



## **LINN ENERGY**

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

# H E West B #58

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## Corrective Action Plan

API No. 30-015-27311

Release Date: June 1<sup>st</sup>, 2014

Unit Letter C, Section 10, Township 17S, Range 31E

**June 24<sup>th</sup>, 2014**

**Mike Bratcher**

New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau – District 2  
811 S. First St.  
Artesia, NM 88210

**RE: Corrective Action Plan  
Linn Energy H E West B #58  
UL/C sec. 10 T17S R31E  
API No. 30-015-27311**

Mr. Bratcher:

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

**Background and Previous Work**

The site is located approximately 5.5 miles west of Maljamar, New Mexico. The initial C-141 stated that the release is located in UL/C, Section 10, T17S R31E; however, GPS mapping shows the site to be located in UL/G. This site is situated in an area of no known groundwater.

On June 1<sup>st</sup>, 2014, Linn discovered a release cause by the failure in a 2 inch HP fiberglass line. Deterioration of the line caused it to split releasing 20 barrels of produced water over 2,103 square feet of pasture land. None of this fluid was recovered. The line was isolated and repaired. NMOCD and BLM were notified of the release on June 2<sup>nd</sup>, 2014, and an initial C-141 was sent to both agencies for approval (Appendix A).

On June 3<sup>rd</sup>, 2014, RECS personnel were on site to assess the release. Three points within the release area were sampled at the surface and with depth (Figure 1). All samples were field tested for chlorides and organic vapors, and representative samples were taken to a commercial laboratory for analysis (Appendix B).

Photo documentation of the initial release area can be found in Appendix C.

**Corrective Action Plan**

Based on the laboratory analysis of the release, the release will be scraped down to 6 inches around Point 1, scraped down to 1.5 feet around Point 2 and excavated to a depth of 4 feet around Point 3 (Figure 2). At the base of each scrape, a bottom composite sample will be taken to confirm that all constituents are below regulatory standards.

All excavated soils will be evaluated for use as backfill, and any soils that do not meet regulatory standards will be disposed at a NMOCD approved facility. Clean soil will be imported to the site to replace any soils taken for disposal. The clean soil will be blended on site with the remaining excavated soil. A composite sample of the blended soil will be taken to a commercial laboratory for analysis to confirm that the chloride concentration is below regulatory standards.

The scrapes and excavation will be backfilled with the blended soil and area contoured to the surrounding location. Soil amendments will be added as needed and then the disturbed area will be seeded with a blend of native vegetation.

Once these activities have been completed, a report will be submitted to NMOCD and BLM detailing the work that occurred at the site and asking for 'remediation termination' and 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,

A handwritten signature in dark ink, appearing to read 'L. Weinheimer', with a long horizontal flourish extending to the right.

