

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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

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

HOBBS OCD

JAN 24 2013

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

RECEIVED

Form C-141  
Revised October 10, 2003

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company: Linn Operating	Contact: Jess Hayes	
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739	
Facility Name: CMU 60	Facility Type: Oil Producer	
Surface Owner: Federal	Mineral Owner: Federal	API No.: 3002500676

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	24	17S	32E	1980	South	620	West	Lea

Latitude: 32.8181847581278 Longitude: -103.726488803059

**NATURE OF RELEASE**

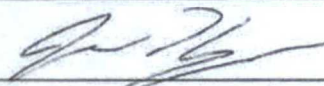
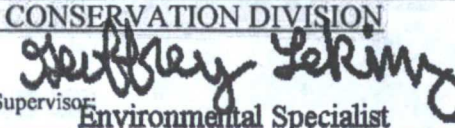
Type of Release: Produced Water	Volume of Release: 20 bbls	Volume Recovered: 5 bbls
Source of Release: 2" FG line	Date and Hour of Occurrence: 01/21/2013 11:15am	Date and Hour of Discovery: 01/21/2013 11:45am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Trish Bad Bear- BLM G. Leking- NM OCD	
By Whom? Gary Wink	Date and Hour 01/22/2013 2pm	
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.\*: Cmu 60 old inj. Line was hit by Willbros Const. They were putting in a pipeline and hit inj. line. Which is not in use. We shut in inj. wells and got leak to stop.

Describe Area Affected and Cleanup Action Taken.\* : The line is a 2 inch fiberglass line and the water stayed in the ditch and ran about 150 feet and is 2 foot wide. I had BSG Roustabout Services come and fix the fiberglass line. J.A. Services brought a vac truck and pulled fluid from line and picked up fluid on ground.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jess Hayes	Approved by District Supervisor:  Environmental Specialist	
Title: Production Foreman	Approval Date: 01/24/13	Expiration Date: 03/25/13
E-mail Address: jhayes@linenergy.com	Conditions of Approval: SUBMIT FINAL	Attached <input type="checkbox"/>
Date: 01/24/2013 Phone: 575-602-3283	C-141 BY 03/25/13	IRP-10-13-2971

\* Attach Additional Sheets If Necessary



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Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Linn Energy	Contact	Gary Wink
Address	2130 W. Bender Blvd.	Telephone No.	(575)738-1739
Facility Name	CMU #60	Facility Type	Injection Line Release
Surface Owner	State	Mineral Owner	
		Lease No.	

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	24	17S	32E	1,966	South Line	751	West Line	Lea

Latitude 32°49'5.116"N Longitude 103°43'33.815"W

#### NATURE OF RELEASE

20 BBLs UJRL 11/08/13 UJRL 11/08/13

Type of Release	Produced Water	Volume of Release	<del>unknown</del>	Volume Recovered	<del>none</del> 5 BBLs
Source of Release	Injection Line	Date and Hour of Occurrence	January 22 <sup>nd</sup> , 2013	Date and Hour of Discovery	January 22 <sup>nd</sup> , 2013
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

The injection line ruptured and fluid was released into a ditched area.

Describe Area Affected and Cleanup Action Taken.\* Samples were taken from inside the ditched area and then three vertical were dug to determine the depth of contamination. The samples were field tested for chlorides and hydrocarbons. All samples from Vertical #1 were taken to a commercial laboratory for analysis of chlorides, TPH and BTEX, and the two clean bottom samples from Vertical #2 and #3 were taken to a commercial laboratory for analysis of chlorides. The walls of the contaminated ditch were expanded until the walls field tested clean for chlorides. Representative samples from the walls were taken to a commercial laboratory for chloride analysis. 60 yards of excavated soil was taken to a NMOCD approved facility for disposal. Based on the initial laboratory sampling on the base of the ditch and with approval from NMOCD District 1 Office, a 20-mil reinforced poly liner was installed throughout the contaminated ditch area at a depth of 7 ft bgs. The site was backfilled with soil removed when excavating the initial ditch and a sample was taken to a commercial laboratory for analysis.

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: <u>Gary W. Wink</u>	OIL CONSERVATION DIVISION <u>Gary Wink</u> Environmental Specialist	
Printed Name:	Approved by District Supervisor:	
Title:	Approval Date: <u>10/10/13</u>	Expiration Date: <u>-</u>
E-mail Address:	Conditions of Approval: <u>-</u>	Attached <input type="checkbox"/>
Date: <u>2/20/13</u>	Phone: <u>575-390-3477</u>	IRP-10-13-2971

\* Attach Additional Sheets If Necessary

# **LINN ENERGY**

2130 W. Bender Blvd.  
Hobbs, NM 88241  
Phone 575.738.1739

## **CMU #60**

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# **Closure Report**

API 30-025-00676

Unit Letter L, Section 24, Township 17S, Range 32E



## Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241

Phone 575.393.4411 Fax 575.393.0293

**March 1<sup>st</sup>, 2012**

**Mr. Geoff Leking**

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau – District 1

1625 N. French Drive

Hobbs, New Mexico 88240

**RE: Termination Request**

**Linn Energy – CMU #60**

**UL/L Sec. 24 T17S R32E**

**API No. 30-025-00676**

Mr. Leking:

Linn Energy has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced

### **Background and Previous Work**

The site is located approximately 3.5 miles southeast of Maljamar, New Mexico in unit letter L, section 24, T17S, R32E in Lea County. Groundwater in this area is predicted to be at 69 ft bgs. On January 22<sup>nd</sup>, 2013, an accidental discharge of produced water from a ruptured injection line released fluid into a ditched area crossing the injection line.

