



J L Keel B #37

REMEDIATION WORK PLAN

API No. 30-015-25934

Release Date: September 13th, 2013

Unit Letter E, Section 5, Township 17 South, Range 31 East

March 20, 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 J.L Keel B #37 – Amended Remediation Work Plan
UL/E, Section 5, T17S, R31E
API No. 30-015-25934

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 site resulted from a produced water leak in the injection line at the well head. The line rupture released fluids onto approximately 279,931.6 sq. feet of lease roads and arroyos to the southwest of the leak source. A vacuum truck recovered 45 bbls of standing fluids and the line was repaired. A form C-141 was submitted to the NMOCD on September 12, 2013.

Site Assessment and Delineation

On January 24, 2014 DFSI personnel used a hand auger to vertically delineate the leak area at several sample points. Soil samples were field screened for chloride. Headspace measurements were also performed using a Mini RAE Photoionization Detector (PID). Samples were collected at surface and in 1 ft. intervals until two consecutive samples show chloride well below 1,000 mg/kg. Surface, bottom, and sidewall samples will be submitted to a commercial laboratory for chloride, TPH, and BTEX analyses. The site was assessed and mapped.

It was determined that a small area of this leak (.72 acre) was geographically located on a historically designated archeological site. Therefore, Boone Arch Services of NM, LLC (hereinafter referred to as Boone) was contracted to survey the area. On February 14 thru 15, Boone surveyed the leak site and it was determined that said archeological site exists in the area of the spill at LA178471.

On 03/12/2015 DFSI personal re-sampled the spill location. Sample points were replaced. Only 20 points were needed. All but one surface sample tested clean for chlorides and BTEX. Sample point 1 (on the pad) was delineated down to 2' bgs. All clean samples were taken to Cardinal Labs in Hobbs for confirmation.

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:

Scrape the affected area of the caliche pad to 6" bgs and backfill with clean caliche. The areas of small arroyo will be addressed by installing erosion controls. The style of erosion control will be rock piles bound together with fencing. The erosion controls will help to ensure that the small arroyo slows down the speed of water and helps sediment settle in the small arroyo. In the areas that are not in a wash out we will seed with BLM approved seed mix.

Following the approval of the above plan and once the work is completed, 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
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