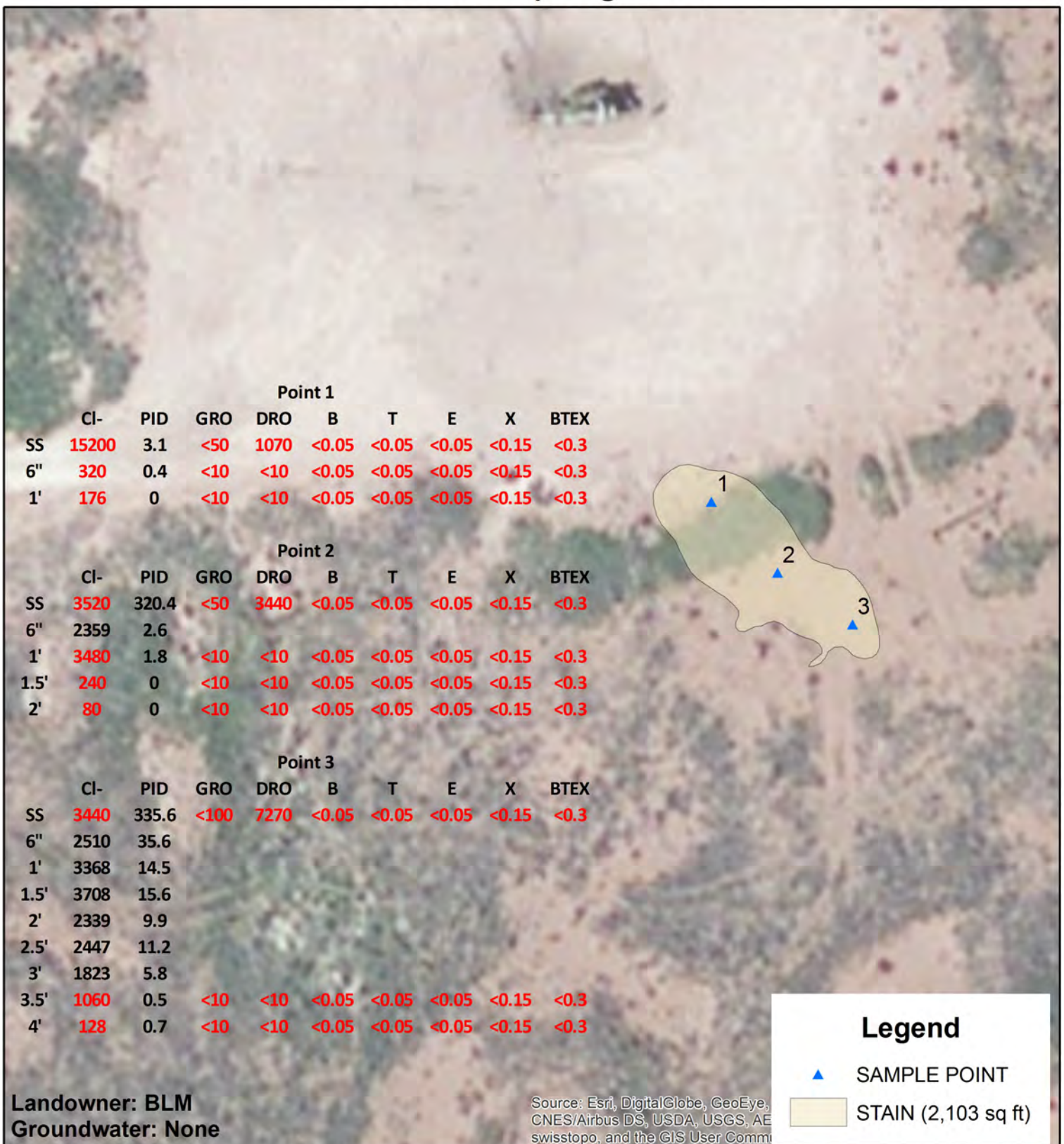
Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Proposed Corrective Actions
- Appendix A – Initial C-141
- Appendix B – Initial Sampling Lab
- Appendix C – Photo Documentation

