



LINN ENERGY

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

West B #45 2RP-1862

Termination Request

API No. 3001526099

Release Date: August 18th, 2013

Unit Letter N, Section 9, Township 17S, Range 31E

Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241 Phone 575.393.2967

February 5th, 2014

Mike Bratcher

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

> RE: Termination Request Linn Energy – West B #45 (2RP-1862) UL/N sec. 9 T17S R31E API No. 3001526099

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 6.4 miles northeast of Loco Hills, New Mexico at UL/N sec. 9 T17S R31E. There is no known groundwater in this area.

On August 18th, 2013, a small pin hole developed in a produced water flow line and sprayed produced water over 2,115 square feet of lease road and pasture land. None of this fluid was recovered. Linn notified BLM of the release on August 19th, 2013 and an initial C-141 was approved by NMOCD on August 26th, 2013 (Appendix A).

RECS personnel were on site beginning on August 23rd, 2013 to assess the release. Three points within the release were sampled at the surface and at depth (Figure 1). Representative samples were taken to a commercial laboratory for analysis (Appendix B). Point 1 and Point 3 returned laboratory chloride values below regulatory standards at 4 ft bgs. Point 2 returned a laboratory chloride value below regulatory standards at 7 ft bgs. Gasoline Range Organics (GRO) readings and Diesel Range Organics (DRO) readings were either non-detect or below regulatory standards at all points at all depths.

A Corrective Action Plan (CAP) was sent to NMOCD and BLM on October 29th, 2013 and was approved by BLM on October 29th, 2013 and by NMOCD on November 15th, 2013. As part of the CAP, RECS recommended that the site be excavated to a depth of 4 ft bgs. At 4 ft bgs, field testing of the bottom of the excavation would be conducted to determine if chloride levels and hydrocarbon levels were below 1,000 mg/kg. If field testing indicated that these readings were below 1,000 mg/kg, a 5 point bottom composite of the bottom of the excavation would be taken to a commercial laboratory to verify these results. If at 4 ft bgs, field sampling indicated chloride levels and hydrocarbon levels above 1,000 mg/kg, a 20-mil reinforced poly liner would be installed at the base of the

excavation and properly seated. The site would be excavated horizontally until field testing indicated that the walls of the excavation were below 1,000 mg/kg for chlorides and for hydrocarbons. Wall samples would be taken to a commercial laboratory to verify that chloride and a combined GRO/DRO level were below 1,000 mg/kg.

All excavated soil would be disposed of at a NMOCD approved facility. The excavation in the pasture would be backfilled with clean, imported soil. The excavation in the lease road would be backfilled with clean, imported soil and then capped with clean, imported caliche to provide a stable driving surface. Once the site was backfilled, the pasture area would be seeded with a blend of native vegetation. Vegetation acts as 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.

CAP activities began at the site on December 2nd, 2013. The release area was excavated to 4 ft bgs and 228 yards of contaminated soil was taken to a NMOCD approved facility for disposal (Figure 2). Once the excavation was completed, wall samples and a 5 point composite bottom sample were taken to a commercial laboratory for analysis (Appendix C). Based on the elevated laboratory wall samples, the excavation was expanded and wall samples were re-taken and sent to a commercial laboratory for analysis. All samples returned laboratory chloride readings below regulatory standards and GRO, DRO and BTEX values were non-detect.

A request to backfill the site was sent to NMOCD and BLM on December 16th, 2013. NMOCD and BLM approved the site to be backfilled on December 17th, 2013.

A total of 312 yards of caliche and top soil were imported to the site to serve as backfill. A sample of each was taken to a commercial laboratory for analysis and returned values of non-detect. In the pasture area, 2 ft of caliche was placed at the base of the excavation. Two ft of top soil was used to complete the backfilling of the site and to contour the site to the surrounding location. In the lease road, the excavation was backfilled in entirety with caliche.

On December 31st, 2013, soil amendments were added to the pasture area and the area was seeded with LPC mix. Photo documentation of all activities can be found in Appendix D.

Given that the site was excavated to remove the contaminated soil and backfilled with clean, imported soil as stated in the approved CAP, Linn respectfully requests 'remediation termination' and closure for the site. The final C-141 can be found in Appendix E.

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 – Initial Sampling Data

Figure 2 – Excavation Data

Appendix A – Initial C-141

Appendix B – Initial Sampling Labs

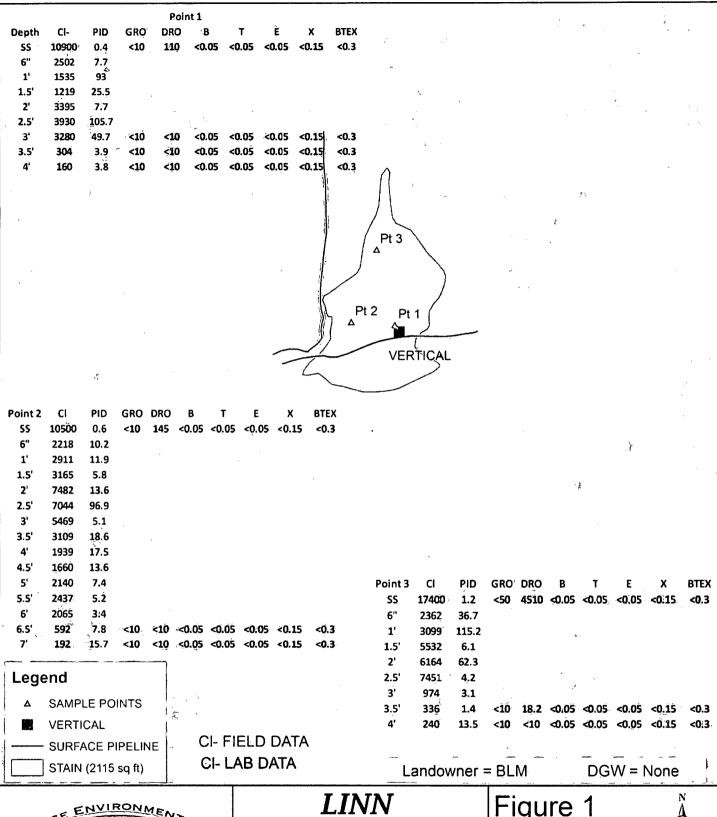
Appendix C – Excavation Sampling Labs

Appendix D – Photo Documentation

Appendix E – Final C-141

Figures

Initial Sampling Data



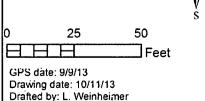


WEST B #45 (2RP-1862)

LEGALS: UL/N Sec. 9 T17S - R31E EDDY COUNTY, NM

Figure

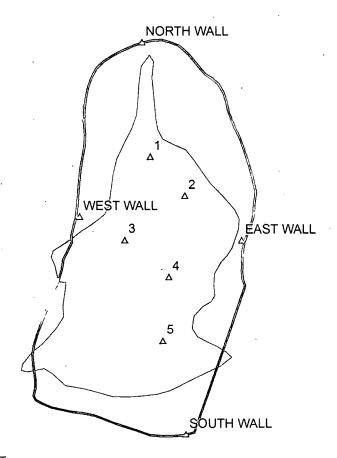




Excavation Data

Wall Samples	CI-	PID	GRO	DRO	В	Т	E	Х	BTEX
E Wall	144	14.5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
W Wall	<16	3.2	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
S Wall	<16	6.4	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
N Wall	80	24.5	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3
5 Pt Composite	480	1.3	<10	<10	<0.05	<0.05	<0.05	<0.15	<0.3

Imported Top Soil <16 1.2 Caliche Import <16 18.1



Legend

- △ BOTTOM POINT
- △ WALL POINT

EXCAVATION AT 4 FT BGS CI- FIELD DATA

STAIN (2115 sq ft) CI- LAB DATA

Landowner = BLM

DGW = None



LINN WEST B #45 (2RP-1862)