On January 22<sup>nd</sup>, 2013, RECS personnel were on site to begin work at the CMU #60. Samples were taken from inside the ditched area and then three vertical were dug to determine the depth of contamination. The samples were field tested for chlorides and hydrocarbons. All samples from Vertical #1 were taken to a commercial laboratory for analysis of chlorides, TPH and BTEX, and the two clean bottom samples from Vertical #2 and #3 were taken to a commercial laboratory for analysis of chlorides (Figure 1, Appendix A).

The walls of the contaminated ditch were expanded until the walls field tested clean for chlorides. Representative samples from the walls were taken to a commercial laboratory for chloride analysis (Appendix A). 60 yards of excavated soil was taken to a NMOCD approved facility for disposal.

Based on the initial laboratory sampling on the base of the ditch and with approval from NMOCD District 1 Office, a 20-mil reinforced poly liner was installed throughout the contaminated ditch area at a depth of 7 ft bgs. The site was backfilled with soil removed when excavating the initial ditch and a sample was taken to a commercial laboratory for analysis. The backfill returned a chloride result of non-detect (Appendix A). Photo documentation of this work can be found in Appendix B.



Since RECS removed the impacted soil along the walls of the trench and installed a 20-mil reinforced poly liner at 7 ft bgs that will inhibit the downward migration of contaminants to groundwater, RECS, on behalf of Linn Energy, submits the final C-141 (Appendix C) and respectfully requests the closure of the regulatory file for this site.

RECS appreciates the opportunity to work with you on this project. Please call the number below if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Bruce Baker". The signature is written in a cursive style with a large, stylized "B" and "B".

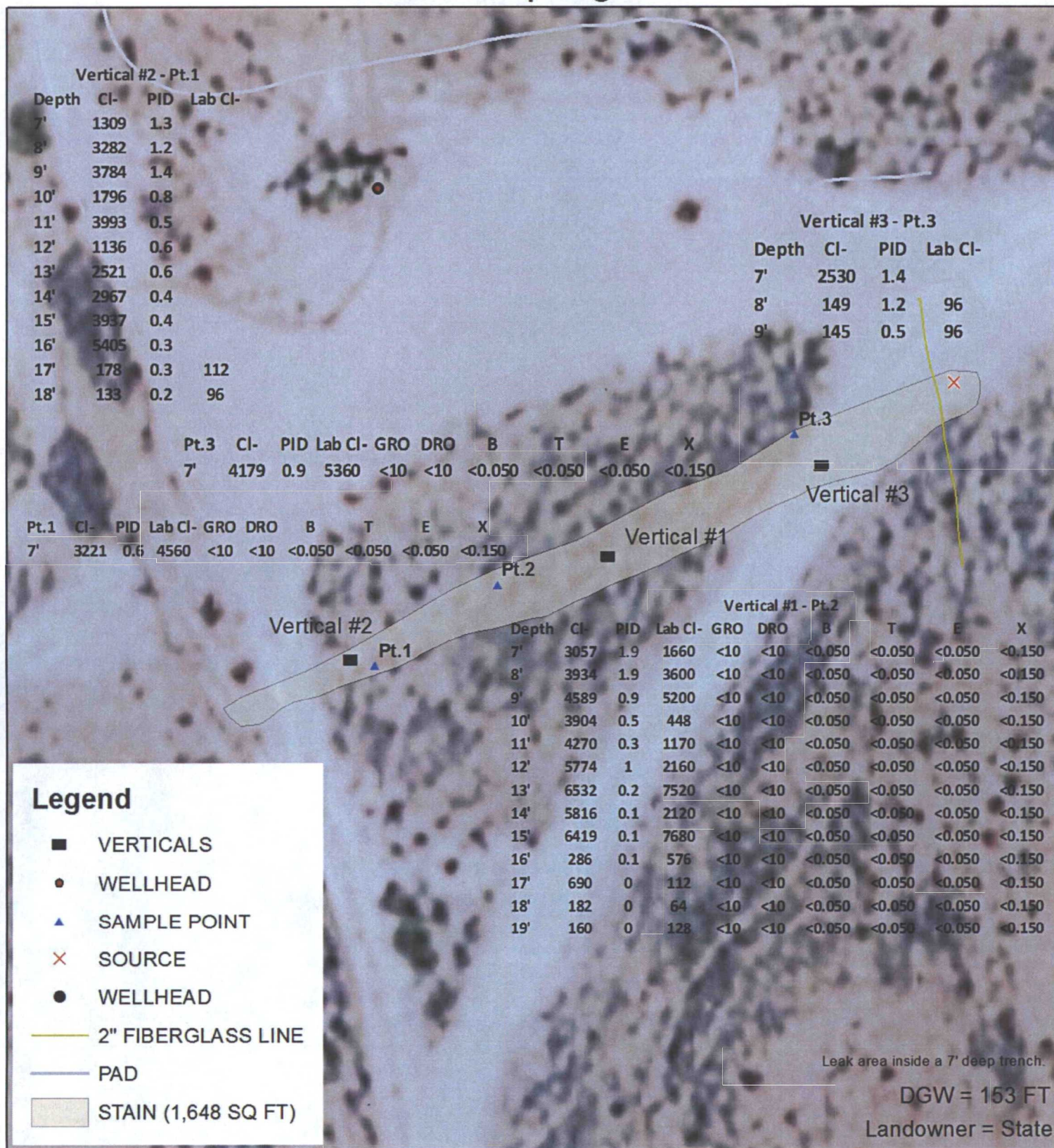
Bruce Baker  
Head Foreman  
RECS  
(575) 631-5157

Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Final Wall Sampling Data
- Appendix A – Laboratory Analyses
- Appendix B – Photo Documentation
- Appendix C – Final C-141



# Initial Sampling Data



**LINN**  
**CMU #60 AD**

LEGALS: UL/L SEC 24  
T17S R32E  
LEA COUNTY, NM

**Figure 1**

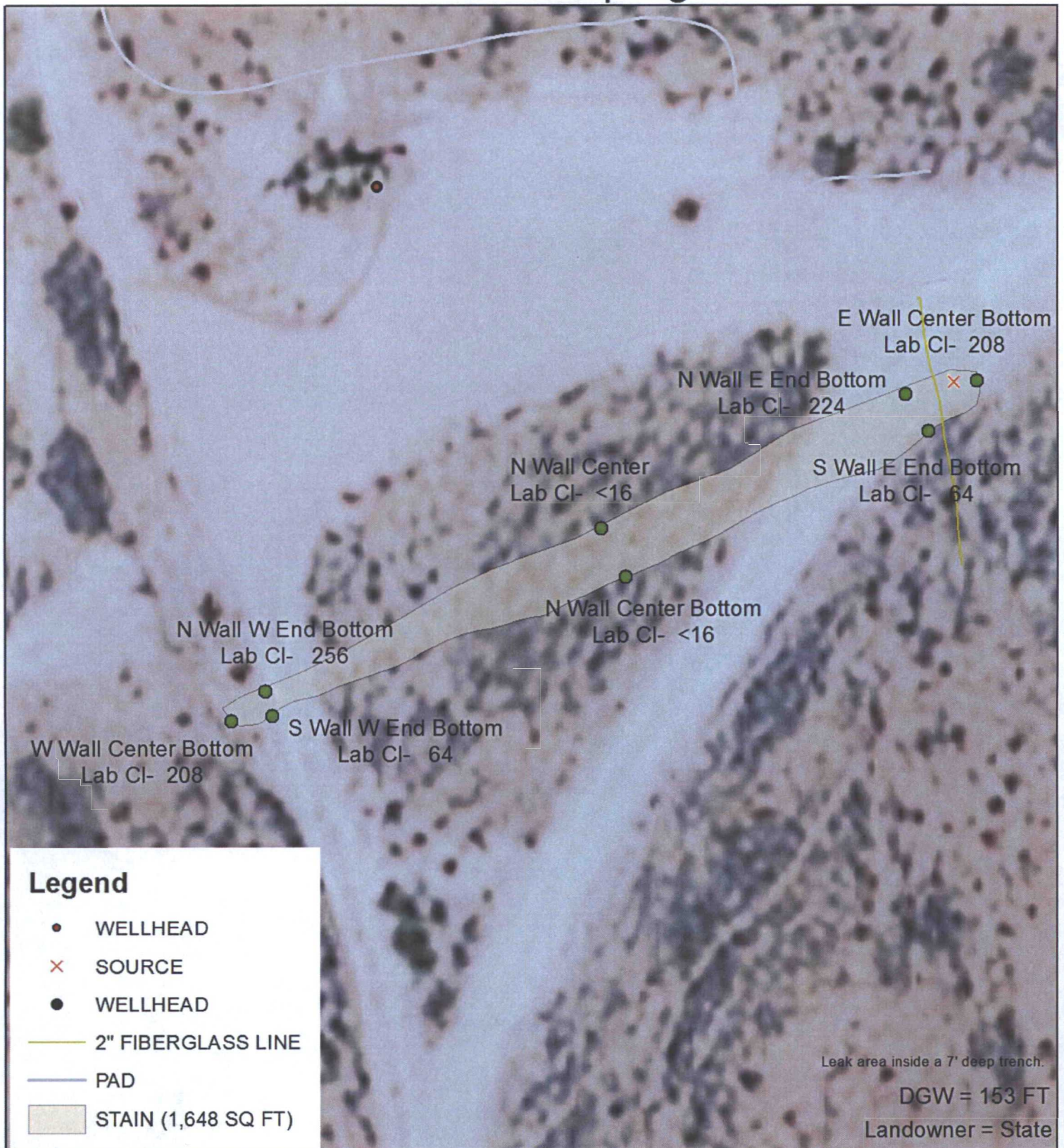


0 25 50  
Feet

GPS date: 1/22/2013 DH  
Drawing date: 2/15/13  
Drafted by: L. Weinheimer



# Final Wall Sampling Data



**LINN**  
**CMU #60 AD**

LEGALS: UL/L SEC 24  
T17S R32E  
LEA COUNTY, NM

**Figure 2**



0 25 50  
Feet

GPS date: 1/22/2013 DH  
Drawing date: 2/19/13  
Drafted by: L. Weinheimer



January 23, 2013

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: CMU #60 AD

Enclosed are the results of analyses for samples received by the laboratory on 01/22/13 16:00.

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](http://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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 7' (H300175-01)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 80.5 % 61.3-142

Surrogate: Toluene-d8 113 % 71.3-129

Surrogate: 4-Bromofluorobenzene 88.9 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1660	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	


Surrogate: 1-Chlorooctane 79.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 91.3 % 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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 8' (H300175-02)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 82.4 % 61.3-142

Surrogate: Toluene-d8 113 % 71.3-129

Surrogate: 4-Bromofluorobenzene 89.5 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

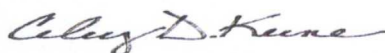
Surrogate: 1-Chlorooctane 84.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.9 % 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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 9' (H300175-03)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 82.0 % 61.3-142

Surrogate: Toluene-d8 114 % 71.3-129

Surrogate: 4-Bromofluorobenzene 90.9 % 65.7-141

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	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

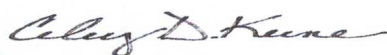
Surrogate: 1-Chlorooctane 77.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.3 % 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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 10' (H300175-04)**

BTX 8260B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 80.7 % 61.3-142

Surrogate: Toluene-d8 112 % 71.3-129

Surrogate: 4-Bromofluorobenzene 89.8 % 65.7-141

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 85.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 97.3 % 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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 11' (H300175-05)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 81.2 % 61.3-142

Surrogate: Toluene-d8 111 % 71.3-129

Surrogate: 4-Bromofluorobenzene 88.5 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1170	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

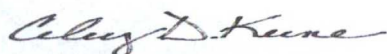
Surrogate: 1-Chlorooctane 71.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 82.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 12' (H300175-06)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 83.0 % 61.3-142

Surrogate: Toluene-d8 112 % 71.3-129

