

## LINN ENERGY

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

## H.E. West B #53

# Closure Report

2RP-1230

API 30-015-27148

BLM Event No. NU12157TG

Release Date: July 3, 2012

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

#### Rice Environmental Consulting & Safety

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

#### November 29, 2012

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 – H.E. West B #053 AD
UL/B sec. 9 T17S R31E
API No. 30-015-27148
2RP-1230
BLM Event No. NU12157TG

#### Mr. Bratcher:

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

#### **Background and Previous Work**

The site is an accidental discharge of crude oil and produced water associated with the H.E. West B #053. A surface poly line ruptured at a seam and released fluids onto pasture land. The line was repaired and an initial form C-141 was submitted by Linn Energy on July 13, 2012 (Appendix A). The site is located approximately 7 miles east of Loco Hills, in unit letter 'B' of section 9, T17S, R31E in Eddy County, New Mexico. Groundwater in the area is approximately 188 ft. below ground surface (bgs).

On August 3, 2012, RECS personnel collected samples at depth from Vertical #1 located in a central position within the leak area (Figure 1). The samples were field tested for chloride and hydrocarbons. The samples were submitted to a commercial laboratory for chloride and TPH (GRO/DRO) analyses (Appendix C).

On August 27, 2012, a Corrective Action Plan (CAP) was submitted to NMOCD District 2 and BLM. In the plan, RECS proposed to excavate the impacted area to chloride values less than or equal to 1,000 mg/kg or 3 ft bgs. Final grab samples taken from the excavation bottom and sidewalls would be submitted to a commercial laboratory for chloride and TPH confirmation. Impacted soils would be removed to a NMOCD approved disposal facility, and the excavation would be backfilled with clean, imported soil. The area would be contoured to the surrounding landscape and would be re-seeded with the appropriate BLM seed mixture.

On September 11, 2012, BLM responded by email to the CAP with stipulations (Appendix D). The stipulations stated that the leak area would need to be excavated to 3 ft bgs, and further vertical delineation would be required. In addition, the previous vertical trench would need to be re-excavated and backfilled with clean soil.

The previous trench, Vertical #1, was re-excavated on October 1, 2012. A soil sample was collected from the bottom of the trench at 9 ft. 6 in. bgs and field tested to confirm that all previously excavated soils were removed. The trench was backfilled with clean, imported soil. The bottom vertical sample and a sample of the imported soil were submitted to a laboratory for chloride and TPH analyses (Appendix C).

The leak area was excavated to 3 ft bgs, and Vertical #2 was advanced within the excavation to 16 ft bgs (Figure 2). Samples were collected at 1 ft. intervals and submitted to a commercial laboratory for chloride, TPH and BTEX analyses (Appendix C). The excavated soils were removed to a NMOCD approved disposal facility.

On October 16, 2012, an amended CAP was submitted to NMOCD and BLM. In the amended plan, RECS proposed to excavate the impacted area to 5 ft. bgs. The excavation side wall samples would not exceed 1,000 mg/kg chloride. Final grab samples taken from the excavation bottom and sidewalls would be submitted to a laboratory for chloride and TPH confirmation. Excavated soils would be removed to a NMOCD approved disposal facility. The excavation would be backfilled with clean, imported soil and the top 2 ft. of the excavation would be backfilled with topsoil similar to the native terrain. The site would be contoured to the surrounding landscape with erosion controls. The entire area would then be re-seeded with BLM seed mix #2 and #4 in a 50/50 mix.

On October 25, 2012, BLM responded by email to the amended CAP (Appendix D). The response stated that, based on the more recent sample data, the excavation should be completed to a depth of 4 ft. bgs or until chloride dropped below 1,000 mg/kg and TPH dropped below 1,000 mg/kg. The response also stated the need to address a historical leak overlapping and surrounding the current leak site.

The current leak area was excavated to 4 ft. bgs (Figure 3). On November 12, 2012, grab samples from the excavation bottom and side walls were collected and submitted to a laboratory for chloride, TPH, and BTEX confirmation (Appendix C). Chloride and TPH levels were well below 1,000 mg/kg each, and BTEX levels were non-detect.

Sections of the historical leak area were also excavated from 6 in. to 1 ft. bgs based on results of field testing (Figure 3). Representative grab samples from the excavation bottoms and sidewalls were submitted to a laboratory for chloride, TPH, and BTEX confirmation (Appendix C).

Impacted soils were removed to a NMOCD approved disposal facility. The excavations were backfilled with clean, imported soil similar to the native terrain. The site was contoured to the surrounding landscape with erosion controls installed. The site will be seeded with BLM seed mix #2 and #4 in a 50/50 mix. See Appendix B for photographs of field activities.

#### Conclusion

Due to the removal of impacted soils and the absence of groundwater in the area, RECS, on behalf of Linn Energy, submits the final Form C-141, and respectfully requests the closure of the regulatory file for this site.

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

Sincerely,

Bruce Baker

Bruce Baher

Head Foreman

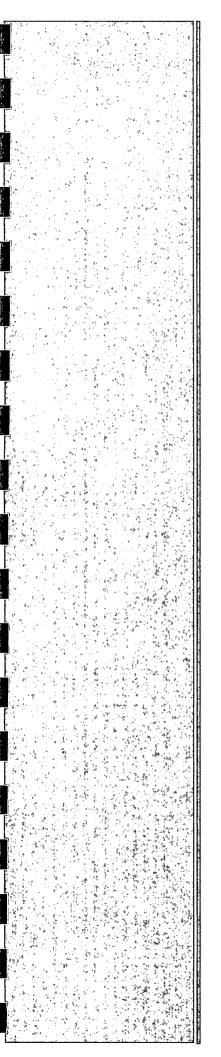
**RECS** 

(575) 631-5157

#### Attachments:

Figure 1: Site Plat with Vertical #1 Lab Data Figure 2: Site Plat with Vertical #2 Lab Data Figure 3: Site Plat with Excavation Lab Data

Appendix A: Initial Form C-141
Appendix B: Site Photographs
Appendix C: Laboratory Results
Appendix D: BLM Correspondences
Appendix E: Final Form C-141

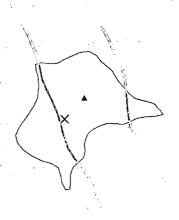


Figures

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

## Vertical Lab Data

Vertical #1												
Sample Description	Cl-	PID	Lab Cl-	GRO	DRO							
surface	6,680	4.4	11,800	<100	23,500							
1'	837	4.4										
2'	772	26.8										
3'	377	8										
4'	930	5.8										
5'	3,049	4.7										
6'	1,155	3.2										
7'	405	3.2										
8'	116	2.2	80	<10	26							
9'	114	2	32	<10	<10							



## Legend

- VERTICAL 1
- × SOURCE

---- ABOVE GROUND POLY LINE

STAIN (647 sq ft)

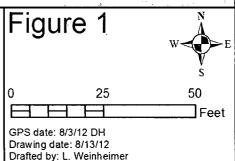
DGW = 188 ft

Landowner = BLM

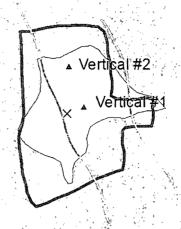


## LINN ENERGY H.E. WEST B #053

LEGALS: UL/B sec. 9 T-17-S R-31-E EDDY COUNTY, NM



## Vertical Lab Data



Vertical #2 Lab Data													
Sample Description	Lab Cl-	GRO	DRO	В	T .	E	Х						
3'	720	272	4,890	<0.05	<0.05	0.185	1.11						
4'	576	322	9,020	<0.2	<0.2	0.452	2.19						
5'	512	<10	<10	<0.05	<0.05	<0.05	<0.15						
6'	640	<10	<10	<0.05	<0.05	<0.05	<0.15						
7'	432	<10	<10	<0.05	<0.05	<0.05	<0.15						
8'	720	<10	<10	<0.05	<0.05	<0.05	<0.15						
9'	384	<10	13.8	<0.05	<0.05	<0.05	<0.15						
10'	976	<10	<10	<0.05	<0.05	<0.05	<0.15						
11'	1,720	<10	<10	<0.05	<0.05	<0.05	<0.15						
12'	1,380	<10	<10	<0.05	<0.05	<0.05	<0.15						
13'	272	<10	<10	<0.05	<0.05	<0.05	<0.15						
14'	528	<10	<10	<0.05	<0.05	<0.05	<0.15						
15'	432	<10	<10	<0.05	<0.05	<0.05	<0.15						
16'	160	<10	<10	<0.05	<0.05	<0.05	<0.15						