LEGALS: UL/N Sec. 9 T17S - R31E EDDY COUNTY, NM

Figure 2



0	10	20
H	Η	Feet

GPS date: 12/10/13 Drawing date: 12/16/13 Drafted by: L. Weinheimer

Appendix A Initial C-141

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

District 1 1625 No French Dr. Hobbs: NN 88240 Districult 1301 W. Grand Avenue, Ariesia, MM 88210 1000 Rio Brazos Road, Aztec, NM 87410

State of New Mexico | RECEIVED Energy Minerals and Natural Resources UG 2 2 2013

Form C-141 Regised October 10, 2003

Oil Conservation Division Submit I Convent appropriate District Office in 1220 South St. Francis Di NMOCD ARTES Moderdance, with 19,15:29 NMAC

1220 S. St. Francis Deg. Santa Fe, NM 87505 Santa Fe, NM 87505 Release Notification and Corrective Action **OPERATOR** Anitial Réport Einal Report Name of Company? Linn Operating Contact: Brian Wall Address: 2430 W. Bender Hobbs, NM 88240 Telephone No.: 575-738-1739' Facility Names West B#45. Facility Type: Oil Producer Surface Owner Federal API No.: 300.1526099 Mineral Owner:

				LOCA	ATION OF		BEASE:			
Unii Lener Ņ	Section/ 09/-	Township 175 1	Range 31E	Feet from the 660;	North/South L South	ilije:	Feet from the 1980		Vest Line Vest	-Gounty Eddy
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				NA:L	URE OF R					
Type of Rele			<u>.</u>	·			Release: 5gal			Recovered: 0
Source of Re					. 08/18	3/2013	lóur óf Qecarrenc É 10:39ain	3e).	108/18/20	Hour of Discovery: i3 Josdan
Was Inimediate Notice Given? If YES: To Whom? If YES: To Whom? Was (回 No (回 No (回 No Required Mike Burton - Bl.M.)										
By Whom? Brian Walli Date and Flour, 08/49/2013, 2:00pm.										
Was a Watercourse Reached? A										
		<u>.</u> **							_	-
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regulations à	ll operators	are, required t	ő répért a	nd/or tile certain	ielease notificati	ions a	nd perform corre	ctive act	ions for rel	cases which may endanger
L.public-health	r or the envi	ioninent. The	acceptan	cc of a C-141 rep	ort by the NMO	CD;m	arked us "Final is	(eport",	loes not réf	ieve the operator of liability
should their	ŏpęrations l	invertailed to	adequatel	y investigate and i	cmediate.contar	niinäti	ồn that pośc á th	real to g	round wafe	rr surface water, human health
of the enviro	กกุรยุน. ปุกฐ - เลือสกรรม โล้	idainon, vivid idainon, vivid	มูเนม ลูccep เป็นมีลักร	brance of a c=14 t	tchorr does hor	reliev	c.filè,obetalor di	,tężbojiż	īpiņiži jos c	ging linnee with any other
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- সকলে ভূমা চারী র -	e green medig	4	,		шке арр	roval	by BLM. <u>SUBM</u>	H. KEMI	EDIATION.	2RP-1862

Appendix B Initial Sampling Labs

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



September 16, 2013

HACK CONDER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #45

Enclosed are the results of analyses for samples received by the laboratory on 09/12/13 8:45.

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 accreditated 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.

Celey D. Keene

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



RICE ENVIRONMENTAL CONSULTING & SAFETY HACK CONDER 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

09/12/2013

Reported:

09/16/2013

Project Name: Project Number: H. E. WEST B #45 NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

09/09/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: PT. 1 @ SURFACE (H302206-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05	103	2.00	0.141	
Toluene*	< 0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	
Ethylbenzene*	< 0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	< 0.150	0.150	09/13/2013	ND	6.96	116	6.00	1.34	
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	111 %	6 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10900	16.0	09/16/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS		• • • • • • • • • • • • • • • • • • • •			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2013	ND	202	101	200	1.28	
DRO >C10-C28	110	10.0	09/12/2013	ND	198	98.9	200	0.838	
Surrogate: 1-Chlorooctane	82.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	94.1	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Kuna



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

Fax To:

Received: Reported:

BTEX 8021B

DRO >C10-C28

09/12/2013

09/16/2013

Project Name:

H. E. WEST B #45

mg/kg

Project Number: Project Location: NONE GIVEN NOT GIVEN

Sampling Date:

09/10/2013

Sampling Type:

Soil

200

0.838

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: PT. 1 @ 3' (H302206-02)

		9							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05 `	103	2.00	0.141	
Toluene*	<0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	
Ethylbenzene*	< 0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	< 0.150	0.150	09/13/2013	ND	6.96	116	6.00	1.34	
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	110 :	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP				·	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	09/16/2013	ND	400	100	400	3.92	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2013	ND	202	101	200	1.28	

ND

198

98.9

09/12/2013

Analyzed By: MS

Surrogate: 1-Chlorooctane 89.0 % 65.2-140 97.9 % Surrogate: 1-Chlorooctadecane 63.6-154

<10.0

10.0

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*=Accredited Analyte

in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and including, without limitation, business interruptions, loss of use, or loss of use, or loss of profits incurred by client, its subsidiaries, affliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such



RICE ENVIRONMENTAL CONSULTING & SAFETY HACK CONDER 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

09/12/2013

Reported:

09/16/2013

Project Name:

H. E. WEST B #45

Project Number: Project Location: NONE GIVEN NOT GIVEN

Sampling Condition:

09/09/2013

Soil

Sample Received By:

Sampling Date:

Sampling Type:

Cool & Intact

Jodi Henson

Sample ID: PT. 2 @ SURFACE (H302206-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05	103	2.00	0.141	
Toluene*	<0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	•
Ethylbenzene*	<0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/13/2013	ND	6.96	116	6.00	1.34	
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108 9	% 89.4-12	6				-	b	
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10500	16.0	09/16/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2013	ND	202	101	200	1.28	
DRO >C10-C28	145	10.0	09/12/2013	ND	198	98.9	200	0.838	
Surrogate: 1-Chlorooctane	97.1	% 65.2-14		,					
Surrogate: 1-Chlorooctadecane	110 9	63.6-15	4						

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Fax To:

(575) 397-1471

Received:

09/12/2013

Sampling Date:

09/10/2013

Reported:

09/16/2013

Sampling Type:

Soil

Project Name:

H. E. WEST B #45

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

Sample ID: PT. 2 @ 6.5' (H302206-04)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05	103	2.00	0.141	
Toluene*	< 0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	
Ethylbenzene*	<0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/13/2013	ND	6.96	116	6.00	1.34	
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	109 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP			·			· · · · · · · · · · · · · · · · · · ·
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	09/16/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RP.D	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2013	ND	200	100	200	4.71	
DRO >C10-C28	<10.0	10.0	09/12/2013	ND	192	96.1	200	3.84	
Surrogate: 1-Chlorooctane	89.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	99.5	% 63.6-15	4						

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Celey D. Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY HACK CONDER

419 W. CAIN

HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

09/12/2013

09/16/2013

Reported: Project Name:

H. E. WEST B #45

Project Number: Project Location:

NONE GIVEN

Sampling Date:

09/10/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: PT. 2 @ 7' (H302206-05)

BTEX 8021B	mg/	kg	Analyze	ed By: MS					•
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05	103	2.00	0.141	
Toluene*	<0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	
Ethylbenzene*	<0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/13/2013	ND	6.96	116	6.00	1.34	•
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108	% 89.4-12	6						***
Chloride, SM4500Cl-B	mg/	'kg	Analyzo	ed By: AP				•	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	09/16/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	'kg	Analyzo	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2013	ND	200	100	200	4.71	•
DRO >C10-C28	<10.0	10.0	09/12/2013	ND .	192	96.1	200	3.84	
Surrogate: 1-Chlorooctane	87.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.5	% 63.6-15	4						

