

# H E West B #40

# **REMEDIATION WORK PLAN**

API No. 30-015-26024

Release Date: July 19th, 2014

Unit Letter D, Section 10, Township 17 South, Range 31 East

# May 21<sup>st</sup>, 2015

# Prepared by:

Environmental Department Diversified Field Service, Inc. 206 W. Snyder Hobbs, NM 88240 Phone: (575)964-8394 Fax: (575)393-8396 Mike Bratcher Environmental Specialist NM Oil Conservation District-Division 2 811 S. First St. Artesia, NM 88210

## RE: Linn Energy H E West B #40 – Remediation Work Plan

UL/D, Section 10, T17S, R31E API No. 30-015-26024

Mr. Bratcher,

Linn Energy (Linn) has retained Diversified Field Service, Inc. (DFSI) to address environmental issues for the site detailed herein.

The site is located northeast of Loco Hills NM, in Eddy County. The leak site resulted from a leak at the tin horn from the truck line. The impacted area is the caliche lease road and north into the pasture. Approximately 22 bbl of produced water was released. Approximately 15 bbls were recovered. On August 18<sup>th</sup>, 2014 another release occurred from the fiberglass under the tin horns. Approximately 9 bbls of produced water was released and 4 bbls recovered. A site map is attached. A C-141 was submitted to the NMOCD on July 21<sup>st</sup>, 2014 for the first release. A C-141 was submitted to the NMOCD on August 19<sup>th</sup>, 2014 for the second release. Both C-141's are attached.

# Site Assessment and Delineation

On May 18<sup>th</sup>, 2015 DFSI personnel sampled the spill area around the tin horns in three sample points. The samples were tested for chloride levels as well as BTEX. The BTEX samples were performed using a Mini Rae Photoionization Detector (PID). The field samples that field tested below state/BLM requirements were taken to Cardinal Lab of Hobbs to obtain confirmation sample. The results are attached.

DFSI has conducted a groundwater study of the area and has determined that according to the New Mexico Office of the State Engineer the average depth to groundwater for this area is 350 foot below ground surface. Therefore, no eminent danger of groundwater impact or threat to life is anticipated.

## Conclusion

After careful review DFSI, on behalf of Linn Energy, would like to propose the following:

Because the surface sample came back clean we propose to re seed the affected area with a BLM, OCD approved seed mix.

Following the approval of the above plan, DFSI will submit all proper closure documentation to the NMOCD and BLM in accordance to the State and Federal Guidelines set forth.

Please feel free to contact me with any questions concerning this remediation plan request.

Sincerely,

Michael Burton

Michael Burton Environmental Operations Director Diversified Field Service, Inc. 206 West Snyder Hobbs, NM 88240 Office: (575)964-8394 Mobile: (575)390-5454 Fax: (575)964-8396 Email: Mburton@diversifiedfsi.com