## Legend

- ▲ VERTICALS
- × SOURCE

- ABOVE GROUND POLY LINE

STAIN (647 sq ft)

SCRAPE AT 3 FT BGS

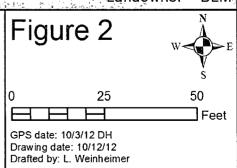
DGW = 188 ft

Landowner = BLM

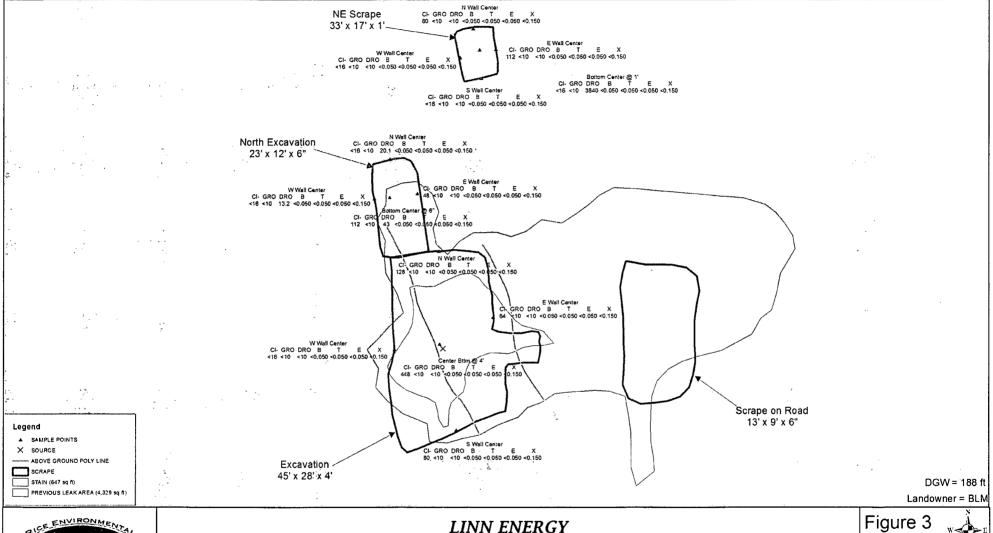


## LINN ENERGY H.E. WEST B #053

LEGALS: UL/B sec. 9 T-17-S R-31-E EDDY COUNTY, NM



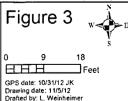
#### **Excavation Lab Data**





LINN ENERGY H.E. WEST B #053

> LEGALS: UL/B sec. 9 T-17-S R-31-E EDDY COUNTY, NM





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

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rro 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 JUL 13 2012

RECEIVED

Form C-141 Revised October 10, 2003

NMOGOMARTE Spaper prize District Office in accordance with 19 15,29 NMAC

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

Release Notification and Co		etion		
nTM\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			al Report	Final Report
Name of Company: Linn Operating 269324 Contact: Joe			····	
	No.: 575-738-173	39		
Facility Name: H.E. West B #53 Facility Typ	e: Oil		·	
Surface Owner: Federal Mineral Owner: Federal		API No	.: 3001527	148
LOCATION OF REI	LEASE			
Unit Letter   Section   Township   Range   Feet from the   North/South Line	Feet from the	East/West Line	County	
H 9 17S 31E 1350 North	1250	East		Eddy
Latitude: 32.85266 Longitude	LL a:_103 86057		1	
NATURE OF RELI		·		
	Release: 7 gals /	3gals Volume R	Recovered: 0	/0
Source of Release: Pipeline Date and H	lour of Occurrence	e: Date and	Hour of Dis	
07/03/2012		07/03/201	12 3pm	
Was Immediate Notice Given?	o Whom? er -NM OCD Ten	ry Gregston-BLM		
	lour 07/05/2012 1			
Was a Watercourse Reached? If YES, Vo	olume Impacting th			
☐ Yes ⊠ No				
If a Watercourse was Impacted, Describe Fully.*:				
				•
Describe Course of Broblem and Bernedial Action Taken *- 2" note flow two et a com-	come apart aquein	a the leek		
Describe Cause of Problem and Remedial Action Taken.*: 3" poly flow line at a seam of	come apart causin	g the leak.		
	•			}
Describe Area Affected and Cleanup Action Taken.*: 10' x 10' area 300' North of we	Ilband Damadual	action nandina		_
Describe Area Affected and Cleanup Action Taken. 110 x 10 area 300 North of we	imead. Kemediai	action pending		
I hereby certify that the information given above is true and complete to the best of my	knowledge and u	nderstand that purs	suant to NM	OCD rules and
regulations all operators are required to report and/or file certain release notifications at	nd perform correct	tive actions for rel	eases which	may endanger
public health or the environment. The acceptance of a C-141 report by the NMOCD m should their operations have failed to adequately investigate and remediate contaminati	iarked as "Final Re	eport" does not rel	ieve the ope	rator of liability
or the environment. In addition, NMOCD acceptance of a C-141 report does not reliev	e the operator of r	esponsibility for c	ompliance v	with any other
federal, state, or local laws and/or regulations.				
	OIL CONS	SERVATION	DIVISIO	<u> </u>
Signature:			h	1,
Approved by	District Superviso	Signed E	w M	4 Deignolina
Printed Name: Joe Hernandez	JUL 27 20	12 Signed I	J_F-11/	, WATONCOL
Į l				
Title: Production Foreman Approval Dai	te.	Expiration	Date:	•
		Expiration		
Title: Production Foreman Approval Dat  E-mail Address: jhemandez@linnenergy.com Conditions of Date: 07/13/2012 Phone: 575-942-9492		Expiration	Date: Attached	

**Guidelines. SUBMIT REMEDIATION** PROPOȘAL NOT LATER THAN:

Appendix B
Site Photographs

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

# Appendix C Laboratory Results



August 11, 2012

**BRUCE BAKER** 

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: WEST B #053 AD

Enclosed are the results of analyses for samples received by the laboratory on 08/08/12 9:00.

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

Celes D. Keine

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 BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

08/08/2012

Sampling Date:

08/03/2012

Reported:

08/11/2012

Sampling Type:

Soil

Project Name:

WEST B #053 AD

Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Number: Project Location:

NONE GIVEN

Sample ID: VERTICAL #1 SURFACE (H201833-01)

Chloride, SM4500CI-B

ma/ka

Analyzed By: AP

Chloride, SM4500CI-B	mg/	кg	Anaiyze	а ву: АР					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11800	16.0	08/08/2012	ND	384	96.0	400	0.00	
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	<100	100	08/08/2012	ND	181	90.5	200	4.00	
DRO >C10-C28	23500	100	08/08/2012	ND	181	90.3	200	4.45	

Surrogate: 1-Chlorooctane

86.8 %

65.2-140

Surrogate: 1-Chlorooctadecane

338 %

63.6-154

#### Sample ID: VERTICAL #1 @ 8' (H201833-02)

Chloride, SM4500Cl-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	08/08/2012	ND	384	96.0	400	0.00	
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	08/08/2012	ND	181	90.5	200	4.00	
DRO >C10-C28	26.0	10.0	08/08/2012	ND	181	90.3	200	4.45	
Surrogate: 1-Chlorooctane	88.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	87.8	% 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 (liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by cleint, its subsidiaries, 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.