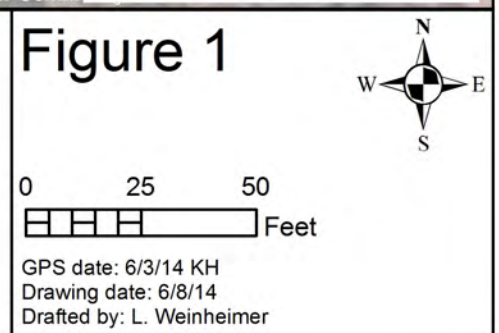
# Figures

# Initial Sampling Data



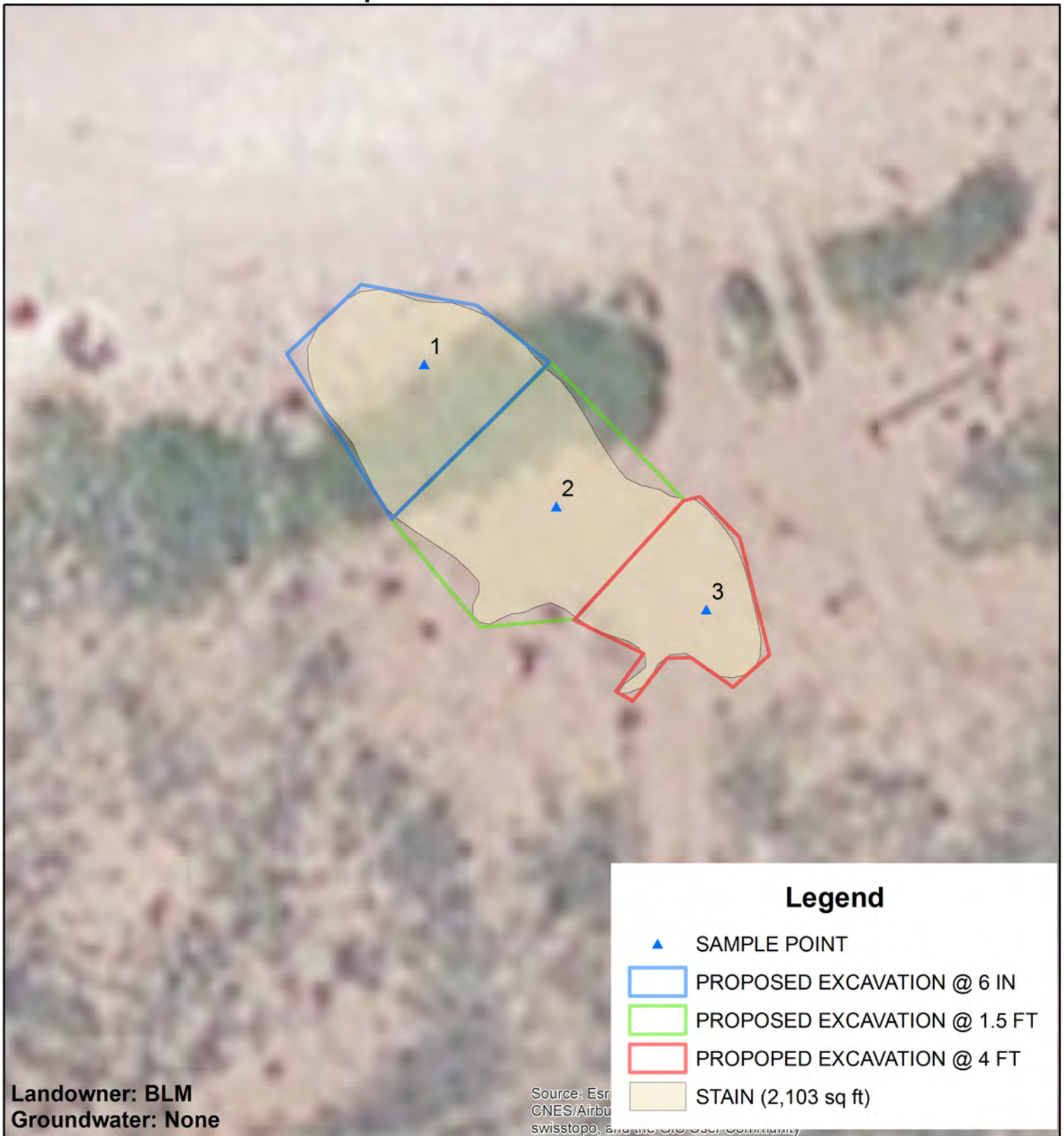
**LINN H E  
WEST B #58**

UL G SECTION 10  
T-17-S R-31-E  
EDDY COUNTY, NM





# Proposed Corrective Actions



**LINN H E  
WEST B #58**

UL G SECTION 10  
T-17-S R-31-E  
EDDY COUNTY, NM

**Figure 2**



0 10 20  
Feet

GPS date: 6/3/14 KH  
Drawing date: 6/19/14  
Drafted by: L. Weinheimer

# Appendix A

Initial C-141

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

Form C-141  
Revised October 10, 2003

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: Linn Operating	Contact: Brian Wall	
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739	
Facility Name: H E West B #58	Facility Type: Oil Producer	
Surface Owner: Federal	Mineral Owner:	API No.: 30-01527311

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	10	17S	31E	1305	North	2625	West	Eddy

Latitude: 32.8527476727543 Longitude: -103.857625755191

### NATURE OF RELEASE


Type of Release: Produced Water	Volume of Release: 20 bbls	Volume Recovered: 0
Source of Release: Fiber glass pipeline	Date and Hour of Occurrence: 06/01/2014	Date and Hour of Discovery: 06/01/2014 0900
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Jennifer Van Curren- BLM Mike Bratcher- NM OCD	
By Whom? Brian Wall	Date and Hour 06/02/2014 0815	
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.\*: Release was cause by failure in 2" HP fiberglass line. Split in line appears to be from deterioration of line due to age. Line is located at Sout East corner of location. Line was issolated and is scheduled to be fixed.