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 whistoever 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 abubilitaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims 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



RICE ENVIRONMENTAL CONSULTING & SAFETY HACK CONDER 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

09/12/2013

09/16/2013

Reported: Project Name:

H. E. WEST B #45

Project Number: Project Location:

NONE GIVEN

Sampling Date:

09/09/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: PT. 3 @ SURFACE (H302206-06)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05	. 103	2.00	0.141	
Toluene*	<0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	
Ethylbenzene*	<0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	< 0.150	0.150	09/13/2013	ND	6.96	116	6.00	1.34	
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108 %	6 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AP			•			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17400	16.0	09/16/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	09/13/2013	ND	200	100	200	4.71	
DRO >C10-C28	4510	50.0	09/13/2013	ND	192	96.1	200	3.84	
Surrogate: 1-Chlorooctane	72.8 9	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	234 %	63.6-15	4					-	

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Celeg D. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY HACK CONDER 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

09/12/2013

09/16/2013

Reported: Project Name:

H. E. WEST B #45

Project Number:

NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

09/10/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: PT. 3 @ 3.5' (H302206-07)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05	103	2.00	0.141	
Toluene*	<0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	
Ethylbenzene*	<0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	< 0.150	0.150	09/13/2013	ND	6.96	116	6.00	1.34	
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109 %	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	09/16/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2013	ND	200	100	200	4.71	
DRO >C10-C28	18.2	10.0	09/13/2013	ND	192	96.1	200	3.84	
Surrogate: 1-Chlorooctane	75.6 9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	85.0 9	% 63.6-15	4						

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*=Accredited Analyte

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Celey D. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY HACK CONDER 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received: Reported: 09/12/2013

09/16/2013

Project Name:

H. E. WEST B #45

Project Number:

NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

09/10/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: PT. 3 @ 4' (H302206-08)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2013	ND	2.05	103	2.00	0.141	
Toluene*	<0.050	0.050	09/13/2013	ND	2.19	110	2.00	1.10	
Ethylbenzene*	<0.050	0.050	09/13/2013	ND	2.30	115	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/13/2013	. ND	6.96	116	6.00	1.34	•
Total BTEX	<0.300	0.300	09/13/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	111 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg,	'kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/16/2013	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2013	ND	200	100	200	4.71	
DRO >C10-C28	<10.0	10.0	09/13/2013	ND	192	96.1	200	3.84	
Surrogate: 1-Chlorooctane	83.6	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	98.6	% 63.6-15	4						

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Celey D. Kune



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

Cardinal Laboratories

*=Accredited Analyte

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Celeg D. Keine



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Manie. Linn Energy	BILL 10	ANALYSIS REQUEST
Project Manager: Rick Rickman	P.O. #:	
Address:	Company:	
City: State: Zip:	Attn:	
Phone #: Fax #:	Address:	
Project #: Project Owner:	City:	
Project Name:	State: Zip:	
Project Location: H.E. Wes 1 3 #45	Phone #:	
Sampler Name: (Wis Flores, Kyle Schnaidt	Fax #:	
FOR LAB USE ONLY MATE	X PRESERV SAMPLING	
GW ~		
(C)OMP ERS ATER TER		
Lab I.D. Sample I.D.	说	
L L L L L L L L L L L L L L L L L L L	R CO BAS	I A H I I I I I I
Tap I.D. Sample I.D. (G)RAB OR (C)OM STEWATER WASTEWATER SOIL	SLUDGE OTHER: ACIDBASE: ICE/COOL OTHER:	EHA
	DATE TIME	
TOWN I CONTRACE	9-9-13 3:10	
2 Point 2 @ Surface. G []	 	
	9-9-13 7:40	
4 30:0+2 @ 6.5	9-10-13 1:10	
5 Pointa e 7' 6!	9-10-13 1:15	
Point 3 @ snitece S	9-9-13 4:10	
	9-10-13 1:25	
8 Point3 @ 4'	9-10-13 1:30	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in	ntrect or tort, shall be limited to the amount paid by the client for	or the
analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in win service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interru	ng and received by Cardinal within 30 days after completion of t	the applicable
intificates or successors orising out of or related to the performance of services herounder by Cardinal, regardless of whether such	dain) is based upon any of the above stated reasons or otherwis	150 <u>.</u>
Relinquished By: Date: Received By:	Phone Re Fax Resul	
C/m Fr 18:45 Way ~	REMARKS	S:
Relinquished By: Date: Received By:	70,000	
Time:	1.	
Delivered By: (Circle One) Sample Co	ndition CHECKED BY:	
Sampler - UPS - Bus - Other: 1.20 Cool Int	Yes / ////	
C 11 No.	No	



October 11, 2013

HACK CONDER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #45

Enclosed are the results of analyses for samples received by the laboratory on 10/07/13 16:35.

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/ga/lab accred certif.html.

Cardinal Laboratories is accreditated 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



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

Fax To:

Received:

10/07/2013

Reported:

10/11/2013

Project Name: Project Number: H. E. WEST B #45 NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

10/04/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: POINT 1 @ 3.5' (H302426-01)

BTEX 8021B	mg/	kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	10/08/2013	ND	1.90	94.8	2.00	0.414	
Toluene*	<0.050	0.050	10/08/2013	ND `	1.90	94.8	2.00	0.152	
Ethylbenzene*	< 0.050	0.050	10/08/2013	ND	1.93	96.5	2.00	0.113	
Total Xylenes*	<0.150	0.150	10/08/2013	. ND	5.83	97.2	6.00	0.0192	
Total BTEX	<0.300	0.300	10/08/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIC	120 %	6 89.4-12	6 .						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	10/08/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/08/2013	ND	201	101	200	0.560	
DRO >C10-C28	<10.0	10.0	10/08/2013	ND .	211	105	200	8.27	
Surrogate: 1-Chlorooctane	92.6 9	65.2-140	9			-			,
Surrogate: 1-Chlorooctadecane	90.5 9	63.6-15-	<i>.</i>						

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keens



RICE ENVIRONMENTAL CONSULTING & SAFETY HACK CONDER 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

10/07/2013

Reported:

10/11/2013

Project Name: Project Number: H. E. WEST B #45 NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

10/04/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: POINT 1 @ 4' (H302426-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2013	ND	1.90	94.8	2.00	0.414	
Toluene*	<0.050	0.050	10/08/2013	ND	1.90	94.8	2.00	0.152	
Ethylbenzene*	<0.050	0.050	10/08/2013	ND	1.93	96.5	2.00	0.113	
Total Xylenes*	<0.150	0.150	10/08/2013	ND	5.83	97.2	6.00	0.0192	
Total BTEX	<0.300	0.300	10/08/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	125 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/08/2013	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/08/2013	ND	201	101	200	0.560	
DRO >C10-C28	<10.0	10.0	10/08/2013	ND	211	105	200	8.27	
Surrogate: 1-Chlorooctane	97.3	% 65.2-14	0						·
Surrogate: 1-Chlorooctadecane	94.7	% 63.6-15	4						