Celen & Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER
112 W. TAYLOR

HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

08/08/2012

Sampling Date:

08/03/2012

Reported:

08/11/2012

Sampling Type:

Soil

Project Name:

WEST B #053 AD

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

#### Sample ID: VERTICAL #1 @ 9' (H201833-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/08/2012	ND	384	96.0	400	0.00	
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	08/08/2012	ND	181	90.5	200	4.00	
DRO >C10-C28	<10.0	10.0	08/08/2012	ND	181	90.3	200	4.45	
Surrogate: 1-Chlorooctane	90.8	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	88.7	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's lability 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 waved unless made in writing and received by Clearlinal 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, 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.

Cley & Kure



#### **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.

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

PLEASE NOTE: Libbility and Damages. Cardinal's lability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subcidaries, affiliates or successions 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 inferior above. This report shall not be reproduced except in full with written approval of Cardinal Laboratomes.

Celey L. Kune



#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

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

Company Name	7 9 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		`	<u> </u>			::4	Andil.	B	IL	L TO	ERREGIONALE LE STEINING AL	:				ANAI	YSIS	RE	QUE	ST			
Project Manage	r. Bruce Bayer						Ρ.	O. #:																
Address:							Co	mpa	any:								S							
City:	State:	Zip	:				At	tn:									o							
Phone #:	Fax #:						Ac	ldre	ss:		~						Ϋ́							
Project #:	Project Owne		····				Ci	ty:			*******************************		(n)	Σ	}	$\mathbf{x}$	//S					l		
Project Name:	WEST B # 053 A.D						St	ate:		Z	ip:	. ,	Chlorides	8015	$\times$	Texas TPH	Cations/Anions	(^						
Project Location							Pf	one	#:		~~		Ξ	30	BTEX	်ပ	ati	TDS						
Sampler Name:	Daksten Harms						Fa	x#:		.,			글	H	m	×	O							
FOR LAB USE ONLY			-	— <sub>1</sub> —	MAT	RIX		PRE	SER	⊻	SAMPLI	NG	O	ТРН		e	e							
Lab I.D. H201453	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	WASTEWATER	SOIL	OIL	SLUDGE OTHER:	ACID/BASE:	ICE / COOL		DATE	TIME		<del> </del>		•	Complete							
	Vertical# 1 Surface		1		W				4		(37)			*/										
7	Vertical#/Surface Vertical#/E8' Vertical#/E9'	G.	1	_					/			2:05	V,	2/										
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pnalyses. All claims include service. In no event shall C	nd Damages. Cardinal's kability and chent's exclusive remorty for ng those for negligence and any other cause whatnever shall ble andinal be liable for incidental or consequental dumages, including ng out of or related to the performance of services hereunder by	deeme	d waived at limitation	unless i m, busit	made in ness inte	gniliw ortquna	and reco	ived by of use,	Cardina or loss o	al with f profil	in 30 days atte Is incurred by r	r completion of t tient, its subsidia	lie applicat iries	ble .										
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Sampler - UPS	- Bus - Other:		- 1	Ľ.	Yes No	H'	res No		577	7.1			_											

#26

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



October 05, 2012

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: WEST B #053 AD

Enclosed are the results of analyses for samples received by the laboratory on 10/02/12 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 <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited 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. Frence

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 BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received: Reported: 10/02/2012

10/05/2012

WEST B #053 AD

Project Name: Project Number:

Surrogate: 1-Chlorooctadecane

NONE GIVEN

90.1%

63.6-154

Project Location:

NOT GIVEN

Sampling Date:

10/01/2012

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

#### Sample ID: VERTICAL #1 @ 9' 6" (H202402-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/05/2012	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	10/04/2012	ND	190	94.9	200	0.855	
DRO >C10-C28	21.4	10.0	10/04/2012	ND	186	93.1	200	1.39	
Surrogate: 1-Chlorooctane	89.4	% 65.2-14	0			,			

#### Sample ID: IMPORTED SOIL (H202402-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/05/2012	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	10/04/2012	ND	190	94.9	200	0.855	
DRO >C10-C28	<10.0	10.0	10/04/2012	ND	186	93.1	200	1.39	
Surrogate: 1-Chlorooctane	92.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	91.2	% 63.6-15	4						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celey & 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

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Celeg & Keene

# ARDINAL LABORATORIES

#### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

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

Company Name: RECS				LL TO	ligeinia d'Isli. Licusia d'Asia				,	ANAI	YSIS	RE	QUES	ST										
Project Manage	r: BRICE BAKIR,							Ρ.	0.#	:														
Address:								C	omp	any	:							S						
City:		State: NM	Zip	: 88	240			At	tn:									Ö						
Phone #:	<u> </u>	Fax #:						_Ac	ddre	ss:								47						
Project #:		Project Owner	:			*********		ci	ty:					<u>"</u>	≥	1	エ	1/8						
Próject Name:	NEST B# 053 A	2.19:						St	ate:			Zip:		Chlorides	15	$\times$	Texas TPH	Cations/Anions	(0)					
Project Location								Pł	none	#:			~	ij	TPH 8015	BTEX	·S	ati	TDS					
Sampler Name:	DAKSTON HAR	<b>冷</b> ら						Fa	x#:					글	I	m	×							
FOR LAB USE ONLY			٠.			MAT	RIX		PR	ESE	RV.	SAMPLI	ING	O	<u>[</u>		<u></u>	te						
Lab I.D.	Sample I.D		(G)RAB OR (C)OMP	# CONTAINERS	GROUNDWATER	WAS I EWA I EK SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME					Complete						
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analyses, All claims including service. In no event shall C affiliates or successors arisis	of Damages. Cardinal's liability and client's ny those for negligence and any other caus ordinal be liable for incidental or consequen ny out of or related by the performance of s	se whatsoever shall be o intal damages, including	teemed viithou ardinal	i waive I limita regar	d untes lion, bu tless of	made in since inter- whether so	viding: ruption	and reci	eived b of use,	y Card or toss	inal w	ithin 30 days atte ofts incurred by o	er completion of the client, its subsidia asons or otherwi	re applicat ries se.										
Relinquished By		Time: 35	Re	Celv	ed E	y: 9 /			P.	M.	4	DH.	Phone Re Fax Resul REMARK	t:	□ Ye □ Ye			Add'l	Phone Fax #:	#:			 	
Relinquished By	/: <u></u>	Date:	Re	ceiv	ed E	بردانید. اγ:		áz Var K	day ye dan	د کند	-		email											į
Delivered By Sampler - UPS	(Circle One) - Bus - Other:		L		C	ample ( ool /1 Yes No	tact	es		CHE (4)	CK Initi	ED BY:	Zcond hcond										com	

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



October 11, 2012

**BRUCE BAKER** 

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: H. E. WEST B #53

Enclosed are the results of analyses for samples received by the laboratory on 10/05/12 10:19.

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 <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited 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.