Describe Area Affected and Cleanup Action Taken.\* : Released fluid in a fine area measuring approximatly 15x20 ft, and pooled in an area around line approximatly 20x30 ft. Total fluid release is estimated at 20 BBL. Fluid could not be picked up due to absorbtion. Delineate site and turn in CAP to BLM and OCD. Remove contaminated soils and haul to approved disposal. Return clean soils to void and return to natural terrain.

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: Brian Wall	Approved by District Supervisor:		
Title: Construction Foreman II	Approval Date:	Expiration Date:	
E-mail Address: bwall@linenergy.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 06/02/2014	Phone: 806-367-0645		

\* Attach Additional Sheets If Necessary



# Appendix B

## Initial Sampling Lab

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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June 10, 2014

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #58

Enclosed are the results of analyses for samples received by the laboratory on 06/03/14 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 1 @ SURFACE (H401696-01)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEX	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 96.8 % 61.3-142

Surrogate: Toluene-d8 100 % 71.3-129

Surrogate: 4-Bromofluorobenzene 96.6 % 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
<b>Chloride</b>	<b>15200</b>	16.0	06/09/2014	ND	400	100	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	<50.0	50.0	06/09/2014	ND	143	71.7	200	7.16	
<b>DRO &gt;C10-C28</b>	<b>1070</b>	50.0	06/09/2014	ND	141	70.4	200	4.92	

Surrogate: 1-Chlorooctane 66.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 1 @ 6" (H401696-02)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEx	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 83.2 % 61.3-142

Surrogate: Toluene-d8 109 % 71.3-129

Surrogate: 4-Bromofluorobenzene 103 % 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	320	16.0	06/09/2014	ND	400	100	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	06/09/2014	ND	143	71.7	200	7.16	
DRO >C10-C28	<10.0	10.0	06/09/2014	ND	141	70.4	200	4.92	

Surrogate: 1-Chlorooctane 75.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 80.6 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 1 @ 1' (H401696-03)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEx	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 97.6 % 61.3-142  
Surrogate: Toluene-d8 99.5 % 71.3-129  
Surrogate: 4-Bromofluorobenzene 102 % 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	176	16.0	06/09/2014	ND	400	100	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	06/09/2014	ND	143	71.7	200	7.16	
DRO >C10-C28	<10.0	10.0	06/09/2014	ND	141	70.4	200	4.92	

Surrogate: 1-Chlorooctane 86.1 % 65.2-140  
Surrogate: 1-Chlorooctadecane 92.3 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 2 @ SURFACE (H401696-04)**

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	06/05/2014	ND	2.05	102	2.00	1.26		
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474		
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291		
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823		
Total BTEx	<0.300	0.300	06/05/2014	ND						

Surrogate: Dibromofluoromethane 96.2 % 61.3-142  
Surrogate: Toluene-d8 111 % 71.3-129  
Surrogate: 4-Bromofluorobenzene 101 % 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	3520	16.0	06/09/2014	ND	400	100	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	<50.0	50.0	06/09/2014	ND	143	71.7	200	7.16	
DRO >C10-C28	3440	50.0	06/09/2014	ND	141	70.4	200	4.92	

Surrogate: 1-Chlorooctane 73.1 % 65.2-140  
Surrogate: 1-Chlorooctadecane 139 % 63.6-154

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\*=Accredited Analyte

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

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 2 @ 1' (H401696-05)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEx	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 94.6 % 61.3-142

Surrogate: Toluene-d8 105 % 71.3-129

Surrogate: 4-Bromofluorobenzene 119 % 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	3480	16.0	06/09/2014	ND	400	100	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	06/09/2014	ND	143	71.7	200	7.16	
DRO >C10-C28	<10.0	10.0	06/09/2014	ND	141	70.4	200	4.92	