Surrogate: 4-Bromofluorobenzene 87.4 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 80.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 89.4 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 13' (H300175-07)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 84.4 % 61.3-142

Surrogate: Toluene-d8 112 % 71.3-129

Surrogate: 4-Bromofluorobenzene 89.0 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7520	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 81.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.3 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 14' (H300175-08)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 82.0 % 61.3-142

Surrogate: Toluene-d8 113 % 71.3-129

Surrogate: 4-Bromofluorobenzene 87.9 % 65.7-141

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	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	


Surrogate: 1-Chlorooctane 83.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.5 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 15' (H300175-09)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 81.3 % 61.3-142

Surrogate: Toluene-d8 110 % 71.3-129

Surrogate: 4-Bromofluorobenzene 85.3 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7680	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

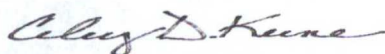
Surrogate: 1-Chlorooctane 79.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 85.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 16' (H300175-10)**

BTEx 8260B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 86.3 % 61.3-142

Surrogate: Toluene-d8 110 % 71.3-129

Surrogate: 4-Bromofluorobenzene 87.2 % 65.7-141

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	01/23/2013	ND	416	104	400	7.41	

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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 82.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 90.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 17' (H300175-11)**

BTEX 8260B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 83.0 % 61.3-142

Surrogate: Toluene-d8 109 % 71.3-129

Surrogate: 4-Bromofluorobenzene 85.0 % 65.7-141

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	01/23/2013	ND	448	112	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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 78.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 89.3 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 18' (H300175-12)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 83.6 % 61.3-142

Surrogate: Toluene-d8 108 % 71.3-129

Surrogate: 4-Bromofluorobenzene 85.5 % 65.7-141

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	01/23/2013	ND	448	112	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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	


Surrogate: 1-Chlorooctane 83.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 87.5 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: VERTICAL #1 @ 19' (H300175-13)**

BTEX 8260B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 82.1 % 61.3-142

Surrogate: Toluene-d8 108 % 71.3-129

Surrogate: 4-Bromofluorobenzene 85.0 % 65.7-141

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	01/23/2013	ND	448	112	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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 68.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 72.5 % 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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/22/2013  
Reported: 01/23/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/22/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: PT. 1 @ 7' (H300175-14)**