Celes & 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 BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 3' (H202427-01)

BTEX 8021B	mg/	'kg	Analyzed By: AP						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	0.185	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	1.11	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	228	% 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	720	16.0	10/09/2012	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	272	50.0	10/06/2012	ND	210	105	200	4.24	
DRO >C10-C28	4890	50.0	10/06/2012	ND	209	105	200	7.91	
Surrogate: 1-Chlorooctane	152	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	159	% 63.6-15	4						

Cardinal Laboratories

\*=Accredited Analyte

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Celeg E. Kune



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

(575) 397-1471 Fax To:

Received: Reported: 10/05/2012

10/11/2012

Project Name:

H. E. WEST B #53

Project Number: Project Location: NONE GIVEN

**EVENT NUMBER NU12157TG** 

Sampling Date:

Sampling Type:

Sample Received By:

10/03/2012 Soil

Sampling Condition:

Cool & Intact

Hope S. Moreno

#### Sample ID: VERTICAL #2 @ 4' (H202427-02)

BTEX 8021B	mg/kg			d By: AP					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.200	0.200	10/09/2012	ND	2,07	103	2.00	9.58	
Ethylbenzene*	0.452	0.200	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	2.19	0.600	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIE	179	% 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	576	16.0	10/09/2012	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	322	50.0	10/06/2012	ND	210	105	200	4.24	
DRO >C10-C28	9020	50.0	10/06/2012	ND	209	105	200	7.91	
Surrogate: 1-Chlorooctane	182	% 65.2-14	0		. =				
Surrogate: 1-Chlorooctadecane	161	% 63.6-15	4						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg & Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER
112 W. TAYLOR

HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

H. E. WEST B #53

Sample Received By:

Hope S. Moreno

Project Location:

EVENT NUMBER NU12157TG

#### Sample ID: VERTICAL #2 @ 5' (H202427-03)

BTEX 8021B	mg/kg		Analyze	Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	106	% 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	512	16.0	10/09/2012	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	10/06/2012	ND	210	105	200	4.24	
DRO >C10-C28	<10.0	10.0	10/06/2012	ND	209	105	200	7.91	
Surrogate: 1-Chlorooctane	88.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	89.4	% 63.6-15	4						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY

BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

10/11/2012 H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 6' (H202427-04)

BTEX 8021B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	107	% 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	640	16.0	10/09/2012	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	10/06/2012	ND	210	105	200	4.24	
DRO >C10-C28	<10.0	10.0	10/06/2012	ND	209	105	200	7.91	
Surrogate: 1-Chlorooctane	89.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	90.8	% 63.6-15	4						

Cardinal Laboratories

\*=Accredited Analyte

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Celeg E. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER

112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 7' (H202427-05)

BTEX 8021B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	108 :	% 89.4-12	6						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: AP						w- <del></del> -
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	80.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	83.0	% 63.6-15	4						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg D. Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 8' (H202427-06)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIC	107	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	ŔPD	Qualifier
Chloride	720	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	83.7	% 65.2-14	0					1	
Surrogate: 1-Chlorooctadecane	88.6	% 63.6-15	4						

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RICE ENVIRONMENTAL CONSULTING & SAFETY **BRUCE BAKER** 112 W. TAYLOR

HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

Cool & Intact

H. E. WEST B #53

Sampling Condition:

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 9' (H202427-07)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	107	% 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	384	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	13.8	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	83.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	89.2	% 63.6-15	4						

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Fax To:

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Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 10' (H202427-08)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	106	% 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	976	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	78.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	82.7	% 63.6-15	4						

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Fax To:

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Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 11' (H202427-09)

BTEX 8021B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	107	% 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	1720	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	77.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	79.1	% 63.6-15	4						

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Fax To:

Received: Reported: 10/05/2012

H. E. WEST B #53

Project Number: Project Location:

Project Name:

10/11/2012

NONE GIVEN

**EVENT NUMBER NU12157TG** 

Sampling Date:

Sampling Type: Soil Sampling Condition:

Sample Received By:

Cool & Intact

10/03/2012

Hope S. Moreno

#### Sample ID: VERTICAL #2 @ 12' (H202427-10)

BTEX 8021B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	107	% 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	1380	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	81.9	% 65.2-14	0				•		
Surrogate: 1-Chlorooctadecane	81.8	% 63.6-15	4						

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Fax To:

(575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition: Sample Received By: Cool & Intact Hope S. Moreno

Project Number:

NONE GIVEN

Project Location:

**EVENT NUMBER NU12157TG** 

Sample ID: VERTICAL #2 @ 13' (H202427-11)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	108 :	% 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	272	16.0	10/09/2012	ND	400	100	400	3.92	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	ВS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	75.9	% 65.2-14	0		••				
Surrogate: 1-Chlorooctadecane	77.0	% 63.6-15	4						

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Fax To: (575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 14' (H202427-12)

BTEX 8021B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	107	% 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	528	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	76.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	79.3	% 63.6-15	4						

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Fax To:

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Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/11/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53 NONE GIVEN Sampling Condition: Sample Received By: Cool & Intact Hope S. Moreno

Project Number: Project Location:

EVENT NUMBER NU12157TG

Sample ID: VERTICAL #2 @ 15' (H202427-13)

BTEX 8021B	mg,	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIC	108	% 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	432	16.0	10/09/2012	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	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	80.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	83.0	% 63.6-15	4						

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Fax To:

(575) 397-1471

Received:

10/05/2012

Sampling Date:

10/03/2012

Reported:

10/03/2012

Sampling Type:

Soil

Project Name:

H. E. WEST B #53

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Hope S. Moreno

Project Location:

**EVENT NUMBER NU12157TG** 

#### Sample ID: VERTICAL #2 @ 16' (H202427-14)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2012	ND	2.32	116	2.00	9.62	
Toluene*	<0.050	0.050	10/09/2012	ND	2.07	103	2.00	9.58	
Ethylbenzene*	<0.050	0.050	10/09/2012	ND	2.09	105	2.00	9.25	
Total Xylenes*	<0.150	0.150	10/09/2012	ND	6.12	102	6.00	9.28	
Surrogate: 4-Bromofluorobenzene (PIL	105 9	% 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	160	16:0	10/09/2012	ND	400	100	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS			···	<u>.                                    </u>	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/08/2012	ND	194	96.9	200	3.67	
DRO >C10-C28	<10.0	10.0	10/08/2012	ND	198	98.9	200	4.31	
Surrogate: 1-Chlorooctane	72.0	% 65.2-14	0	,					
Surrogate: 1-Chlorooctadecane	76.6	% 63.6-15	4						

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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.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

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1 Of Da

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

# ARDINAL LABORATORIES

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

Company Name	RECS								:::		111.11	BI.	LLIU	numa da da a	.1				ANA	_1010	) KE	QUE	) I			
Project Manage	n: Bouce Buston								Р.	O. #	!:															
Address:									C.	omp	any	<u>/:</u>							S							
City:		State: NM	Zip	o: 88	3240	00			A	tn:					1				<u>ō</u>					İ		
Phone #:		Fax #:							A	ddre	ss:		···		l				7							
Project #:		Project Owner	r:						Ci	ty:					1	≥		エ	1/8							
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FOR LAB USE ONLY				Τ		Ā	/ATR	IX		PR	ESE	RV.	SAMPL	ING	O	TPH		e)	<b>e</b>							
Lab I.D.	Sample I.		(G)RAB OR (C)OMP.	A	GROUNDWATER	WASTEWATER	SOIL	OIL	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME		<b> </b>			Complete Cations/Anions							
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3	Hortical # 12. 6		Ċ				V.				1			10:43	1.	$\overline{F}$	15									
. 4	防护拘削差 夢	li."	6	1			/				1		龙兰/汉		1.	10	1.									
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PLEASE NOTE: Limitaly an	(イアタバのイガラ) とフら id Damages, Cardinal's kability and che		ov da	im aris	ing wh	ether b	ased in	contra	act or b	ort sha	l be t	imited		id by the client to	r the		37	<u> </u>	<u> </u>	<u> </u>	<u> </u>	l				<u> </u>
analyses. All claims includir service. In no event shall Co	ing those for negligence and any other conditions he liable for incidental or consecuted out of or related to the performance of	nuse whatsonver shall be juental damages, including of services hereunder by C	deeme į vitho ardino	d waiv ut limit	ed uni ation, t	ess ma husiner	de in w	titing a uption	and rec s, loss	eived t of use,	y Car , or los	rdinal v es of p	within 30 days ofte rofits incurred by	ctient, its subsidi:	aries	ıble:										
Relinquished By	7.7. June	Date:  b  C  S      Z-  Time:  C              Date:	R	-/-!	\ 3.0-	By:	_{}	Ŋ	1 0	riên	<b>~</b> 5			Phone Re Fax Resu REMARK	lt: S:	□ Ye		No No	Add'l Add'l	Phone Fax #:	#:					
Relinquished By		Date:	R	ecei	ved									email Zcon			2-ec	s cor	n· R	bake	e <b>r</b> @r	ice-e	ecs.c	om:		
Delivered By: Sampler - UPS	(Circle One) - Bus - Other:					Coo	ple C V In Yes [ No [	tact	es	,	CH HS	ECK Inil) محر	(ED BY:	heone											com	

