

LINN ENERGY

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

Max Friess 'MA' Battery 2RP-1898

Termination Request

API No. 3001526882

Release Date: January 31st, 2013

Unit Letter G, Section 30, Township 17S, Range 31E

Rice Environmental Consulting & Safety

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

October 23rd, 2013

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 – Max Friess MA Battery (2RP-1898)
UL/G sec. 30 T17S R31E
API No. 3001526882**

Mr. Bratcher:

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

Background and Previous Work

On January 31st, 2013, a release at the battery occurred which discharged a total of 5-10 barrels of produced water and oil. An initial C-141 detailing this release was sent to NMOCD and BLM on September 5th, 2013 (Appendix A). The site is located 4.5 miles east of Loco Hills in UL/G sec. 30 T17S R31E in Eddy County, NM. The site is in an area of no known groundwater.

RECS met with BLM on July 29th, 2013. BLM stated that a vertical needed to be conducted at the site. To prepare for the vertical, the berm in the southeast corner was removed and disposed of at a NMOCD approved facility. On August 5th, 2013 a vertical was installed to a depth of 15 ft bgs. Samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples were taken to a commercial laboratory for analysis. As the vertical was advanced, laboratory chloride readings dropped until they reached 608 mg/kg at 15 ft bgs. GRO, DRO and BTEX laboratory readings were non-detect, except for at the surface where the DRO reading was 4,100 mg/kg.

On August 6th, 2013, BLM approved soil bore installation. On August 20th, 2013, one soil bore was installed at the site to a depth of 35 ft bgs. Field samples were taken at regular intervals as the bore was advanced and representative samples from the bore were taken to a commercial laboratory for analysis. The laboratory chloride readings dropped from 1,660 mg/kg at 18 ft bgs to 112 mg/kg at 30 and 35 ft bgs. GRO, DRO and BTEX readings in all samples were non-detect.

A Corrective Action Plan (CAP) was submitted to NMOCD and BLM on September 16th, 2013. BLM approved the CAP on September 16th, 2013 and NMOCD approved the CAP

on September 17th, 2013. The CAP stated that since there is no groundwater at the site, the residual chlorides in the vadose zone will not in any way affect groundwater beneath the site. However to mitigate any chance that the residual chlorides could affect groundwater in the future, RECS recommended that Linn excavate the site to 18 ft x 38 ft to a depth of 3 ft bgs (Figure). The excavation would avoid the tanks and other facilities in the battery that could cause safety hazards. At 3 ft bgs, a 20-mil reinforced poly liner would be installed throughout the excavation. The excavated soil would be transported to a NMOCD approved facility. Once the liner was installed, the excavation would be backfilled with clean, imported soil. The site would not need to be seeded since the release occurred in an active battery.

Corrective Action Plan Report

On October 17th, 2013, NMOCD and BLM gave RECS permission to begin CAP activities at the site. On October 21st, 2013, the site was excavated to 18 ft x 38 ft to a depth of 3 ft bgs (Figure). A total of 96 yards of excavated soil was taken to a NMOCD approved facility for disposal. At the base of the 3 ft excavation, a 20-mil reinforced poly liner was installed and properly seated. A total of 12 yards of clean, imported sand was imported to the site to serve as a 6 inch sand pad to protect the liner from punctures. Clean, imported caliche was then backfilled over the sand pad to ground surface and contoured to the surrounding location. A sample of the caliche was taken to a commercial laboratory for analysis and returned a chloride result of non-detect. Documentation of the CAP Activities can be found in Appendix B.

Given that the CAP activities have been completed per NMOCD and BLM approval, Linn requests 'remediation termination' and closure of the regulatory file. The final C-141 can be found in Appendix C.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,



Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

cc. Mike Burton, BLM

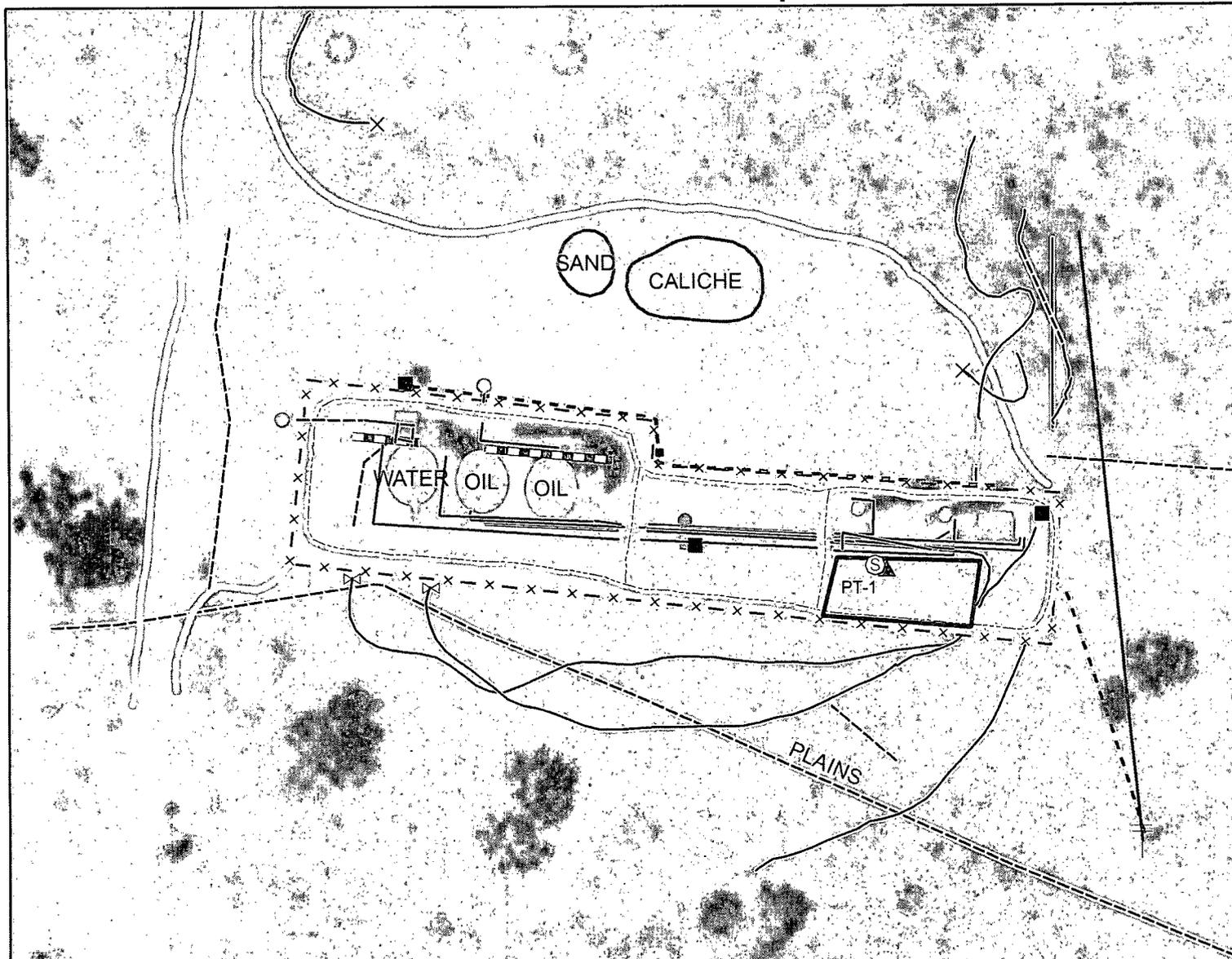
Attachments:

- Figure – Excavation Map
- Appendix A – Initial C-141
- Appendix B – CAP Activities Documentation
- Appendix C – Final C-141

Figures

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

Excavation Map



Legend

- | | | |
|--------------------------------------|-----------------------|--------------------------|
| ⊙ SOIL BORE | ===== BERM | — OVERHEAD ELECTRIC LINE |
| ▲ VERTICAL POINT | - - - BURIED ELECTRIC | — PAD/ROAD EDGE |
| ▭ 18' x 38' 20-mil POLY LINER @ 3 FT | - - - BURIED PIPELINE | — RISER |
| ○ CONTAINMENT | x - x FENCE | — STAIRS/CATWALK |
| ■ CONTROL BOX | - - - HEADER | — SURFACE PIPELINE |
| ⊕ ELECTRIC POLE | - - - LINEFINDER HIT | ⊠ PUMP |
| ■ ELECTRICAL BOX | | ▭ SPOIL PILE |
| ⊙ SUMP | | ▭ STORAGE TANK |
| ⊗ VALVE | | ▭ TREATER |
| × PIPE END | | |

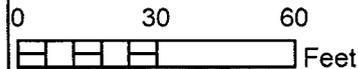
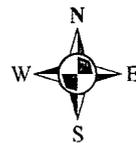
DGW = NONE
 Landowner: State
 Leasee: Williams & Son Cattle Co.
 Mineral Rights: BLM