BTEX 8260B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 84.7 % 61.3-142

Surrogate: Toluene-d8 108 % 71.3-129

Surrogate: 4-Bromofluorobenzene 84.3 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	01/23/2013	ND	448	112	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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 82.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.1 % 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  
 BRUCE BAKER  
 112 W. TAYLOR  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 01/22/2013  
 Reported: 01/23/2013  
 Project Name: CMU #60 AD  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/22/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: PT. 3 @ 7' (H300175-15)**

BTEX 8260B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/23/2013	ND	1.84	92.0	2.00	3.58	
Toluene*	<0.050	0.050	01/23/2013	ND	2.05	102	2.00	5.46	
Ethylbenzene*	<0.050	0.050	01/23/2013	ND	2.20	110	2.00	5.61	
Total Xylenes*	<0.150	0.150	01/23/2013	ND	6.58	110	6.00	5.61	

Surrogate: Dibromofluoromethane 84.0 % 61.3-142

Surrogate: Toluene-d8 109 % 71.3-129

Surrogate: 4-Bromofluorobenzene 86.1 % 65.7-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5360	16.0	01/23/2013	ND	448	112	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	01/23/2013	ND	188	93.8	200	5.71	
DRO >C10-C28	<10.0	10.0	01/23/2013	ND	194	96.8	200	7.66	

Surrogate: 1-Chlorooctane 84.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 89.2 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

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Celey D. Keene, Lab Director/Quality Manager



1047

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



**CAMPION Laboratories**

Recs

[illegible]

Phone Result: ☐ Yes ☐ No Add'l Phone #: \_\_\_\_\_  
 Add'l Fax #: \_\_\_\_\_  
 MARKS:  
 1. Condore rice - ccs.com  
 B. Baker, w - ccs.com  
 L. Weinheimer rice - ccs.com

### Sample Condition

Delivered By: (Circle One)

amper - UPS - Bus - Other:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2328



January 31, 2013

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: CMU #60 AD

Enclosed are the results of analyses for samples received by the laboratory on 01/28/13 8:40.

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](http://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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	01/28/2013	Sampling Date:	01/25/2013
Reported:	01/31/2013	Sampling Type:	Soil
Project Name:	CMU #60 AD	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: PT. 1 VERTICAL #2 @ 17' (H300233-01)**

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	01/31/2013	ND	432	108	400	7.14	

**Sample ID: PT. 1 VERTICAL #2 @ 18' (H300233-02)**

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	01/31/2013	ND	432	108	400	7.14	

**Sample ID: PT. 3 VERTICAL #3 @ 8' (H300233-03)**

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	01/31/2013	ND	432	108	400	7.14	

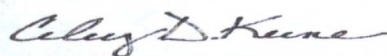
**Sample ID: PT. 3 VERTICAL #3 @ 9' (H300233-04)**

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	01/31/2013	ND	432	108	400	7.14	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/28/2013  
Reported: 01/31/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/25/2013  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

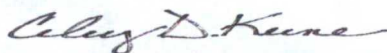
**Sample ID: BACKFILL (H300233-05)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/31/2013	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

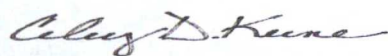
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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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



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Celey D. Keene, Lab Director/Quality Manager



# Cardinal Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: <b>Recs</b>		<b>BILL TO</b>		ANALYSIS REQUEST																							
Project Manager: <b>Bruce Baker</b>		P.O. #:																									
Address:		Company:																									
City:		Altitude:																									
Phone #:		Address:																									
Project #:		City:																									
Project Name: <b>CMU#60 A.P.</b>		State:																									
Project Location:		Phone #:																									
Sampler Name: <b>Dak Harris</b>		Fax #:																									
FOR LAB USE ONLY		PRESERV		MATRIX		CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		SLUDGE		OTHER:		ACID/BASE		ICE / COOL		OTHER:		DATE		TIME	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER:	ACID/BASE	ICE / COOL	OTHER:																
1300233	PT. 1 Vertical #20E17'	6	1			✓																		1-25-13	11:30		
2	PT. 1 Vertical #20E18'	6	1			✓																		1-25-13	11:35		
3	PT. 3 Vertical #30E8'	6	1			✓																		1-25-13	11:40		
4	PT. 3 Vertical #30E9'	6	1			✓																		1-25-13	11:45		
5	Backfill	6	1			✓																		1-25-13	12:00		

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other causes whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates, or assignees, arising out of or in connection with the performance of services hereunder. By Cardinal's acceptance of the sample, the client agrees to indemnify and hold Cardinal harmless from all claims, damages, losses, and expenses, including reasonable attorneys' fees, arising out of or in connection with the performance of services hereunder.

Relinquished By: <b>Dak Harris</b>		Received By: <b>Gadi Jensen</b>	
Date: <b>1-25-13</b>	Time: <b>8:40</b>	Date: <b>1-25-13</b>	Time: <b>11:30</b>
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition: Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sampler - UPS - Bus - Other:		Checked By: <b>GJ</b>	
Remarks:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: <b>1-800-810-CCS.COM</b> Add'l Fax #: <b>1-800-810-CCS.COM</b>	

February 01, 2013

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: CMU #60 AD

Enclosed are the results of analyses for samples received by the laboratory on 01/29/13 8:35.