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Dota-

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Zconder@rice-ecs.com; Bbaker@rice-ecs.com;

hconder@rice-ecs.com; Lweinheimer@rice-ecs.com

• ARDINAL LABORATORIES

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

Company Name	RECS							L			BI	LL :	TO		.: :.				,	ANAL	LYSIS	S RE	QUE	ST_			
Project Manage	"Bruit Barter							P	.O.	#:																	
Address:								С	om	pany	<b>y</b> :									SI						,	
City:		State: NM	Zip	88	240	····		A	ttn:						_					Cations/Anions							
Phone #:		Fax #:						A	ddr	ess:	:				_					٩'n			ĺ				
Project #:		Project Owner						c	ity:						_	ا م	Σ		エ	//S							
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Project Locatio								P	hon	e #:						$\exists$	30	BTEX	S	ati	TDS						
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Lab I.D.	Sample I.		G)RAB OR (C)OMP.	- # CONTAINERS	GROUNDWATER	WASIEWAIEK SOIL		SLUDGE	ACID/BASE		отнек:	D,	ATE	TIME		7	TP		Te	Complete							
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analyses. All claims includi	rid Damages: Caronial's Rathlity and clier ing those for negligence and any other ca Caroinal be liable for incidental or conseq	ause whatsoever shall be d	ieemed	waive	i unies	s made în	witing	and re	cetved	by Car	dinal v	vithin 30	days atte	er completion o	1 the a:	opt cat	le										
affiliates of successors arts	ing out of or related to the performance of	of services hereunder by C	ardinal	regard	less of	whether:								asons of other	Wiso.		(1 Va	. 0	Nia	A dd'i	Dhono	#.					
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Relinquished B	γ.'	Date:	Re	ceiv	ed E	β <b>γ</b> :								emai	l re	su	lts										

CHECKED BY: (Initials)

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

Sample Condition
Cool Intact
Yes Yes
No No

Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:



November 26, 2012

BRUCE BAKER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: WEST B #053

Enclosed are the results of analyses for samples received by the laboratory on 11/14/12 16:50.

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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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.

Celeg & Keine

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 **BRUCE BAKER** 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/26/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Location:

EXCAVATION @ 4'

# Sample ID: W. WALL CENTER (H202766-01)

BTEX 8021B	mg/	kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	< 0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	118 %	% 89.4-12	6						
Chloride, SM4500CI-B	mg/	kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/16/2012	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/15/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/15/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	81.7	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	88.5	% 63.6-15	4						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg & Kenne



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/26/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Project Location:

EXCAVATION @ 4'

Sample Received By:

Jodi Henson

#### Sample ID: E. WALL CENTER (H202766-02)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	120 9	6 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	64.0	16.0	11/16/2012	ND	432	108	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	11/15/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/15/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	83.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.7	% 63.6-15	4						

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\*=Accredited Analyte

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Celeg & Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

(575) 397-1471 Fax To:

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/26/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Location:

EXCAVATION @ 4'

# Sample ID: N. WALL CENTER (H202766-03)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	< 0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	< 0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	119 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	128	16.0	11/16/2012	ND	432	108	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	11/15/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/15/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	81.1	% 65.2-14	0					2	
Surrogate: 1-Chlorooctadecane	89.9	% 63.6-15	4						

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RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/26/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Number.

Project Location:

EXCAVATION @ 4'

## Sample ID: S. WALL CENTER (H202766-04)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIE	119 9	% 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	80.0	16.0	11/16/2012	ND	432	108	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	11/15/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/15/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	80.3	% 65.2-140	)						
Surrogate: 1-Chlorooctadecane	89.3	% 63.6-154	1						

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Celeg D. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY

BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (

(575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/26/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Location:

EXCAVATION @ 4'

# Sample ID: CENTER BTTM @ 4' (H202766-05)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	119 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	448	16.0	11/16/2012	ND	432	108	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	11/15/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/15/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	83.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	91.1	% 63.6-15	4						

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\*=Accredited Analyte

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Celeg D. Keene



#### **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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subcideries, 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. Keine



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	: ,Ecc5							B	ILL TO		{	•			ANA	LYSI	S RE	QUE	ST			
Project Manage	r: Brue Balin			~ · · · · · · · · · · · · · · · · · · ·		P.0	. #:							}				}			,	
Address:						Coi	npar	ıy:					1					}				
City:	State:	Zip:		· · · · · · · · · · · · · · · · · · ·		Alli	1:															
Phone #:	Fax #:					Acid	iross	:														
Project #:	Project Owner	:				City	<u>':</u>					·					l ·				4	
Project Name:	N.B453					Sta	te:		Zip:					1.		1	-		0.5			
Project Location	n: Excavatione & 4	<del></del>	· 			Pho	ne #	!;								1		ļ				
Sampler Name:	DUK HERR'S EVENT NO. NU	121.	577			Fax			المستقدية المستقدية													
Lab I.D. 1202166 12 2	Sample I.D.  W. Wall Center  F. Wall Center  Al. Wall Center  S. Wall Center  Center bottm & 34 *		GROUNDWATER	WASTEWATER WASTEWATER	SLUDGE			OTHER:		TIME 9:20 9:22	( · ) v v v v	X102 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	77 8 20000	, , ,								
analyses, All claims include service, in no event shall C	Their Tive 15	Reco	ved unles: itation, but	s mado in sinesa inte ethether n	writing to truptions	id receli , losa of	ed by C use, or l	ardinal lo sso	I within 30 days nfl profits incurred by	er completion of t client, its subsidi	he applica rica, se. Sult:	□ Ye	s C	No No	Add'	Phone Fax#:		126/1	2			
Delivered By	: (Circle One) - Bus - Other:		l Si	omple ool /l Yes No	Condi nlact Ye	tion is	- c	HEC	KED BY:	7-06				V .		0	•					

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



November 16, 2012

**BRUCE BAKER** 

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: WEST B #053

Enclosed are the results of analyses for samples received by the laboratory on 11/14/12 16:50.

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 <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> 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. Keine

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 BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

11/14/2012

Reported:

11/16/2012

Project Name:

WEST B #053

Project Number: Project Location: EVENT NO. NU12157TG NE SCRAPE @ 1' Sampling Date:

11/14/2012

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

# Sample ID: N. WALL CENTER (H202767-01)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	122 %	% 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	11/16/2012	ND	432	108	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	11/15/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/15/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	85.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	95.1	% 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 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.