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keine



Notes and Definitions

QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or

greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance

limits.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Kune



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	Lin Energy			BILL TO)	in property			A	NAL	YSIS	RE	QUE	ST			
Project Managei	: Linn Energy T. Rick Rickman			P.O. #:													
Address:				Company:	· · ·												. 1
City:	State:	Zip:		Attn:						1							
Phone #:	Fax #:			Address:													
Project #:	Project Owne	r:		City:													
Project Name:				State: Zip:											1		.]
Project Location	1: H.E. West B #45			Phone #:	-		ĺ										
Sampler Name:	Chris Flores			Fax #:			,										. 1
FOR LAB USE ONLY			MATRIX	PRESERV. SAM	PLING	.											.
14.7		(C)OMF ERS ATER	ER .			oride	,			.					.		
Lab I.D.	Sample I.D.	(G)RAB OR (C)C # CONTAINERS GROUNDWATE	WASTEWATER SOIL OIL	OTHER: ACID/BASE: ICE / COOL OTHER:		irol	E.	士								j	
H302426		(G)RAB OR # CONTAIN GROUNDW	WASTEW SOIL OIL SLUDGE	OTHER: ACID/BAS ICE / COC OTHER:	TIME	S	BTEX										
1	Point 1 @ 3.5'	6/		10-4-1		人	~	*									
2	Point 1 @ 41	4/		10-4-	13 10:15 Am	人	1	メ	· ·								
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analyses. All claims includin service. In no event shall Ca	nd Oamages. Cardinal's liability and client's exclusive remedy for ng those for negligence and any other cause whatsoever shall be ardinal be liable for incidental or consequental damages, includin ng out of or telated to the performance of services hereunder by t	deemed waived u without limitation	nless made in writing and n, business interruptions,	d received by Cardinal within 30 days loss of use, or loss of profits incurred	after completion of t by client, its subsidia	he applicabl Irles,	le	•									
Relinquished By	v: Date:	Received		to heade about this of the works state	Phone Re	sult:	☐ Yes			Add'l Pi		:					
Refinquished By	16-7-20/3 Time: 35	100	li De	enson	Fax Resu REMARKS Wein Jikan	s: . h.e	☐ Yes	s D	No .	Add'l Fa	ax#:		· ·				
Refinquished By	y: Date:	Received	d By:		- JKan	باعاب	J.		•								1
	Time:				cflore	e 5					•						
Delivered By:	(Circle One)	•	Sample Condit	ion CHEOKED BY:								•					
	- Bus - Other:		Cool Intact Yes Yes														
+ C3 4	cannot accept verbal changes. Pleas	a fay writte	an changes to	(575) 369-232												7	

Appendix C Excavation Sampling Labs

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



December 10, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #45

Enclosed are the results of analyses for samples received by the laboratory on 12/04/13 16:05.

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/ga/lab accred certif.html.

Cardinal Laboratories is accreditated 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



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received: Reported: 12/04/2013

12/10/2013

Project Name: Project Number: H. E. WEST B #45 NONE GIVEN

Project Location:

T17S R31E

Sampling Date:

Sampling Type:

12/04/2013

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: CALICHE IMPORT (H302946-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP		<u> </u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/09/2013	ND	432	108	400	3.64	

Cardinal Laboratories *=Accredited Analyte

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Celey D. Kuna



Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celeg D. Keene

ARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101-East Marland, Hobbs, NM-88240-2141-Beechwood, Abilene, TX-79603-

(505) 393-2326 FAX (505) 393-2476 (325) 673-7001	FAX (325)673-7020	
Company Name: LECS	BILL TO ANALYSIS REQUEST	
Project Manager: Jacob Kamplain	P.O. #:	コ
Address:	Company:	l
City: Hobbs State: NM Zip: 88240	Attn:	
Phone #: Fax #:	Company: Attn: Address: City: State: Zip: Phone #: Pax #: Address: CITOS LOS A STATE Address: CITOS LOS A STATE Address: CITOS Address: Addre	.
Project #: Linn Project Owner:	city: \square	Į
Project Name: H. E. West 8#45	State: zip: Sp V S H L VS	
Project Location: TINS R315	Phone #: DS R01 PS	
Sampler Name: Amber Canve S	City: State: ZIp: Phone #: Fax #: PRESERV SAMPLING	- 1
FOR LAB USE ONLY	PRESERV SAMPLING O Q Q	
(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL.		
ATEW DOUND ON THE WASTEW	SLUDGE OTHER: ACIDIBASE: ICE/COOL OTHER: ACIDIBASE OTHER: COM	
H307946 GORAN NOOT CONTRACTOR OF THE CONTRACTOR	OTHER OFFER OFFFER OFFFER OFFER OFFFER OFFFER OFFFER OFFFER OFFFER OFFFER OFFFFER OFFFFER OFFFFER OFFFFFF OFFFFFFF OFFFFFFFFFF	
1 Caliche Import GII V	12-413 10:00	
PLEASE NOTE: Liability and Damages. Cardina's liability and client's exclusive remedy for any claim arising whether based in colland seemed waived unless made in with analyses. All claims including those for negligence and any other cause wholeover shall be deemed waived unless made in with service. In no event shall Cardinal be liable for incidental or consequental damages, including without fimilation, business including elifibilities of successors arising out of or related to the performance of services hereunder by Cerdinal, regardless of whether such constitutions.	ig and received by Cardinal within 30 day's after completion of the applicable ions. loss of use, or loss of profils incurred by client, il is subsidialized.	
Relinquished By: Date: 12 Received By:	Phone Result:	

Relinguished By:	Date: Received By:	Phone Result: U Yes W No Add Phone #:
1	Date: 13 Received By:	Fax Result: Yes No Add'l Fax #:
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117 WVUSEV - CWUV C	4.00	
Relinquished By:	Date: Repelved By:	email results
Leundnianed DA:	1.77	,
		knorman@rice-ecs.com hconder@rice-ecs.com;
	Time:	
		Lweinheimer@rice-ecs.com; kjones@riceswd.com;
Delivered By: (Circle One)	Sample Condition CHECKED (Inklus) Cool Intact (Inklus) Lives Lives	Y.
Delivered by, (Circle Offer	Cool Intect (InWay)	Lpena@riceswd.com; sedwards@rice-ecs.com
	Tuyes Tuyes	
Sampler - UPS - Bus - Other:	· Lettes ////	agroves@rice-ecs.com
	No No	1911 - 911
I was a second of the second o		

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



December 10, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #45

Enclosed are the results of analyses for samples received by the laboratory on 12/09/13 16:30.

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.

Cardinal Laboratories is accreditated 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.

Celey D. Keens

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



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

12/09/2013

Reported:

12/10/2013

Project Name:

H. E. WEST B #45

Project Number: Project Location:

NONE GIVEN

T17S R31E

Sampling Date:

12/06/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: EAST WALL (H302967-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2013	ND	1.85	92.7	2.00	0.310	
Toluene*	< 0.050	0.050	12/10/2013	ND	1.85	92.6	2.00	0.214	
Ethylbenzene*	<0.050	0.050	12/10/2013	ND	1.82	90.8	2.00	0.456	
Total Xylenes*	< 0.150	0.150	12/10/2013	ND	5.32	88.6	6.00	0.866	
Total BTEX	<0.300	0.300	12/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	94.5	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	12/10/2013	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: ck	 				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/10/2013	ND	198	99.0	200	3.86	
DRO >C10-C28	30.2	10.0	12/10/2013	ND	207	103	200	3.24	
Surrogate: 1-Chlorooctane	76.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	80.13	% 63.6-15	4						

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 fiable for incidental or consequential damages, including, without kimitation, 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. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Analyzed Ry: MS

Received:

12/09/2013

Reported:

RTEV SOCIE

12/10/2013

Project Name: Project Number: H. E. WEST B #45

Project Location:

NONE GIVEN T17S R31E

Sampling Date:

12/06/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: WEST WALL (H302967-02)