cc Jeff Robertson

Attachments:Initial Form C-141 Site/Sample Map Sample Data Lab Analytical Data



# H E West B #40

# PHOTO PAGE

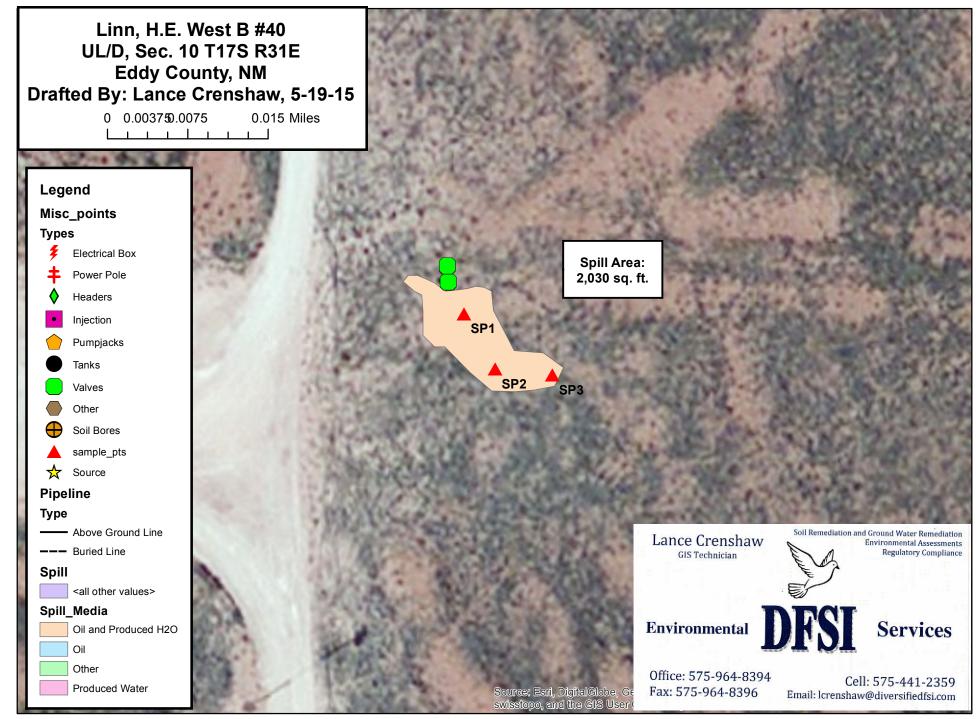
# 5/18/2015







# Site Diagram



#### **Diversified Environmental Services**

Company Name:LINN ENERGYLocation Name:H.E. WEST B #40

\_\_\_\_\_

SP1	CHL	PID	٦	SP2	CHL	PID	SP3	CHL	PID	SP4	CHL	ТРН	SP5	CHL	TPH
SURF	624	(	)	SURF	499	0	SURF	499	0						
			_												
			_												
			_												

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

Page 1



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found.

**Basin/County Search:** 

County: Eddy

PLSS Search:

Section(s): 10

Township: 17S

7S Range: 31E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



May 21, 2015

MIKE BURTON

LINN ENERGY

RR1, BOX 24 B

KINGFISHER, OK 73750

RE: H. E. WEST B # 40

Enclosed are the results of analyses for samples received by the laboratory on 05/18/15 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <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.

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. Keine

Celey D. Keene Lab Director/Quality Manager



## Analytical Results For:

LINN ENERGY MIKE BURTON RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	05/18/2015	Sampling Date:	05/18/2015
Reported:	05/21/2015	Sampling Type:	Soil
Project Name:	H. E. WEST B # 40	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

#### Sample ID: SP. 1 @ SURF (H501261-01)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/20/2015	ND	1.77	88.3	2.00	0.512	
Toluene*	<0.050	0.050	05/20/2015	ND	1.89	94.5	2.00	0.771	
Ethylbenzene*	<0.050	0.050	05/20/2015	ND	1.79	89.7	2.00	1.34	
Total Xylenes*	<0.150	0.150	05/20/2015	ND	5.33	88.8	6.00	0.885	
Total BTEX	<0.300	0.300	05/20/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 %	61-154							
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/20/2015	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	05/18/2015	ND	173	86.6	200	1.90	
DRO >C10-C28	<10.0	10.0	05/18/2015	ND	198	99.0	200	1.16	
Surrogate: 1-Chlorooctane	93.4	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	105 9	52.1-17	6						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



## Analytical Results For:

LINN ENERGY MIKE BURTON RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	05/18/2015	Sampling Date:	05/18/2015
Reported:	05/21/2015	Sampling Type:	Soil
Project Name:	H. E. WEST B # 40	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

#### Sample ID: SP. 2 @ SURF (H501261-02)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/20/2015	ND	1.77	88.3	2.00	0.512	
Toluene*	<0.050	0.050	05/20/2015	ND	1.89	94.5	2.00	0.771	
Ethylbenzene*	<0.050	0.050	05/20/2015	ND	1.79	89.7	2.00	1.34	
Total Xylenes*	<0.150	0.150	05/20/2015	ND	5.33	88.8	6.00	0.885	
Total BTEX	<0.300	0.300	05/20/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 %	61-154							
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/20/2015	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	05/19/2015	ND	173	86.6	200	1.90	
DRO >C10-C28	450	10.0	05/19/2015	ND	198	99.0	200	1.16	
Surrogate: 1-Chlorooctane	90.2 9	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	121 %	52.1-17	6						