Celeg D. Keine



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/16/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Project Location:

NE SCRAPE @ 1'

Sample Received By:

Jodi Henson

# Sample ID: E. WALL CENTER (H202767-02)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	< 0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	< 0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	119 %	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	112	16.0	11/16/2012	ND	432	108	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	11/15/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/15/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	89.0	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	98.2	% 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 liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey L. Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/16/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Project Location:

NE SCRAPE @ 1'

Sample Received By:

Jodi Henson

## Sample ID: W. WALL CENTER (H202767-03)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	120 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	<16.0	16.0	11/16/2012	ND	432	108	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	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	82.3	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	91.1	% 63.6-15	4						

#### Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY **BRUCE BAKER** 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Analyzed By: AP

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

BTEX 8021B

11/16/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Project Location:

NE SCRAPE @ 1'

mg/kg

Sample Received By:

Jodi Henson

# Sample ID: S. WALL CENTER (H202767-04)

Result < 0.050 < 0.050	Reporting Limit 0.050 0.050	Analyzed 11/16/2012	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<0.050		11/16/2012	ND	1 01				
	0.050			1.81	90.3	2.00	2.11	
		11/16/2012	ND	2.15	108	2.00	2.72	
< 0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
< 0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
<0.300	0.300	11/16/2012	ND					
118 9	% 89.4-12	6						
mg/	kg	Analyze	d By: AP					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<16.0	16.0	11/16/2012	ND	432	108	400	3.77	
mg/	kg	Analyze	d By: MS					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<10.0	10.0	11/16/2012	ND	195	97.7	200	1.85	
<10.0	10.0	11/16/2012	ND	211	105	200	3.20	
85.1	% 65.2-14	0						
94.2	% 63.6-15	4						
	<0.300  //8 9  mg/  Result <16.0  mg/  Result <10.0  <10.0	<0.300 118 % 89.4-12 mg/kg Result Reporting Limit <16.0 16.0 mg/kg Result Reporting Limit <10.0 10.0 <10.0 10.0 85.1 % 65.2-14	<0.300       0.300       11/16/2012         I/18 %       89.4-126         mg/kg       Analyzed         <16.0	<0.300       11/16/2012       ND         1/18 % 89.4-126         mg/ky       Analyzed By: AP         Result Reporting Limit Analyzed By: MS         Result Reporting Limit Analyzed By: MS         Result Result Reporting Limit Analyzed Method Blank         <10.0	<0.300       11/16/2012       ND         1/18 %       89.4-126         mg/ky       Analyzed By: AP         Result       Reporting Limit       Analyzed By: MS         Result       Reporting Limit       Analyzed By: MS         Result       Reporting Limit       Analyzed       Method Blank       BS         <10.0	<0.300       11/16/2012       ND         1/18 %       89.4-126         mg/ky       Analyzed By: AP         Result       Reporting Limit       Analyzed Blank       BS       % Recovery         <10.0	< 0.300       11/16/2012       ND         1/18 %       89.4-126         mg/ky       Analyzed By: AP         Result Reporting Limit Analyzed ND 432       108       400         mg/ky       Analyzed By: MS         Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC         <10.0	<0.300       11/16/2012       ND         1/18 % 89.4-126         mg/kg       Analyzed By: AP         Result Reporting Limit Analyzed By: MS       S Result Reporting Limit Analyzed By: MS       True Value QC RPD         Result Result Reporting Limit Analyzed Method Blank BS Recovery True Value QC RPD       RPD       10.0       10.0       11/16/2012       ND       195       97.7       200       1.85         <10.0

#### Cardinal Laboratories

\*=Accredited Analyte

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Celey Di Keine

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/16/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Location:

NE SCRAPE @ 1'

# Sample ID: BOTTOM CENTER @ 1' (H202767-05)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	123 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	<16.0	16.0	11/16/2012	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	3840	10.0	11/16/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	88.2	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	159 9	% 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 Clearinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without fimilitation, 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 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



#### **Notes and Definitions**

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incrured by client, its subclidaries, affiliates or successions 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. Kune



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name	: Recs		B1	LL TO		: :				ANAI	YSIS	RE	QUE	ST	********		
Project Manage	r. Bruce Roker	i agreeus ar air chapete se	P	.C. 11:													
Address:			0	cinpany:									İ		1		,
City:	State:	Zip:	A	itn:			ĺ										
Phone #:	Fax #:	i.,	Δ	ddress:	·····												
Project #:	Project Owne	c	ity:									i					
Project Name:	West B # 053	s	tate:	Zip:						i i							
Project Location	n: N.E. SCROPCE)'	V41215771		hone #; ax #:											<u>.</u> :	ĺ	
FOR LAB USE ONLY		MATRIX		PRESERV.	SAMPL	ING	1				i I						
Lab I.D. ₩2 <i>D21</i> 167	Sample I.D.	(G)RAB OR (C)OMP- -# CONTAINERS GROUNDWATER WASTEWATER SOIL	SLUDGE	ACID/BASE: ICE / COOL OTHER:	DATE	TIME		71d-5	B-Tex	-							
)	N. Weyl Center	6-11 1			11-141)	12:00	<u></u>	U_	· · · ·	·····						 	
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enalyses. All claims includi	nd Dantages. Cardinal's liability and client's exclusive remedy for ing those for negligence and any other cause whatsoever shall be ardinal be liable for incidental or consequental damages, including	deemed waived unless made in writin	g and te	ceived by Cardinal	within 20 days afte	er completion of th	he applica	ble									
	ing out of or I lated to the performance of services herounder by						Stł.	□ Ye	s 🗓	No	Addi	Phone	#:			M (0141417C)	Mark IP's ALT IP's
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November 19, 2012

**BRUCE BAKER** 

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: WEST B #053

Enclosed are the results of analyses for samples received by the laboratory on 11/14/12 16:50.

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 <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited 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 BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To:

(575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/19/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Location:

N EXCAVATION @ 6"

#### Sample ID: N. WALL CENTER (H202768-01)

BTEX 8021B	mg/	kg	Analyze	d By: AP	*-				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.81	90.3	2.00	2.11	
Toluene*	<0.050	0.050	11/16/2012	ND	2.15	108	2.00	2.72	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.24	112	2.00	3.54	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.76	113	6.00	4.14	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	119 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	<16.0	16.0	11/16/2012	ND	432	108	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	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	20.1	10.0	11/16/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	86.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.1	% 63.6-15	4						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg & Keene



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/19/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Name:
Project Number:

VENT NO NUMBER

Sample Received By:

Jodi Henson

Project Number.

Project Location:

EVENT NO. NU12157TG N EXCAVATION @ 6"

# Sample ID: E. WALL CENTER (H202768-02)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	< 0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	<0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	<0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	122 %	6 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	48.0	16.0	11/16/2012	ND	432	108	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	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	<10.0	10.0	11/16/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	87.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	98.0	% 63.6-15	4						

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Celeg D. Keine



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Fax To: (575) 397-1471

Received:

11/14/2012

Sampling Date:

11/14/2012

Reported:

11/19/2012

Sampling Type:

Soil

Project Name:

WEST B #053

Sampling Condition:

Cool & Intact

Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Location:

N EXCAVATION @ 6"

# Sample ID: W. WALL CENTER (H202768-03)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	< 0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	< 0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	< 0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	120 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	<16.0	16.0	11/16/2012	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					<u>.</u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	13.2	10.0	11/16/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	85.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.5	% 63.6-15	4						

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\*=Accredited Analyte

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Celeg & Keene

Celey D. Keene, Lab Director/Quality Manager



RICE ENVIRONMENTAL CONSULTING & SAFETY BRUCE BAKER 112 W. TAYLOR HOBBS NM, 88240

Fax To: (575) 397-1471

Received:

11/14/2012

.

11/14/2012

Reported:

11/19/2012

Sampling Date: Sampling Type:

Soil

Project Name:

11/19/2012 WEST B #053

Sampling Condition:

Cool & Intact

Project Name: Project Number:

EVENT NO. NU12157TG

Sample Received By:

Jodi Henson

Project Location:

N EXCAVATION @ 6"

# Sample ID: BOTTOM CENTER @ 6" (H202768-04)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/16/2012	ND	1.66	83.0	2.00	10.7	
Toluene*	< 0.050	0.050	11/16/2012	ND	1.96	97.9	2.00	10.7	
Ethylbenzene*	< 0.050	0.050	11/16/2012	ND	2.00	100	2.00	11.0	
Total Xylenes*	< 0.150	0.150	11/16/2012	ND	6.04	101	6.00	11.2	
Total BTEX	<0.300	0.300	11/16/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	119 %	6 89.4-12	6						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	11/16/2012	ND	432	108	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	11/16/2012	ND	195	97.7	200	1.85	
DRO >C10-C28	43.0	10.0	11/16/2012	ND	211	105	200	3.20	
Surrogate: 1-Chlorooctane	89.2	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	101 9	63.6-15	4						

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\*=Accredited Analyte

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Celeg D. Keine



#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

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

\*\*\* Insufficient time to reach temperature.