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](http://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  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/29/2013  
Reported: 02/01/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/28/2013  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: N WALL CENTER (H300241-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	02/01/2013	ND	432	108	400	0.00		

**Sample ID: N WALL E END BOTTOM (H300241-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	02/01/2013	ND	432	108	400	0.00		

**Sample ID: N WALL W END BOTTOM (H300241-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/01/2013	ND	432	108	400	0.00	

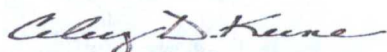
**Sample ID: E WALL CENTER BOTTOM (H300241-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	02/01/2013	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
BRUCE BAKER  
112 W. TAYLOR  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 01/29/2013  
Reported: 02/01/2013  
Project Name: CMU #60 AD  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/28/2013  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: S WALL E END BOTTOM (H300241-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	02/01/2013	ND	432	108	400	0.00	

**Sample ID: S WALL W END BOTTOM (H300241-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	02/01/2013	ND	432	108	400	0.00		

**Sample ID: S WALL CENTER BOTTOM (H300241-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	02/01/2013	ND	432	108	400	0.00		

**Sample ID: W WALL CENTER BOTTOM (H300241-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/01/2013	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

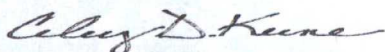
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

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Cardinal Laboratories

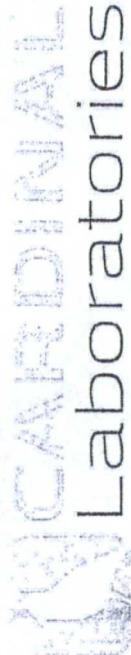
\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



1041

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Mariand, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: <u>ACS</u>		P.O. #:		BILL TO												ANALYSIS REQUEST											
Project Manager: <u>Bruce Baker</u>		Company:																									
Address:		Attn:																									
City:		Address:																									
Phone #:		City:																									
Project #:		State:																									
Project Name: <u>CMT#60</u>		Zip:																									
Project Location:		Phone #:																									
Sampler Name: <u>Debbie Harris</u>		Fax #:																									
FOR LAB USE ONLY		MATRIX		PRESERV		SAMPLING																					
		GROUNDWATER		ICE/COOL		DATE																					
		WASTEWATER		ACID/BASE		TIME																					
		# CONTAINERS		OTHER:																							
		(G)RAB OR (C)OMP.																									
Lab I.D.		Sample I.D.																									
1 H300241		N. Wall Center		6-1		1-28-13 9:00																					
2		N. Wall E. End BTH		6-1		1-28-13 9:05																					
3		N. Wall N. End BTH		6-1		1-28-13 9:10																					
4		E. Wall Center BTH		6-1		1-28-13 9:15																					
5		S. Wall E. End BTH		6-1		1-28-13 9:20																					
6		S. Wall N. End BTH		6-1		1-28-13 9:25																					
7		S. Wall Center BTH		6-1		1-28-13 9:30																					
8		W. Wall Center BTH		6-1		1-28-13 9:35																					

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or licensees, or any other third party, arising out of or related to the performance of services furnished by Cardinal, regardless of whether such claim is based upon any theory of liability, including but not limited to negligence, strict liability, or breach of contract.

Relinquished By: <u>[Signature]</u>	Date: <u>11/9/13</u>	Received By: <u>Jodi Jensen</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: <u>1-800-611-1111</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11/9/13</u>	Received By: <u>[Signature]</u>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #: <u>1-800-611-1111</u>
REMARKS: <u>H. Carder-ecs-ecs.com</u> <u>Baker-ecs-ecs.com</u> <u>L. Weinheimer-ecs-ecs.com</u>				
Delivered By: (Circle One) Sampler - UPS - Bus - Other:				
Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>				
CHECKED BY: <u>[Signature]</u>				