BTEX 8021B	mg/	kg	Analyze	а ву: мѕ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2013	ND	1.85	92.7	2.00	0.310	
Toluene*	<0.050	0.050	12/10/2013	ND .	1.85	92.6	2.00	0.214	
Ethylbenzene*	<0.050	0.050	12/10/2013	ND	1.82	90.8	2.00	0.456	
Total Xylenes*	<0.150	0.150	12/10/2013	ND	5.32	88.6	6.00	0.866	
Total BTEX	<0.300	0.300	12/10/2013	ND	•				
Surrogate: 4-Bromofluorobenzene (PIL	100 9	% 89.4-12	6						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	12/10/2013	ND ·	416	104	400	3.92	
TPH 8015M	mg/	/kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/10/2013	ND	198	99.0	200	3.86	
DRO >C10-C28	<10.0	10.0	12/10/2013	ND	207	103	200	3.24	
Surrogate: 1-Chlorooctane	87.9	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	86.5	% 63.6-15	4						

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*=Accredited Analyte

any other cause whatsoever shall be deemed waved 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 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. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

12/09/2013

Reported:

12/10/2013

Project Name: Project Number: H. E. WEST B #45 NONE GIVEN

Project Location:

T17S R31E

Sampling Date:

12/06/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: 5 PT. COMP (H302967-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2013	ND	1.85	92.7	2.00	0.310	
Toluene*	<0.050	0.050	12/10/2013	ND	1.85	92.6	2.00	0.214	
Ethylbenzene*	<0.050	0.050	12/10/2013	ND	1.82	90.8	2.00	0.456	
Total Xylenes*	<0.150	0.150	12/10/2013	ND	5.32	88.6	6.00	0.866	
Total BTEX	<0.300	0.300	12/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	96.5	% 89.4-120	5						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP		•			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	12/10/2013	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: ck				<u>.</u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/10/2013	ND	198	99.0	200	3.86	
DRO >C10-C28	<10.0	10.0	12/10/2013	ND	207	103	200	3.24	
Surrogate: 1-Chlorooctane	91.8	% 65.2-140)			•			
Surrogate: 1-Chlorooctadecane	88.6	% 63.6-15-	ŧ						

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Celey D. Kuna



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

12/09/2013

Reported:

12/10/2013

Project Name:

H. E. WEST B #45

Project Number: Project Location: NONE GIVEN

T17S R31E

Sampling Date:

12/09/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: NORTH WALL (H302967-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2013	ND	1.85	92.7	2.00	0.310	
Toluene*	< 0.050	0.050	12/10/2013	ND	1.85	92.6	2.00	0.214	
Ethylbenzene*	< 0.050	0.050	12/10/2013	ND	1.82	90.8	2.00	0.456	
Total Xylenes*	< 0.150	0.150	12/10/2013	ND	5.32	88.6	6.00	0.866	
Total BTEX	<0.300	0.300	12/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	98.2 9	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/10/2013	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/10/2013	ND	198	99.0	200	3.86	
DRO >C10-C28	<10.0	10.0	12/10/2013	ND	207	103	200	3.24	
Surrogate: 1-Chlorooctane	101 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	100 9	63.6-15	4						

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Celey D. Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

12/09/2013

Reported:

12/10/2013

Project Name: Project Number: H. E. WEST B #45 NONE GIVEN

97.4%

63.6-154

Project Location:

T17S R31E

Sampling Date:

12/09/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By: Jodi-I

Jodi-Henson

Sample ID: SOUTH WALL (H302967-05)

BTEX 8021B	mg/kg		Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2013	ND	1.85	92.7	2.00	0.310	
Toluene*	<0.050	0.050	12/10/2013	ND	1.85	92.6	2.00	0.214	
Ethylbenzene*	< 0.050	0.050	12/10/2013	ND	1.82	90.8	2.00	0.456	
Total Xylenes*	< 0.150	0.150	12/10/2013	ND	5.32	88.6	6.00	0.866	
Total BTEX	<0.300	0.300	12/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	97.5	% 89.4-12	6 .						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP				· · · · · · · · · · · · · · · · · · ·	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	12/10/2013	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: ck					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10 ·	<10.0	10.0	12/10/2013	ND	198	99.0	200	3.86	
DRO >C10-C28	<10.0	10.0	12/10/2013	ND	207	103	200	3.24	
Surrogate: 1-Chlorooctane	100 9	% 65.2-14	0						

Cardinal Laboratories

Surrogate: 1-Chlorooctadecane

*=Accredited Analyte

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Celey D. Keene



ND

Notes and Definitions

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 SM4500CI-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Kune

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

RDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

Company Name:	107,000					140%	BILL TO			ANALYSIS REQUEST													
Project Manager:	· Vacoolampain			•		F	P.O. #:																
Address:							Сотрапу:					•		S						٠.			
City: Hobbs	State: NM	Zip:	8824	-0			Attn:								ons	. :					: -		
Phone #:	Fax #:						Address:							'n									
Project #:							ity:						Σ		-	3/4							
Project Name:	t Name: LINN H. E. WEST BAYS				s	tate:		Zip:			les	5	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	TPH	SUC.								
Project Location	T175 P215						hone	∍ #:				Chlorides	PH 801	BTEX		Cations/Anio	TDS						
	Amber Grans					F	ax#					읃	Ψ.	81	exas	Š							
FOR LAB USE ONLY.			1_	MA	TRIX		PR	ESERV	SAN	MPLII	NG	$\ddot{\circ}$	占		(G)	te							
		(C)OMP	SER					.					 			Complete							
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4	Northuseo Southusel	6	1	\ \					129	13	8:00	1	~	_									
3	Southwall	6	1	V					120	43	12:30	~	مرا	-									
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attitiates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Refinguished By:	12-9-13 Time: 4:30	Odi Henson	Phone Result:
Relinquished By:	Date: Rec	elved By:	email results
	Time:		knorman@rice-ecs.com hconder@rice-ecs.com; Lweinheimer@rice-ecs.com; kjones@riceswd.com;
Delivered By: (Circle One)			ED BY:
Sampler - UPS - Bus - Other:		Cool Integr (Int	agroves@rice-ecs.com

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





December 12, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: H. E. WEST B #45

Enclosed are the results of analyses for samples received by the laboratory on 12/11/13 15:00.

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/ga/lab accred certif.html.

Cardinal Laboratories is accreditated 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



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received: Reported: 12/11/2013

12/12/2013

Project Name: Project Number: H. E. WEST B #45

Project Location:

NONE GIVEN T17S R31E Sampling Date:

12/11/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: EAST WALL (H302993-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/12/2013	ND	1.94	96.9	2.00	1.16	
Toluene*	< 0.050	0.050	12/12/2013	ND	1.95	97.5	2.00	0.216	
Ethylbenzene*	< 0.050	0.050	12/12/2013	ND	1.95	97.6	2.00	1.18	
Total Xylenes*	<0.150	0.150	12/12/2013	ND	5.83	97.2	6.00	2.07	
Total BTEX	<0.300	0.300	12/12/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	96.5	% 89.4-12	6		·				
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP			<u></u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Chloride, SM4500CI-B	mg/kg			d By: AP			· · ·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	12/12/2013	ND	416	104	400	3.92	
TPH 8015M	mg,	/kg	Analyze	Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/12/2013	ND	186	93.2	200	2.35	
DRO >C10-C28	<10.0	10.0	12/12/2013	ND	197	98.6	200	6.62	

Surrogate: 1-Chlorooctane

104 %

65.2-140

Surrogate: 1-Chlorooctadecane

103 %

63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Kune



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

12/11/2013

12/12/2013

Reported: Project Name:

H. E. WEST B #45

Project Number:

NONE GIVEN

Project Location:

T17S R31E

Sampling Date:

12/11/2013

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

Sample ID: WEST WALL (H302993-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS		· · · · · · · · · · · · · · · · · · ·			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/12/2013	ND	1.94	96.9	2.00	1.16	
Toluene*	<0.050	0.050	12/12/2013	ND	1.95	97.5	2.00	0.216	
Ethylbenzene*	< 0.050	0.050	12/12/2013	ND	1.95	97.6	2.00	1.18	
Total Xylenes*	< 0.150	0.150	12/12/2013	ND	5.83	97.2	6.00	2.07	
Total BTEX	<0.300	0.300	12/12/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	96.9	% 89.4-12	6						1000
Chloride, SM4500CI-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	12/12/2013	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/12/2013	ND	186	93.2	200	2.35	
DRO >C10-C28	<10.0	10.0	12/12/2013	ND	197	98.6	200	6.62	
Surrogate: 1-Chlorooctane	113 %	65.2-14	0						
Surrogate: 1-Chlorooctadecane	109 9	63.6-15	4						

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*=Accredited Analyte

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Celey D. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

12/11/2013

Reported:

12/12/2013

Project Name:

H. E. WEST B #45

Project Number:

NONE GIVEN

Project Location:

T17S R31E

Sampling Date:

12/11/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By: J

Jodi Henson

Sample ID: SOUTH WALL (H302993-03)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/12/2013	ND .	1.94	96.9	2.00	1.16	
Toluene*	<0.050	0.050	12/12/2013	ND	1.95	97.5	2.00	0.216	
Ethylbenzene*	<0.050	0.050	12/12/2013	ND	1.95	97.6	2.00	1.18	
Total Xylenes*	<0.150	0.150	12/12/2013	ND	5.83	97.2	6.00	2.07	
Total BTEX	<0.300	0.300	12/12/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	97.5	% 89.4-12	6						
Chloride, SM4500CI-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	12/12/2013	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/12/2013	ND	186	93.2	200	2.35	
DRO >C10-C28	<10.0	10.0	12/12/2013	ND	197	98.6	200	6.62	
Surrogate: 1-Chlorooctane	99.2 9	% 65.2-140	9						
Surrogate: 1-Chlorooctadecane	97.5 9	% 63.6-15	4						

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*=Accredited Analyte

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Celey D. Keena



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 SM4500CI-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Kune



ARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

...101 East Marland, Hobbs, NM 88240 --2111 Beechwood, Abilene, TX 79603

Company Name: 2465	BILL TO	ANALYSIS REQUEST					
Project Manager: Jacob Kamplain	P.O. #:						
Address:	Сотрапу:	-					
City: Hobbs State: NM Zip: 88240	Attn:]					
Phone #: Fax #:	Address:]					
Project #: Project Owner:	Clty:						
Project Name: Linn H.E. WEST BAKS	State: Zip:	ides INX INX INS/ Indus/ Indus					
Project Location: TINS 2315	Phone #:	Chlorides PH 8015 M BTEX exas TPH e Cations/Anions TDS					
Sampler Name: Problex Grows	Fax #:	Chlori Chlori PH 8C E exas					
FOR LAB USE ONLY MATRIX MATRIX MATRIX MATRIX	PRESERV SAMPLING	Complete Cation					
	 - - - 						
PLEASE NOTE: Liability and Camages. Cardina'rs liability and client's exclusive remedy for any claim arising whether based in contra analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing service. In no event shall Cardina'l be liable for incidental or consequental damages, including without limitalicin, business interruption affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim and the cardinal regardless of whether such claim and the cardinal regardless of whether such claim and the cardinal regardless of whether such claim arising who will be cardinal regardless of whether such claim arising whether such claim arising whether such claim arising whether such claim arising whether based in contra analyses. Including without limitation, business interruption of the cardinal regardless of whether such claim arising whether based in contra analyses. Including without limitation, business interruption of the cardinal regardless of whether such claim arising without limitation, business interruption arising without limitation, business interruption arising without limitation, business interruption arising which are also analyses are also analyses. Including without limitation, business interruption are also analyses are also analyses. Including without limitation, business interruption are also analyses are also analyses. Including without limitation, business interruption are also analyses are also analyses. Including without limitation, business and analyses are also analyses are also analyses. Including without limitation, business and analyses are also analyses are also analyses. Including without limitation, business and analyses are also analyses are also analyses. Including without limitation, business are also analyses are also analyses are also analyses. Including without limitation, business are also analyses are also analyses. Including without limi	nd received by Cardinal within 30 days after completion of , loss of use, or loss of profils incurred by cflent, its subsidit is based upon any of the above stated reasons or otherwise. Phone Reference Pho	the applicable larles. larles. lascult:					
Delivered By: (Circle One) Sample Cond Cool Intact Sampler - UPS - Bus - Other:	(initial) Lpena	Lweinheimer@rice-ecs.com; kjones@riceswd.com; Lpena@riceswd.com; sedwards@rice-ecs.com agroves@rice-ecs.com					

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



December 18, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W, CAIN

HOBBS, NM 88240

RE: H. E. WEST B #45

Enclosed are the results of analyses for samples received by the laboratory on 12/11/13 15:00.

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.

Cardinal Laboratories is accreditated 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.

Celey D. Kune

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



RICE ENVIRONMENTAL CONSULTING & SAFETY JACOB KAMPLAIN 419 W. CAIN HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

12/11/2013

Reported:

12/18/2013

Project Name: Project Number: H. E. WEST B #45 NONE GIVEN

Project Location:

T17S R31E

Sampling Date:

12/11/2013

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: IMPORTED TOPSOIL (H302994-01)

Chioride, SM4500CI-B	mg	/kg	Anaiyze	а ву: АР					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/18/2013	ND	416	104	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keine



ND

Notes and Definitions

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

Analyte NOT DETECTED at or above the reporting limit

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keene

ARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Project Manager: Vacob Kampain Address: Company: City: Hobbs State: NM Zip: 88240 Attn: Phone #: Project #: Project Owner: Project Name: Linn # £ 1068 8 445 Project Location: TITS 2312 Sampler Name: Project Owner: Samp	Company Name: QECS	ANALYSIS REQUEST	\neg
Address: Company: City: Hobbs State: NM ZIp: 88240 Attn: Phone #: Fax #: Address: Project Name: Linn H.S. Woca B44S State: ZIp: Project Location: TITS 2318 Sampler Name: Product Gvoves Fax #: Lab I.D. Sample 1.D. Sample 1.D. Sample 1.D. Address: Company: Address: Address: Zip: Phone #: Phone #: Phone #: Fax #: PRESERV SAMPLING CHIQUE GVOVES Fax #: For Lab U.D. Sample 1.D. Address: Address: Address: Address: Zip: Phone #: Project Location: TITS 2318 Project Location: TITS 2318 Address: Ad	Project Manager: ()acob Kamaain		ヿ
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COMPlete I'D' POLITION NATER I'S SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CETCOOL OUT SELECT SOUL CONTRING SOUL CETCOOL C	City: Hobbs State: NM Zip: 88240	Attn:	ľ
COMPlete I'D' POLITION NATER I'S SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CETCOOL OUT SELECT SOUL CONTRING SOUL CETCOOL C		Address:	
COMPlete I'D' POLITION NATER I'S SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CETCOOL OUT SELECT SOUL CONTRING SOUL CETCOOL C	Project #: Project Owner:	City:	- 1
COMPlete I'D' POLITION NATER I'S SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CONTRING SOUL CETCOOL OUT SELECT SOUL CONTRING SOUL CETCOOL C	Project Name: Linn H. S. IDeSa B#45	State: Zip: $\Theta \ \square \ \square \ \square \ \square$	- 1
Lab I.D. Sample I.	Project Location: T175 2312	Phone #: S S S S S S S S S S S S S S S S S S	-
### CONTAINERS ### CONTAINERS		Fax#: 9	- 1
H302994 (6) # ON TO NOW TO SO TO THE TIME DATE TIME		PRESERV SAMPLING O O O	
H302994 (6) # ON TO NOW TO SO TO THE TIME DATE TIME	S S S S S S S S S S S S S S S S S S S		
H302994 (6) # ON TO NOW TO SO TO THE TIME DATE TIME	Somple ID Complete		
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			-