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\*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



## Analytical Results For:

LINN ENERGY MIKE BURTON RR1, BOX 24 B KINGFISHER OK, 73750 Fax To: (405) 375-6693

Received:	05/18/2015	Sampling Date:	05/18/2015
Reported:	05/21/2015	Sampling Type:	Soil
Project Name:	H. E. WEST B # 40	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

#### Sample ID: SP. 3 @ SURF (H501261-03)

BTEX 8021B	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/20/2015	ND	1.77	88.3	2.00	0.512	
Toluene*	<0.050	0.050	05/20/2015	ND	1.89	94.5	2.00	0.771	
Ethylbenzene*	<0.050	0.050	05/20/2015	ND	1.79	89.7	2.00	1.34	
Total Xylenes*	<0.150	0.150	05/20/2015	ND	5.33	88.8	6.00	0.885	
Total BTEX	<0.300	0.300	05/20/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 %	61-154							
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	05/20/2015	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	05/19/2015	ND	173	86.6	200	1.90	
DRO >C10-C28	1450	10.0	05/19/2015	ND	198	99.0	200	1.16	
Surrogate: 1-Chlorooctane	92.7	% 47.2-15	7						
Surrogate: 1-Chlorooctadecane	136 9	52.1-17	6						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

- ND
   Analyte NOT DETECTED at or above the reporting limit

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

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#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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Indextal or consequential damages, including without limit online parlormance of services hereurider by Cardinal (reg Date: Receli Date: Receli Date: Receli Time: Time: Time: ther:	The Bull of the sectore remety for any channel and the sectore remety and clents and any clent a	ARDINAL Aboratories 101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476
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me de diverses. Phone Result: <u>ves</u> <u>No</u> Add'I Phone #: Fax Result: <u>ves</u> <u>No</u> Add'I Fax #: REMARKS: Mburtone elivers' fiedelfs', com	B-fex xxx	USTODY AND ANALYSIS REQUEST

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC

1220 S. St. Fran	cis Dr., Santa	a Fe, NM 87505		Sa	inta Fe	, NM 875	05			
			Relea	ase Notifica	ation	and Cor	rective Ac	tion		
					(	<b>OPERATOR</b>			Report	Final Report
Name of Company: Linn Operating						Contact: Brian Wall				
Address: 21	30 W. Ber	nder Hobbs	, NM 88	240	1	Felephone N	No.: 575-738-17	39		
Facility Nar	ne: H.E. V	Vest B #40			Ι	Facility Typ	e: Injection			
Surface Ow	ner: Feder	al		Mineral C	)wner:			API No	.: 30-015-2	26024
				LOCA	ΓΙΟΝ	OF REL	EASE			
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/West Line	County	
D	10	17S	31Ē	560	1	North	660	West		Eddy
			Lotitud	L. 22 95479276	72701	Longitudo	102 9640607	25174		]
			Latitud	le: 32.85478375		-		55174		
True of Dolo	D d	- d Watan		NATU	JRE C	<b>FRELE</b>		V - hours - T	)	15 hbl
Type of Rele		glass pipeline					Release: 22 bbls		Recovered: Hour of Dis	
Bource of Re	iease. moerg	giass pipeline				07/19/2014			14 2:45pm	covery.
Was Immedia	ate Notice (	Given?				If YES, To		•		
		$\boxtimes$	Yes 🗌	] No 🗌 Not Re	equired	Jeff Robert	son-BLM / Mil	te Bratcher-NMOC	CD	
By Whom? E							lour 07/21/2014			
Was a Water	course Read			1		If YES, Vo	lume Impacting t	he Watercourse.		
			Yes 🛛	No						
If a Watercou	urse was Im	pacted, Descr	ibe Fully.*	*:		•				
								ez,That line 1 was		
						ocation at 3:	P.M. found water	coming out of nor	th tinhorn. A	At 3:15 P.M. called
for a truck to	pickup wat	er.Notified Ki	CK RICKM	an at 3:30 P.M. of	Геак.					
Describe Are	a Affected	and Cleanup A	Action Tak	ten.* : Area of wa	ter on gr	ound was 22	feet long X 21 fee	et wide by 2in deer	o. (pictures 1	nake the spill
										on lateral line or on about 7 barrells of
				ore line can be re		was able to		get field back going	g. i lekeu uj	about 7 barrens of
Directions to	site: From	Loco Hills N.	M. go east	t on Hwy 82 3.5 n	niles,turn					o .5 mile,turn right
go .6 mile tur	rn left, go .5	i mile turn rig	nt, go 2.0	miles to West B#4	40 spill is	s 25 yds east	of location in pas	ture, at the tinhorn	s.	