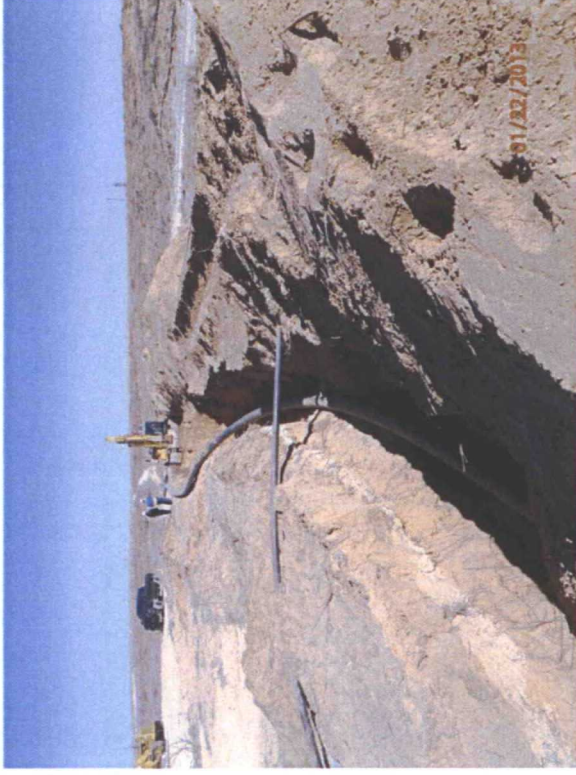


**Linn CMU #60 AD**  
Unit Letter L, Section 24, T17S, R32E



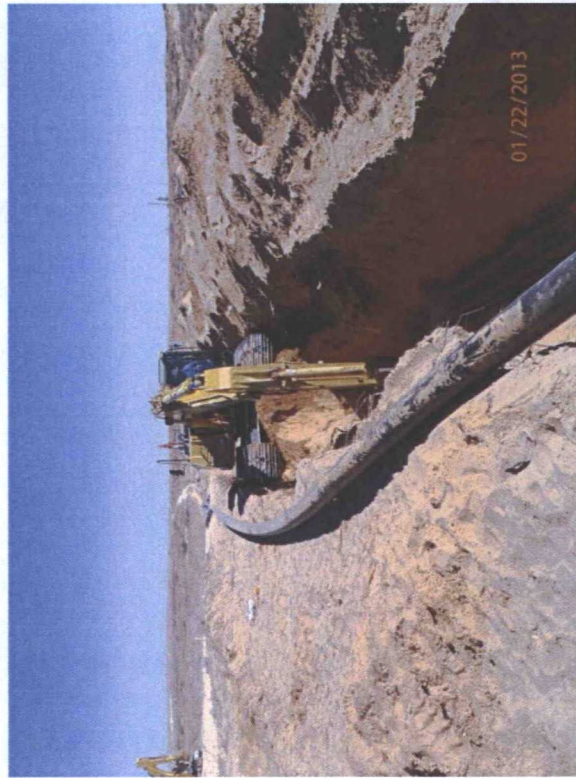
Initial release area, facing east

1/22/13



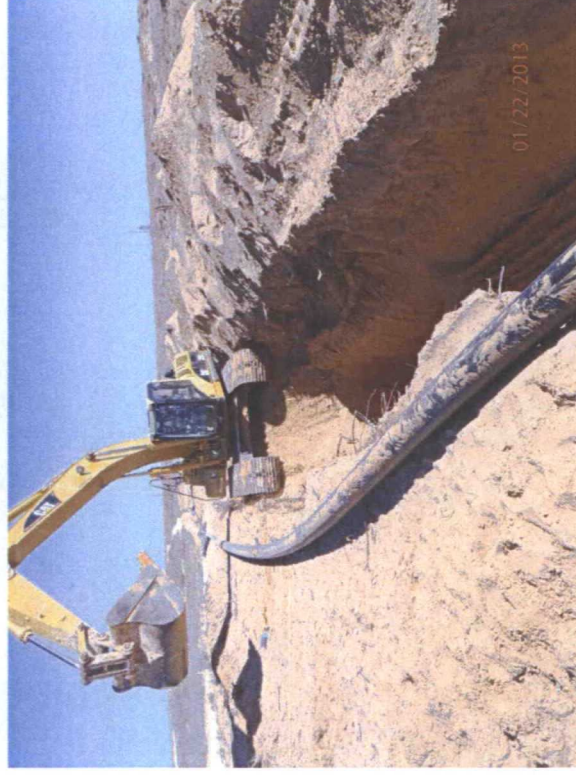
Collecting samples, facing east

1/22/13



Digging Vertical #1, facing east

1/22/13



Digging Vertical #1, facing east

1/22/13





Digging Vertical #2, facing east

1/26/13



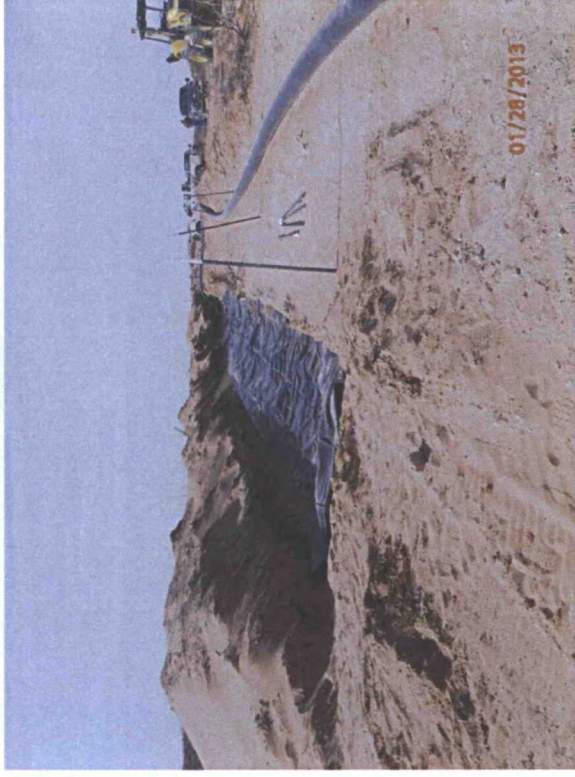