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Billiates of successors arising out of or related to the performance					
Refinguished By:	13-11-13	Received By:		Phone Result: Yes No Add'l Phone #:	
1 1 1	11211-10	// / / /	Λ	Fax Result:	
LI MANDAU COLORIS	Timea	10d, 10.	11 11 12/1	REMARKS:	,
	3.00	Colon Cyc	NO U	l i	
Relinguished By:	Date:	Redelved By:		email results	
1				knorman@rice-ecs.com hconder@rice-ecs.com;	
	Time:		•		
•				Lweinheimer@rice-ecs.com; kjones@riceswd.com;	
Delivered By: (Circle One)		Sample Condition	CHECKED BY:		
Bontarda Byr (Giroro Giro)		Cool /Intact,	/ Un/tlais)	Lpena@riceswd.com; sedwards@rice-ecs.com	
Sampler - UPS - Bus - Other:		De Yes Zes	(In/Hais)	agroves@rice-ecs.com	
Complet C. C. Bud Callett	•	No No	4111	4910100001100 000.00111	
			7		

[†] Cardinal cannot accept verbal changes. Please fax written changes to 505-395-2476

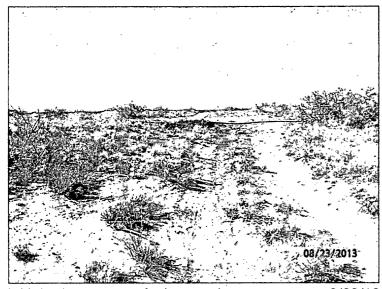


Appendix D Photo Documentation

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

Linn West B #45

Unit Letter N, Section 9, T17S, R31E



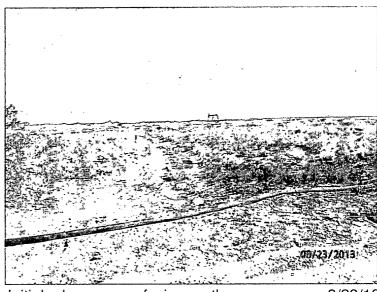
Initial release area, facing south

8/23/13



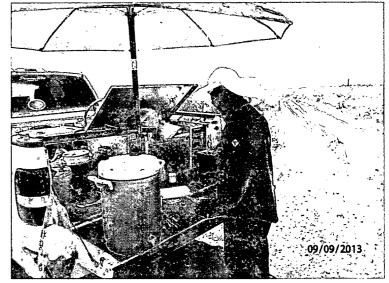
Collecting surface sample, facing north

9/9/13



Initial release area, facing north

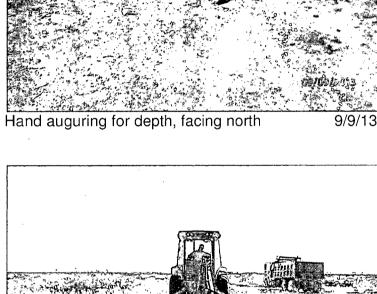
8/23/13

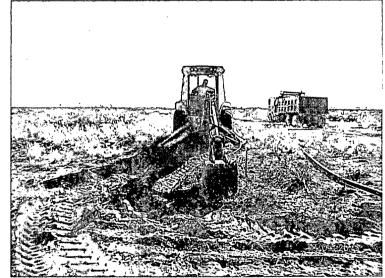


Field testing soil sample, facing southwest

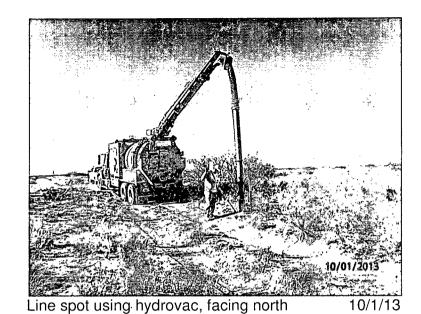
9/9/13

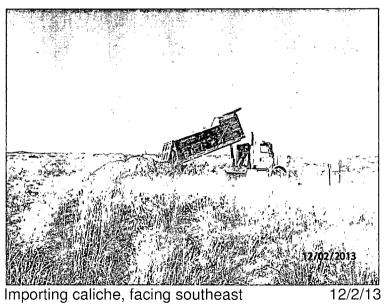




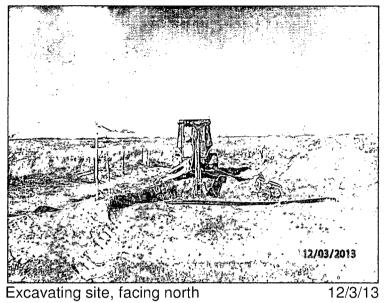


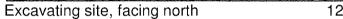
Installing vertical at Pt. 1, facing southeast 10/4/13