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



J L Keel B #37

PHOTO PAGE

9/14/13





3/20/15





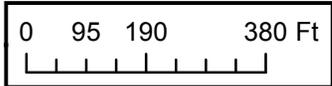
Site Diagram

Linn, JL Keel B Fed. 37

UL/E, Sec. 5 T17S R31E

Eddy, NM

Drafted By: Lance Crenshaw, 3-10-14

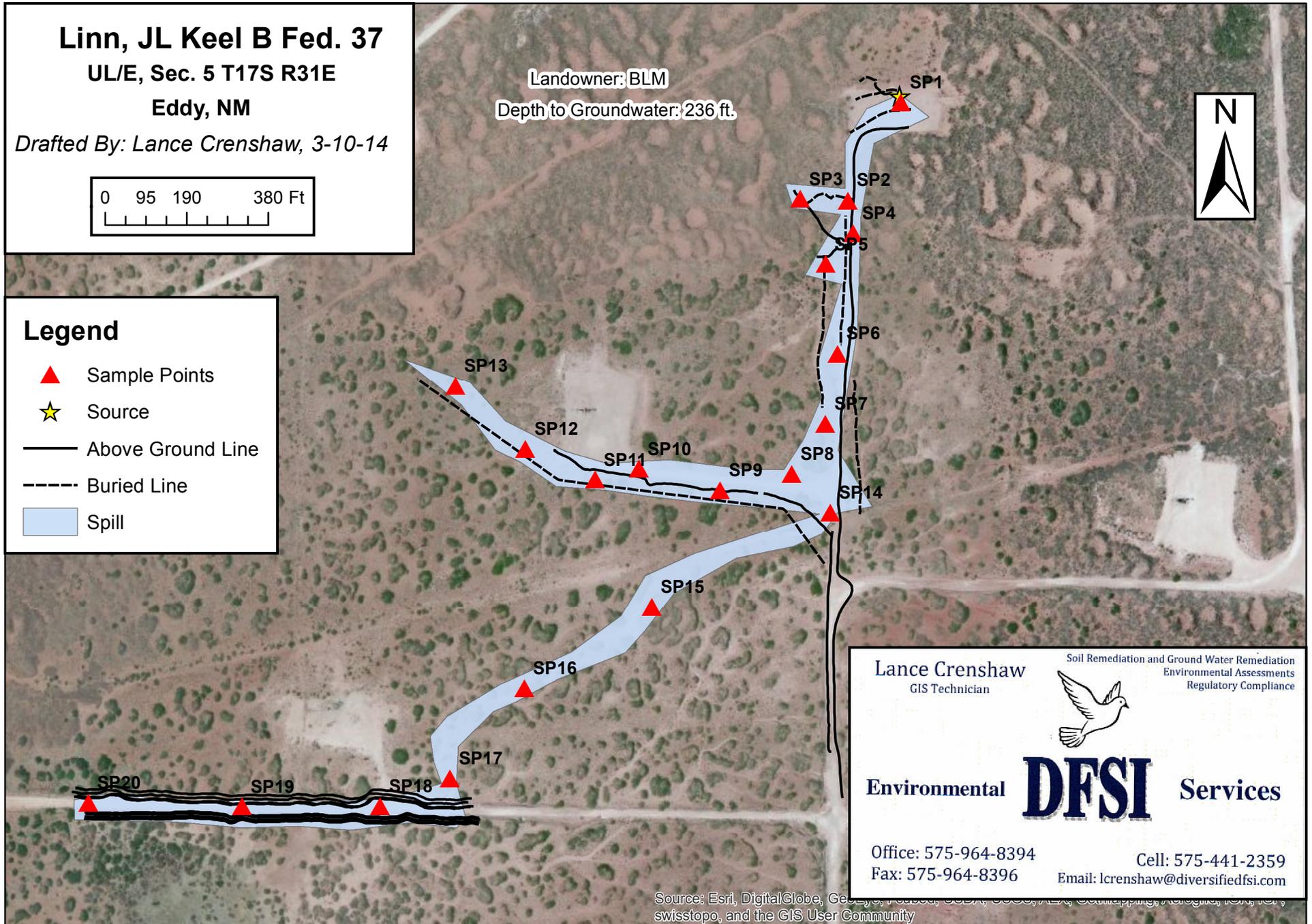


Landowner: BLM
Depth to Groundwater: 236 ft.



Legend

-  Sample Points
-  Source
-  Above Ground Line
-  Buried Line
-  Spill



Lance Crenshaw
GIS Technician

Soil Remediation and Ground Water Remediation
Environmental Assessments
Regulatory Compliance



Environmental **DFSI** Services

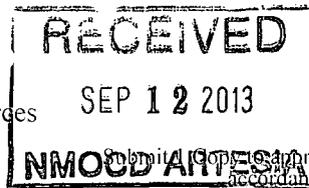
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Source: Esri, DigitalGlobe, GeoEye, Earthstar (United States), CNR, Aermap, IGN, Swisstopo, and the GIS User Community

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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



Form C-141
Revised October 10, 2003
Submit Copy to Appropriate District Office in accordance with 19.15.29 NMAC

Release Notification and Corrective Action

nJMW 1326350530 OPERATOR Initial Report Final Report

Name of Company: Linn Operating <i>269324</i>	Contact: Brian Wall;
Address: 2130 W. Bender Hobbs, NM 88240	Telephone No.: 575-738-1739
Facility Name: JL Keel B # 37	Facility Type: Injection

Surface Owner: Federal	Mineral Owner:	API No.: 3001525934
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	05	17S	31E	1780	North	660	West	Eddy

Latitude: 32.86578 Longitude: -103.89748

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 79 bbls	Volume Recovered: 45 bbls
Source of Release: 2" Fiberglass line	Date and Hour of Occurrence: 09/11/2013 11:00am	Date and Hour of Discovery: 09/11/2013 11:00am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher- NM OCD Mike Burton- BLM	
By Whom? Brian Wall	Date and Hour 09/12/2013 8:45am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*:		
Describe Cause of Problem and Remedial Action Taken.*: had an alarm @ 7:40 am for low discharge at keel west water station went out to facility reset pump and noticed that injection header pressure did not go up to normal operating pressure notify all pumpers to keep an eye out for any leaks out on pasture or on injection wells then relief pumper call and said he was driving through a well and saw stream of water running down the road it was hard to tell because it had just rain the night before and early in the morning he started walking out following the fluid and came up to injection well that was leaking s/i line and header ASAP then we noticed that 2" injection line had blew up about 2' below ground		
Describe Area Affected and Cleanup Action Taken.* : called crew to start fixin line than had vac truck suck all standing fluid on ground and recover 45 bbls of fluid fluid ran south of well head 1300' then South West to finger about 1000' each.		
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: <i>Brian Wall</i>	OIL CONSERVATION DIVISION	
Printed Name: Brian Wall	Approved by District Supervisor	Signed By <i>Mike Bratcher</i>
Title: Construction Foreman II	Approval Date: SEP 20 2013	Expiration Date:
E-mail Address: bwall@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 09/12/2013 Phone: 806-367-0645	Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN:	

* Attach Additional Sheets if Necessary

October 20, 2013

2RP-1921