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

Signature: Bold	OIL CONSERVATION DIVISION					
Printed Name: Brian Wall	Approved by District Supervisor:					
Title: Construction Foreman II	Approval Date:	Expiration D	Date:			
E-mail Address: bwall@linnenergy.com	Conditions of Approval:		Attached			

Date: 07/21/2014 Phone: 806-367-0645

\* Attach Additional Sheets If Necessary

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC

# Release Notification and Corrective Action OPERATOR Initial Report Final Report Name of Company: Linn Operating Contact: Brian Wall Final Report Address: 2130 W. Bender Hobbs, NM 88240 Telephone No.: 575-738-1739 Facility Type: Injection Facility Name: H.E. West B # 40 Facility Type: Injection API No.: 30-015-26024 Surface Owner: Federal Mineral Owner: API No.: 30-015-26024

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	10	17S	31E	560	North	660	West	Eddy

Latitude: 32.8547837573781 Longitude: -103.864060735174

### NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 9	Volume Recovered: 4						
Source of Release: 2" Fiber glass pipeline	Date and Hour of Occurrence:	Date and Hour of Discovery:						
	08/18/2014	08/18/2014 10:30am						
Was Immediate Notice Given?	If YES, To Whom?							
🛛 Yes 🗌 No 🗌 Not Required	Jeff Robertson- BLM / Mike Brate	her- NM OCD						
By Whom? Brian Wall	Date and Hour 08/19/2014 0930 (written)							
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.							
🗌 Yes 🖾 No								
If a Watercourse was Impacted, Describe Fully.*:								
Describe Cause of Problem and Remedial Action Taken.*: Matt Vella reported to me of a leak on header line 1 & 2 at Keel West injection station at 7:00								
am. Started looking for leak on line. Found leak just east of West B. #40.								
leak. Found the 2 in fiberglass line in the south tinhorn had blowed into Had to leave lines 1 & 2 shutin due to leak on trunk line. Shut all laterals in on								
trunk line. Waiting on one call to clear for repairs.								
Describe Area Affected and Cleanup Action Taken.* : Area covered was	s 33 feet long, 16 feet long. Covering t	he area of a previous leak, that is on agenda						
to be cleaned up.								
I haraby cartify that the information given above is true and complete to	the best of my knowledge and understa	and that pursuant to NMOCD rules and						
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger								
public health or the environment. The acceptance of a C-141 report by the								
should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other								
federal, state, or local laws and/or regulations.	does not reneve the operator of respons	some on compliance with any other						
	OIL CONSERVATION DIVISION							
10-11	<u>OIL CONSERV</u>	VATION DIVISION						
Signature:								
Signature.								
Printed Name: Brian Wall	Approved by District Supervisor:							
Title: Construction Foreman II	Approval Date:	Expiration Date:						
	-TF	www.						
E-mail Address: bwall@linnenergy.com	Conditions of Approval:	Attached						
Date: 08/18/2014 Phone: 806-367-0645	r r							

\* Attach Additional Sheets If Necessary