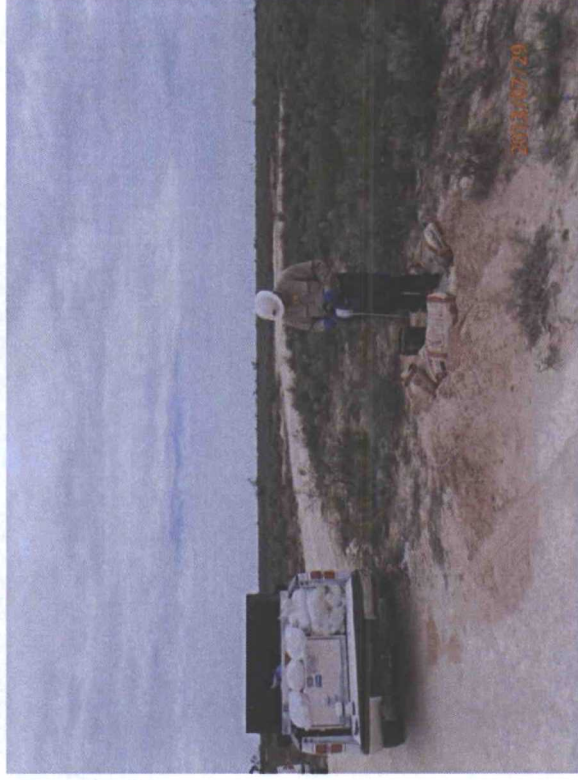
Collecting sample, facing west 7/26/13



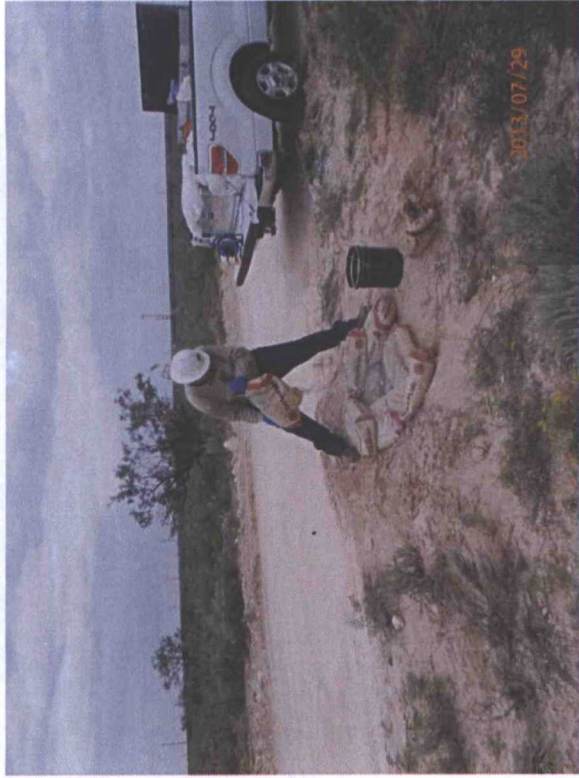
Plugging soil bore #1 in total with bentonite 7/26/13



Installing temporary MW, facing east 7/26/13



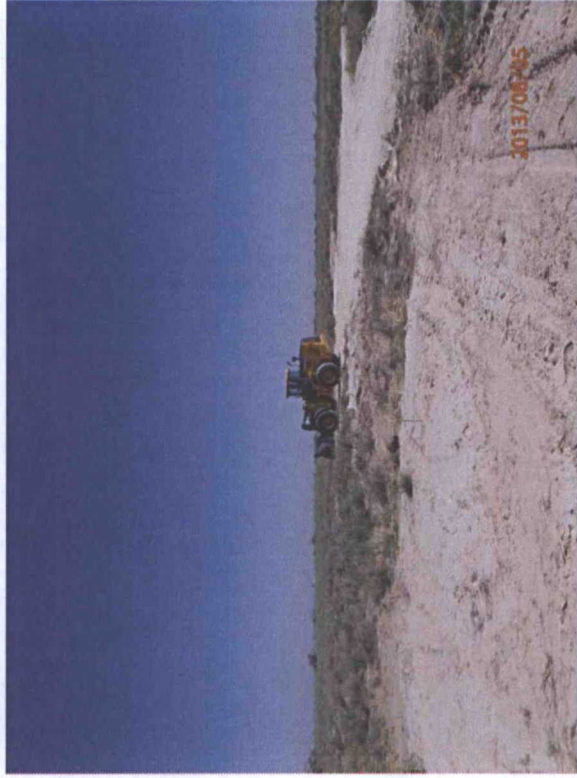
Gauging temporary MW, facing northwest 7/29/13



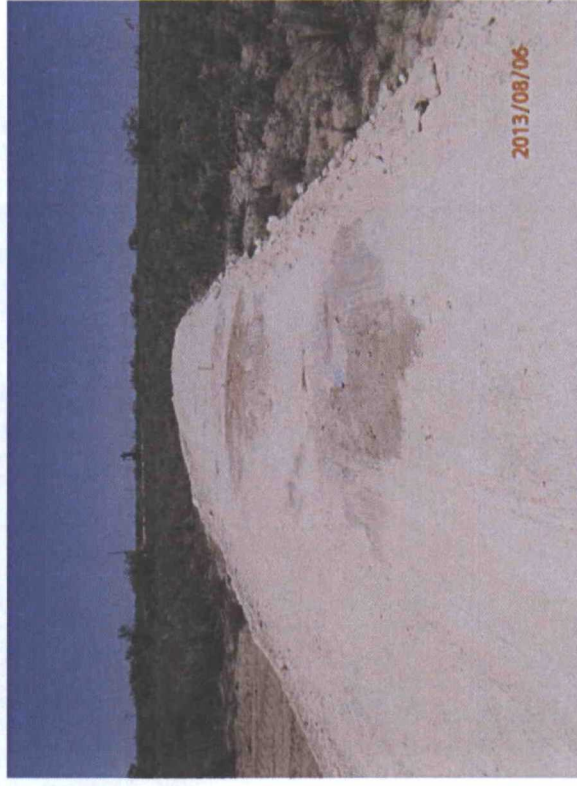
Plugging temporary MW in total with bentonite, facing southwest 7/29/13



Completed temporary MW, facing northwest 7/29/13



Building road for additional soil bore installations, facing west 8/5/13



Completed soil bores, facing west 8/6/13