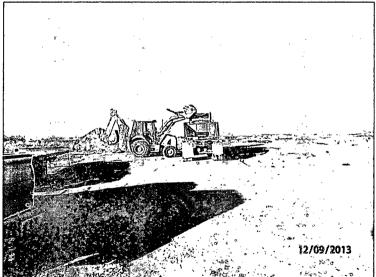




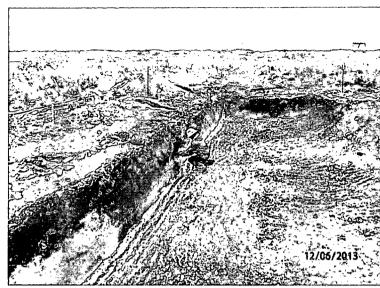
Importing caliche, facing southeast



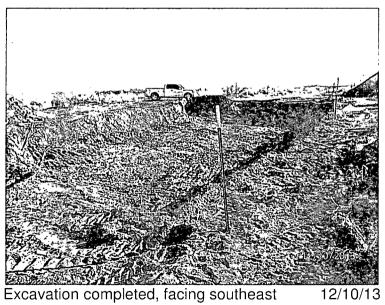




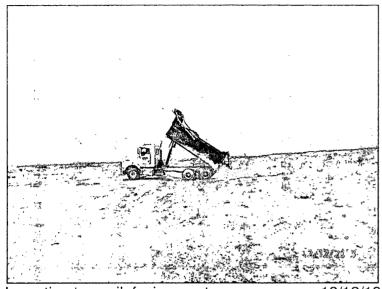
12/9/13 Exporting soil, facing west



Taking wall samples, facing north 12/6/13

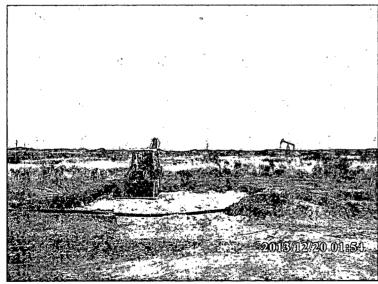


Excavation completed, facing southeast



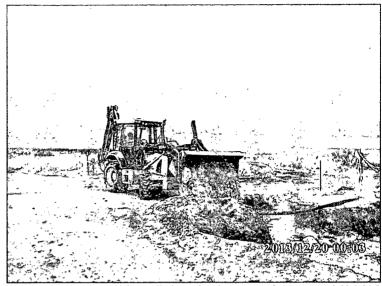
Importing top soil, facing west

12/12/13

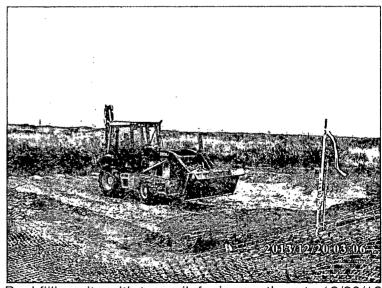


Backfilling site with caliche, facing north

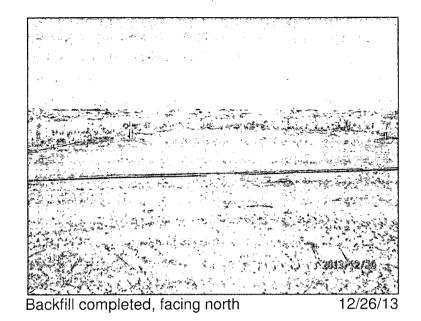
12/20/13

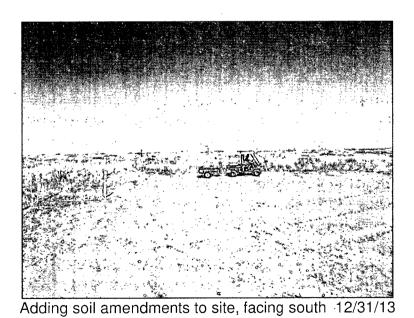


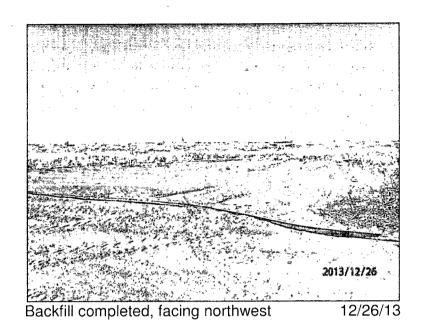
Backfilling site with caliche, facing southwest 12/20/13

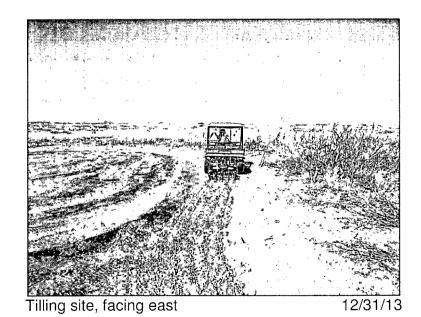


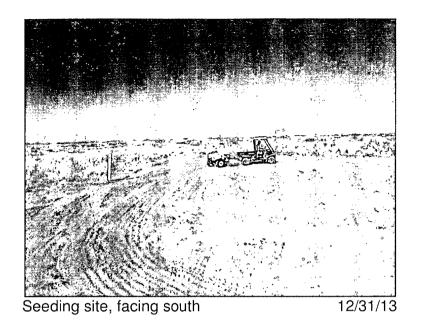
Backfilling site with top soil, facing northeast 12/20/13

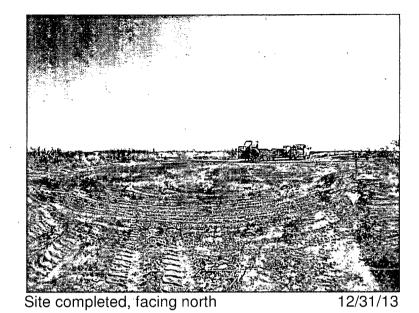












Appendix E Final C-141

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

<u>District I</u> 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

Energy Minerals and Natural Resources EB **06** 2014 State of New Mexico

RECEIVED

Form C-141 Revised August 8, 2011

Oil Conservation Division NMOCDS ARTECOPY to appropriate District Office in accordance with 19.15.29 NMAC. 1220 South St. Francis Dr.

1220 S. St. Fran	cis Dr., Sant	a Fe, NM 8/505)	Sa	nta F	Fe, NM 875	05							
			Rele	ase Notific	atio	n and Co	rrective A	ction	. <u> </u>					
						OPERA'	ΓOR	☐ Init	al Report Final Report					
Name of Co	mpany L	Linn Energy				Contact Brian Wall								
		nder, Hobbs	NM 8824	0		Telephone No. (575) 738-1739								
Facility Nar	ne West I	3 #45				Facility Type Oil Producer								
Surface Ow	ner Fede	ral		Mineral C	wner	API No. 3001526099								
				LOCA	TIC	N OF REI	LEASE							
Unit Letter	Section	Township	Range	Feet from the		h/South Line	County							
N .	9	17S	31E	660		South	1980	West	Eddy					
		1,5						11 030	Eddy					
			L	atitude_32.843	<u> </u>	_ Longitude	103.87608							
				NAT	'URI	E OF REL								
Type of Rele		uced Water					Release 5 gal		Recovered 0					
Source of Re	lease Poly	ripenne					lour of Occurrenc 10:30 am	10:30 an	Hour of Discovery 8-18-2013					
Was Immediate Notice Given?						If YES, To	Whom?	1 3 3 5 5 5						
Yes No Not Required Mike Burton, BL								<u></u>						
By Whom? Was a Water							lour 8-19-2013							
was a water	course Rea		Yes 🛚	No		11 1E3, VC	olume Impacting t	ne watercourse.						
If a Watercou	ırse was In	pacted, Descr	ibe Fully.	k				. ,5						
D 11 C	CD 11	1.0	P 1 4	m 1 4 4	11 :	1 1 2 7 12								
				n Taken.* A sma	ili pin	hole in flowlin	e developed resul	ting in spraying w	ater mist. I shut in well head to					
Describe Area Affected and Cleanup Action Taken.* A total of 2,115 square feet of lease road and pasture land was affected. RECS personnel were of site beginning on August 23 rd , 2013 to assess the release. Three points within the release were sampled at the surface and at depth. Representative same were taken to a commercial laboratory for analysis. Point 1 and Point 3 returned laboratory chloride values below regulatory standards at 7 ft bgs. Gasoline Range Organics (GRO) readings and Diesel Range Organics (DRC readings were either non-detect or below regulatory standards at all points at all depths. A Corrective Action Plan (CAP) was sent to NMOCD and BLM on October 29 th , 2013 and was approved by BLM on October 29 th , 2013 and by NMOCD on November 15 th , 2013. CAP activities began at the site on December 2 nd , 2013. The release area was excavated to 4 ft bgs and 228 yards of contaminated soil was taken to a NMOCD approved facility for dispooned to the excavation was completed, wall samples and a 5 point composite bottom sample were taken to a commercial laboratory for analysis. All samp returned laboratory chloride readings below regulatory standards and GRO, DRO and BTEX values were non-detect. A request to backfill the site was sent to NMOCD and BLM on December 16 th , 2013. NMOCD and BLM approved the site to be backfilled on December 17 th , 2013. A total of 312 yard of caliche and top soil were imported to the site to serve as backfill. A sample of each was taken to a commercial laboratory for analysis and returned values of non-detect. In the pasture area, 2 ft of caliche was placed at the base of the excavation. Two ft of top soil was used to complete the backfilling of the site and to contour the site to the surrounding location. In the lease road, the excavation was backfilled in entirety with caliche. On December 31 2013, soil amendments were added to the pasture area and the area was seeded with LPC mix. Thereby certify that the information given above is true and complete to the best of my									at depth. Representative samples by standards at 4 ft bgs. Point 2 Diesel Range Organics (DRO) was sent to NMOCD and BLM activities began at the site on 2D approved facility for disposal. Bratory for analysis. All samples equest to backfill the site was 7 th , 2013. A total of 312 yards by for analysis and returned sed to complete the backfilling bith caliche. On December 31 st , resuant to NMOCD rules and leases which may endanger lieve the operator of liability by surface water, human health compliance with any other					
Signature:	Fred R	Wall					OIL CON	<u>SERVATION</u>	DIVISION					
Printed Name		n Wall				Approved by	Environmental C	nacialist						
			**		,		Environmental S		_					
Title: Cor		n Foremai		, ==		Approval Da	le:	Expiration	Date:					
E-mail Addre	ess: By	vall@linne	nergy.co	om		Conditions o	Approval:		Attached					
Date: 2/5	/1/		DI	(806) 367-06	545									

^{*} Attach Additional Sheets If Necessary