Surrogate: 1-Chlorooctane 99.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 108 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 2 @ 1.5' (H401696-06)**

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	06/05/2014	ND	2.05	102	2.00	1.26		
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474		
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291		
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823		
Total BTEX	<0.300	0.300	06/05/2014	ND						

Surrogate: Dibromofluoromethane 90.8 % 61.3-142

Surrogate: Toluene-d8 102 % 71.3-129

Surrogate: 4-Bromofluorobenzene 115 % 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	240	16.0	06/09/2014	ND	400	100	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	06/09/2014	ND	143	71.7	200	7.16	
DRO >C10-C28	<10.0	10.0	06/09/2014	ND	141	70.4	200	4.92	

Surrogate: 1-Chlorooctane 95.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 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  
JACOB KAMPLAIN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 2 @ 2' (H401696-07)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEx	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 93.6 % 61.3-142  
Surrogate: Toluene-d8 93.6 % 71.3-129  
Surrogate: 4-Bromofluorobenzene 105 % 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	80.0	16.0	06/09/2014	ND	400	100	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	06/09/2014	ND	143	71.7	200	7.16	
DRO >C10-C28	<10.0	10.0	06/09/2014	ND	141	70.4	200	4.92	

Surrogate: 1-Chlorooctane 93.0 % 65.2-140  
Surrogate: 1-Chlorooctadecane 101 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 3 @ SURFACE (H401696-08)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEx	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 84.9 % 61.3-142  
Surrogate: Toluene-d8 105 % 71.3-129  
Surrogate: 4-Bromofluorobenzene 109 % 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	3440	16.0	06/09/2014	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<100	100	06/09/2014	ND	191	95.4	200	3.91		
DRO >C10-C28	7270	100	06/09/2014	ND	197	98.3	200	4.65		

Surrogate: 1-Chlorooctane 89.7 % 65.2-140  
Surrogate: 1-Chlorooctadecane 216 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 3 @ 3.5' (H401696-09)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEx	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 96.2 % 61.3-142

Surrogate: Toluene-d8 90.5 % 71.3-129

Surrogate: 4-Bromofluorobenzene 91.3 % 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	1060	16.0	06/09/2014	ND	400	100	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	06/09/2014	ND	191	95.4	200	3.91	
DRO >C10-C28	<10.0	10.0	06/09/2014	ND	197	98.3	200	4.65	

Surrogate: 1-Chlorooctane 103 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/03/2014	Sampling Date:	06/03/2014
Reported:	06/10/2014	Sampling Type:	Soil
Project Name:	H. E. WEST B #58	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

**Sample ID: PT. 3 @ 4' (H401696-10)**

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	06/05/2014	ND	2.05	102	2.00	1.26	
Toluene*	<0.050	0.050	06/05/2014	ND	2.03	102	2.00	0.474	
Ethylbenzene*	<0.050	0.050	06/05/2014	ND	1.91	95.5	2.00	0.291	
Total Xylenes*	<0.150	0.150	06/05/2014	ND	5.74	95.7	6.00	0.823	
Total BTEx	<0.300	0.300	06/05/2014	ND					

Surrogate: Dibromofluoromethane 99.0 % 61.3-142

Surrogate: Toluene-d8 103 % 71.3-129

Surrogate: 4-Bromofluorobenzene 105 % 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	06/09/2014	ND	400	100	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	06/09/2014	ND	191	95.4	200	3.91	
DRO >C10-C28	<10.0	10.0	06/09/2014	ND	197	98.3	200	4.65	

Surrogate: 1-Chlorooctane 92.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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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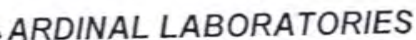
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Celey D. Keene, Lab Director/Quality Manager



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

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

#54

# Appendix C

Photo Documentation

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967



**H E West B #58**  
Unit Letter C, Section 10, T17S, R31E



Initial release area, facing southeast

6/3/14



Initial release area, facing west

6/3/14



Initial release area, facing east

6/3/14



Initial release area, facing east

6/3/14