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

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

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Celey E. Keine



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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From:

Greaston, Terry G

To:

dfrick@linnenergy.com; rragland@linnenergy.com; jhernandez@linnenergy.com; gawink@linnenergy.com;

mike.bratcher@state.nm.us

Cc:

hconder@rice-ecs.com; bbaker@rice-ecs.com

Subject:

Undesirable Event: NU12157TG, H E West B 53: Cleanup plan approval stips

Date: Attachments: Tuesday, September 11, 2012 2:39:23 PM H E West B 53-070312 spill map 2-070612.jpg

## Gentlemen,

This notification is in regard to the following location and undesirable events, which occurred one atop the other (see attached spill map):

Event Number: NU12157TG

Event Date: 7/3/2012

Event Name: H E West B 53

Legals: T17S/R31E, sec. 9, SENE

Event Number: 11NU064TG

Event Date: 03/28/11

Event Name: H E West B 53

Legals: T17S/R31E, sec. 9, SENE

The submitted cleanup plan for the above location is approved with the following conditions of approval:

## **Special Stipulations:**

- 1. Large discrepancies exist between field screen analysis and lab analysis. The submitted plan has insufficient delineation data verified by a third party lab to make a proper assessment of whether or not the submitted cleanup plan appropriately addresses the spill impacts from this undesirable event. Three feet of contaminated soil should be removed from the spill site according to the attached stipulations. When the excavation reaches 3 feet in depth, further vertical delineation of the spill site will be required along with lab analysis that verifies the level of contaminants. The second delineation lab analysis and an amended plan will be submitted for the remainder of the excavation and/or closure of the site.
- 2. A backhoe was used to vertically define the spill site; however, clean material was not put back in the backhoe excavation after the delineation. The contaminated soils placed into the backhoe excavation will be removed to the depth of the original excavation.
- 3. The original backhoe delineation site cannot be used for the second delineation of the site.

# **Notification Stipulations:**

1. A copy of the cleanup plan and conditions of approval must be given to the contractor or site work personnel and be present on the location during all cleanup operations.

# 2. The authorized officer must be notified at the following phases of cleanup or conditions:

- a. Prior to moving equipment on location for cleanup
- b. When the excavation is nearing completion and a BLM inspection of the excavation or witnessing of sampling is required by the cleanup plan COA's.
- c. When the cleanup work is nearing completion and to schedule a final onsite prior to removal of equipment.
- d. Three days before the site is seeded.

- e. Any time that a variance of the approved plan or conditions of approval is required.
- f. In the event that you encounter excavation difficulties, unexpected void areas, or archeological artifacts the Authorized Officer must be contacted immediately. An onsite may be required to assess the situation.
- 3. The authorized officer on this undesirable event case is:

Terry Gregston (575) 361-2635 tgregsto@blm.gov

# **Archeology Stipulations:**

1. There are no known archeological issues on this location.

In the event that archeological artifacts are discovered during cleanup operations, contact the authorized officer on this case immediately. An onsite will be required to assess the situation.

# **Road Cleanup Stipulations:**

- 1. The BLM requires horizontal cleanup of the spill impacted areas in addition to vertical cleanup/mitigation measures.
- 2. The BLM may wish to inspect the excavation once it reaches cleanup depth/width. Confirmation samples of excavation bottom, sidewalls and any visibly affected areas outside of the excavation trench will be required; the BLM may witness the sampling. Contact the authorized officer to schedule.
- 3. Lab analysis of the confirmation sampling must be forwarded to the authorized officer for final approval before backfilling. Based on the sampling results, additional cleanup may be required or the site may be approved for closure.
- 4. Once final approval of cleanup is given, the excavation can be backfilled with clean soil to the level of the original native contour plus enough loft to accommodate the settling and compaction of unconsolidated fill soils.
- 5. Road areas should be resurfaced with 6" of clean caliche on top of the backfill material.

# **Pasture Impacted Areas:**

- 1. The BLM requires horizontal cleanup of the spill impacted areas in addition to vertical cleanup/mitigation measures.
- 2. The BLM may wish to inspect the excavation once it reaches cleanup depth/width. Confirmation samples of excavation bottoms, sidewalls and any visibly affected areas outside of the excavation trench will be required; the BLM may witness the sampling. Contact the authorized officer to schedule.
- 3. Lab analysis of the confirmation sampling must be forwarded to the authorized officer for final approval before backfilling. Based on the sampling results, additional cleanup may be required or the site may be approved for closure.
- 4. Once final approval of cleanup is given, the excavation can be backfilled with clean soil to the level of the original native contour plus enough loft to accommodate the settling and compaction of unconsolidated fill soils.
- 5. The top 2 feet of the backfill material must be topsoil similar to that in the surrounding native terrain.
- 6. If pastures are not contaminated but are impacted by cleanup operations, the impacts to the pasture areas will mitigated by recontouring the impacted areas and restoring the surface as listed in items 7 through 9 of this section.
- 7. Install erosion control measures in the pasture-affected areas to prevent the unconsolidated reclamation materials from washing or blowing away until reclaimed areas settle and begin to revegetate.
- 8. Rip and seed reclaimed and equipment-impacted pasture areas with BLM seed mix #2 and #4, 50/50 mix.
- 9. Barricade entrance to reclaimed pasture areas with fencing or an earthen barrier sufficient

to prevent vehicular access.

10. Continue to monitor spill reclamation area to ensure impacted pasture areas revegetate and that erosion issues do not develop.

# **Other Stipulations:**

- 1. At the time of the final onsite for this location, the production facilities, well pad, access road, and the surrounding pasture areas must be in a condition that will pass a routine inspection.
- 2. All household trash, debris, disconnected pipe and equipment must be removed from the area and the surrounding pasture and hauled to an authorized landfill. Do not bury cleanup trash, equipment debris, or household garbage in the cleanup excavation.

BLM approval of this proposal does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health, or the environment, or if the location fails to reclaim properly. In such an event that location does not revegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws/regulations.

Thank you for your attention to this matter,

## **Terry Gregston**

Environmental Protection Specialist Bureau of Land Management 620 E. Greene St. Carlsbad, NM 88220 Office (575) 234-5958 Cell (575) 361-2635 Fax (575) 234-5927

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# Lara Weinheimer

From: Sent: Bruce Baker [bbaker@rice-ecs.com] Thursday, October 25, 2012 4:53 PM

To:

lweinheimer@rice-ecs.com

Subject:

Fwd: Undesirable Event NU12157TG: H E West B 53: Amended plan stipulations

#### Sent from my iPhone

## Begin forwarded message:

From: "Gregston, Terry G" < tgregsto@blm.gov > Date: October 25, 2012, 10:21:53 AM MDT
To: Bruce Baker < bbaker@rice-ecs.com >

Cc: "dfrick@linnenergy.com" <dfrick@linnenergy.com">, "rragland@linnenergy.com" <rragland@linnenergy.com" <jhernandez@linnenergy.com" <jhernandez@linnenergy.com">, "gawink@linnenergy.com">, "mike.bratcher@state.nm.us"</mike.bratcher@state.nm.us>

Subject: Undesirable Event NU12157TG: H E West B 53: Amended plan stipulations

#### Gentlemen,

This notification is in regard to the following location and undesirable events, which occurred one atop the other (see attached spill map):

Event Number: NU12157TG Event Date: 7/3/2012 Event Name: H E West B 53 Legals: T17S/R31E, sec. 9, SENE

Event Number: 11NU064TG Event Date: 03/28/11 Event Name: H E West B 53 Legals: T17S/R31E, sec. 9, SENE

The amended cleanup plan for the above location is approved with the following conditions of approval:

#### **Special Stipulations:**

- 1. The lab analysis for the delineation of this spill event varies from the originally submitted plan. Based on the resubmitted sample analysis, contaminated material will be removed to a depth of 4 feet or until combined GRO and DRO readings drop below 1,000 ppm and chlorides drop below 1,000ppm. The attached stipulations that were appended to the originally submitted plan will be followed.
- 2. It should also be noted that the sampled areas only encompass a small portion of the original spill footprints. Two spills have occurred on this site and the older spill is aged to the extent that it is not as readily seen on the surface. (see attached spill map) The entire area of both combined spills should be surveyed and cleaned up to ensure that both spills are mitigated, and the disturbed surface of both combined spills will be reclaimed according to the following conditions of approval.