Digging Vertical #3, facing east

1/26/13



Installing the 20-mil reinforced poly liner, facing west

1/28/13



Liner installation completed, facing west

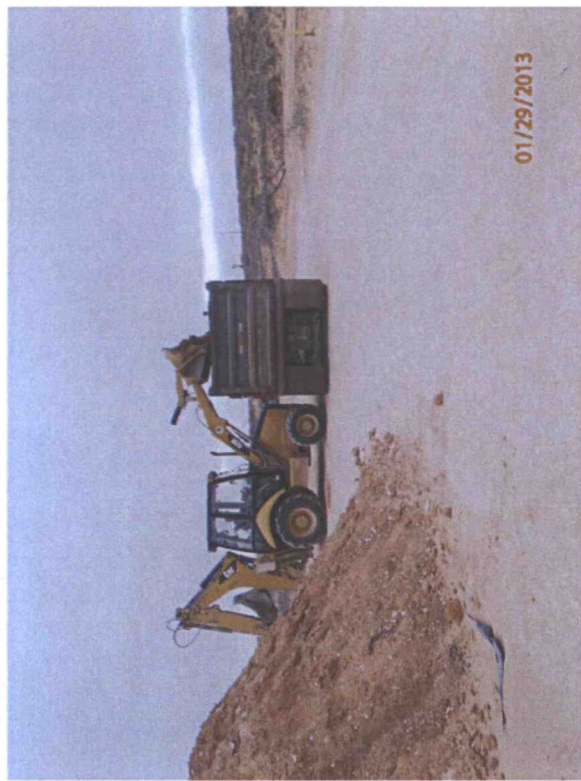
1/28/13





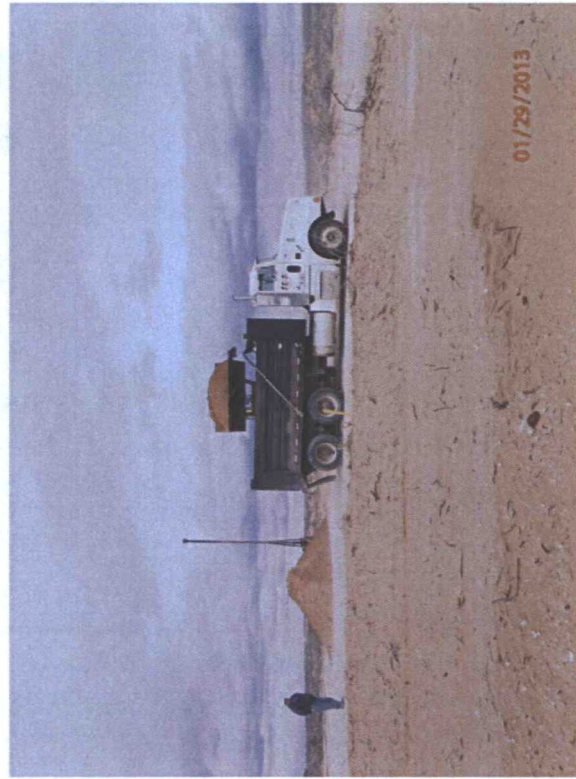
Backfilling above the liner, facing east

1/28/13



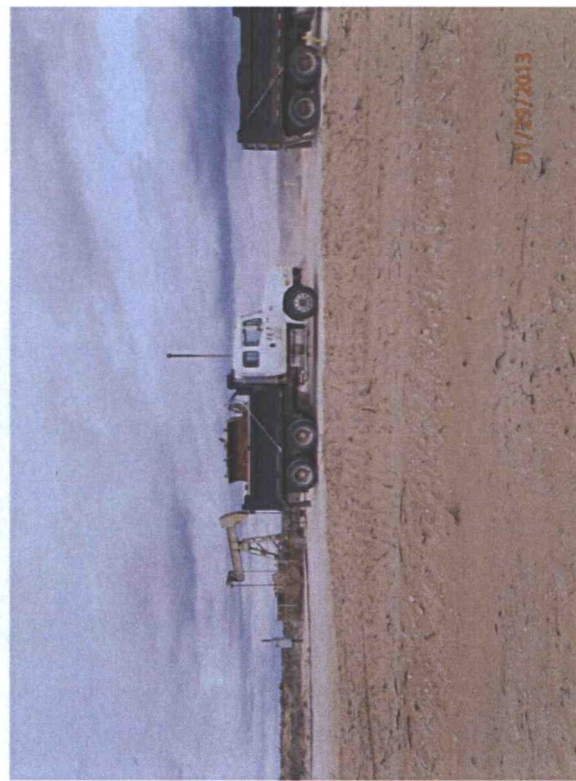
Exporting soil, facing east

1/29/13



Site backfilled, facing north

1/29/13



Site backfilled, facing north

1/29/13