# **Notification Stipulations:**

- 1. A copy of the cleanup plan and conditions of approval must be given to the contractor or site work personnel and be present on the location during all cleanup operations.
- 2. The authorized officer must be notified at the following phases of cleanup or conditions:
  - a. Prior to moving equipment on location for cleanup
  - b. When the excavation is nearing completion and a BLM inspection of the excavation or witnessing of sampling is required by the cleanup plan COA's.
  - c. When the cleanup work is nearing completion and to schedule a final onsite prior to removal of equipment.
  - d. Three days before the site is seeded.
  - e. Any time that a variance of the approved plan or conditions of approval is required.
  - f. In the event that you encounter excavation difficulties, unexpected void areas, or archeological artifacts the Authorized Officer must be contacted immediately. An onsite may be required to assess the situation.
- 3. The authorized officer on this undesirable event case is:

Terry Gregston (575) 361-2635 tgregsto@blm.gov

# **Archeology Stipulations:**

1. There are no known archeological issues on this location.

In the event that archeological artifacts are discovered during cleanup operations, contact the authorized officer on this case immediately. An onsite will be required to assess the situation.

# **Road Cleanup Stipulations:**

- 1. The BLM requires horizontal cleanup of the spill impacted areas in addition to vertical cleanup/mitigation measures.
- 2. The BLM may wish to inspect the excavation once it reaches cleanup depth/width. Confirmation samples of excavation bottom, sidewalls and any visibly affected areas outside of the excavation trench will be required; the BLM may witness the sampling. Contact the authorized officer to schedule.
- 3. Lab analysis of the confirmation sampling must be forwarded to the authorized officer for final approval before backfilling. Based on the sampling results, additional cleanup may be required or the site may be approved for closure.
- 4. Once final approval of cleanup is given, the excavation can be backfilled with clean soil to the level of the original native contour plus enough loft to accommodate the settling and compaction of unconsolidated fill soils.
- 5. Road areas should be resurfaced with 6" of clean caliche on top of the backfill material.

#### **Pasture Impacted Areas:**

- 1. The BLM requires horizontal cleanup of the spill impacted areas in addition to vertical cleanup/mitigation measures.
- 2. The BLM may wish to inspect the excavation once it reaches cleanup depth/width. Confirmation samples of excavation bottoms, sidewalls and any visibly affected areas outside of the excavation trench will be required; the BLM may witness the sampling. Contact the authorized officer to schedule.
- 3. Lab analysis of the confirmation sampling must be forwarded to the authorized officer for final approval before backfilling. Based on the sampling results, additional cleanup may be required or the site may be approved for closure.
- 4. Once final approval of cleanup is given, the excavation can be backfilled with clean soil to the level of the original native contour plus enough loft to accommodate the settling and compaction of unconsolidated fill soils.
- 5. The top 2 feet of the backfill material must be topsoil similar to that in the surrounding native terrain.
- 6. If pastures are not contaminated but are impacted by cleanup operations, the impacts to the pasture areas will mitigated by recontouring the impacted areas and restoring the surface as listed in items 7 through 9 of this section.

- 7. Install erosion control measures in the pasture-affected areas to prevent the unconsolidated reclamation materials from washing or blowing away until reclaimed areas settle and begin to revegetate.
- 8. Rip and seed reclaimed and equipment-impacted pasture areas with BLM seed mix #2 and #4, 50/50 mix.
- 9. Barricade entrance to reclaimed pasture areas with fencing or an earthen barrier sufficient to prevent vehicular access.
- 10. Continue to monitor spill reclamation area to ensure impacted pasture areas revegetate and that erosion issues do not develop.

# **Other Stipulations:**

- 1. At the time of the final onsite for this location, the production facilities, well pad, access road, and the surrounding pasture areas must be in a condition that will pass a routine inspection.
- 2. All household trash, debris, disconnected pipe and equipment must be removed from the area and the surrounding pasture and hauled to an authorized landfill. Do not bury cleanup trash, equipment debris, or household garbage in the cleanup excavation.

BLM approval of this proposal does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health, or the environment, or if the location fails to reclaim properly. In such an event that location does not revegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws/regulations.

# **Terry Gregston**

Environmental Protection Specialist Bureau of Land Management 620 E. Greene St. Carlsbad, NM 88220 Office (575) 234-5958 Cell (575) 361-2635 Fax (575) 234-5927

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Appendix E Final Form 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

DEC 1 4 2012

RECEIVED

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr.

NMOCD ARTESIAN 2 Copies to appropriate rict Office in accordance with Rule 116 on back side of form

# Santa Fe, NM 87505 Release Notification and Corrective Action

						OPERATOR Initial Report Final Re											
Name of Co	mpany	Linn Ene	rgy		(	Contact	nct Gary Wink										
Address		Bender, Ho		88240		Telephone N			ext. 1218								
Facility Nar	ne H.I	E. West B #5	53	,	] ]	Facility Typ	e Injection	Well									
Surface Ow	ner Fe	deral		Mineral C	)wner	er Federal Lease No. 30-015-27148											
				LOCA	TION	OF REI	LEASE										
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/\	West Line	County							
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			Lat	itude		Longitu	de			•							
				NAT	URE	OF REL	EASE										
Type of Rele	ase Oil/F	Produced Water	er			,	Release 7 bbl / 3	3 bbl	Volume I	Recovered	0/0						
Source of Re	lease Pip	eline				Date and F 07/3/2012	lour of Occurrenc 2:30 pm	е	Date and 07/3/2012	Hour of Dis	covery						
Was Immedia	te Notice (	Given?			-	If YES, To	Whom?	<del></del> -	01/0/2011	- 0 p							
			Yes	No 🗌 Not Re	equired		er – NMOCD T	. Gregs	ton – BLM								
By Whom?	Joe Herr					Date and I-			•								
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regulations a public health should their or or the environ	I operators or the environerations had a nment. In a	are required tronment. The lave failed to	o report and acceptant acc	nd/or file certain r ce of a C-141 repo investigate and r	elease no ort by the emediate	otifications a NMOCD m contaminati	knowledge and und perform correct arked as "Final Reform that pose a three the operator of a	tive act eport" c eat to g	ions for rel loes not rel round wate	eases which ieve the ope r, surface wa	may er rator of ater, hu	ndanger Tiability man health					
Signature:	Har	y W. L	Vin	b			OIL CONS	SERV	'ATION	DIVISIO	<u>NC</u>						
Printed Name	: Gar	Wink				Approved by District Supervisor:											
Title: F	roduction I	Foreman				Approval Da	te:		Expiration	Date:							
	13/12		none: (575	5) 738-1739 ext. 1	Conditions o	ons of Approval:  Attached											
Attach Addi	tional She	ets If Necess	arv														