Source: Esri, DigitalGlobe, GeoEye, Earthstar (USA), USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



LINN MAX FRIESS MA BATTERY AD (2RP-1898)

LEGALS: UL/G sec. 30
 T-17-S R-31-E
 EDDY COUNTY, NM



GPS date: 10/21/13 KS
 Drawing date: 10/22/13
 Drafted by: L. Weinheimer

Appendix A

Initial C-141

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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
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

RECEIVED
SEP 05 2013
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Form C-141
Revised August 8, 2011

Release Notification and Corrective Action

NMWA 1324954645

OPERATOR Initial Report Final Report

Name of Company: Lin Energy	Contact: Brian Wall
Address: 2130 W. Bender Blvd., Hobbs, NM 88240	Telephone No.: (806) 367-0645
Facility Name: Max Friess "MA" Battery	Facility Type: Battery
Surface Owner: State	Mineral Owner: BLM
API No.: 3001526882	

LOCATION OF RELEASE

Unit/Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	30	17S	31E	1682	FNL	1679	FEL	Eddy

Latitude 32°48'29.354"N Longitude 103°54'19.52"W

NATURE OF RELEASE

Type of Release: Produced Water and Oil	Volume of Release: 5-10 barrels	Volume Recovered: 0 barrels
Source of Release: Battery release	Date and Hour of Occurrence: 1/31/13	Date and Hour of Discovery: 1/31/13
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.*
A release in the battery of produced water and oil occurred. A total of 5-10 barrels were released.

Describe Area Affected and Cleanup Action Taken.* The release remained inside the hatched area of the battery. RECS met with BLM on July 29th 2013. BLM stated that a vertical needed to be conducted at the site. On August 5th, 2013 a vertical was installed to a depth of 15 ft bgs. Samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples were taken to a commercial laboratory for analysis. As the vertical was advanced, laboratory chloride readings dropped until they reached 608 mg/kg at 15 ft bgs. GRO, DRO and BTEX laboratory readings were non-detect except for at the surface where the DRO reading was 4,100 mg/kg. On August 6th, 2013 BLM approved soil bore installation activities at the site that occurred on August 20th, 2013. One soil bore was installed at the site to a depth of 35 ft bgs. Field samples were taken at regular intervals as the bore was advanced and representative samples from the bore were taken to a commercial laboratory for analysis. A Corrective Action Plan will be submitted to NMOCD and BLM with a path forward to remedy the site.

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.

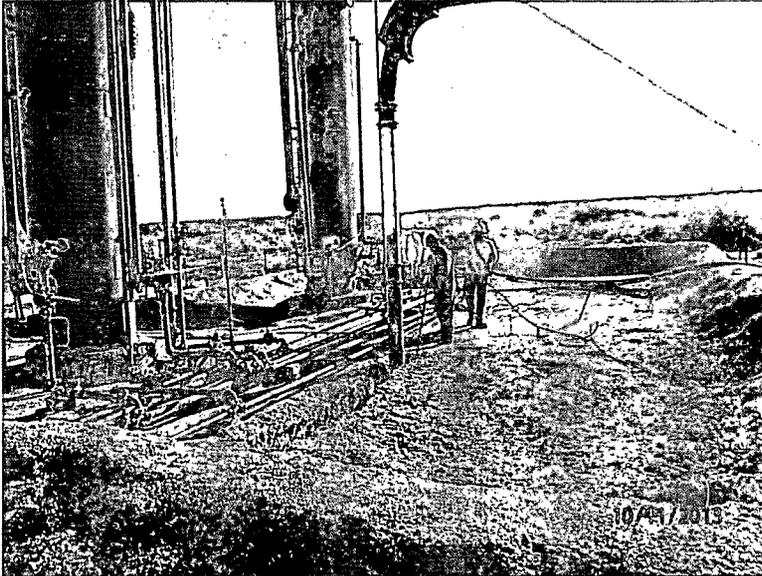
Signature: <i>[Signature]</i>	OIL CONSERVATION DIVISION	
Printed Name: Brian Wall	Approved by Environmental Specialist:	Signed By: <i>[Signature]</i>
Title: Construction Foreman II	Approval Date: SEP 06 2013	Expiration Date:
E-mail Address: Bwall@linenergy.com	Conditions of Approval: Remediation per OGD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION.	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary

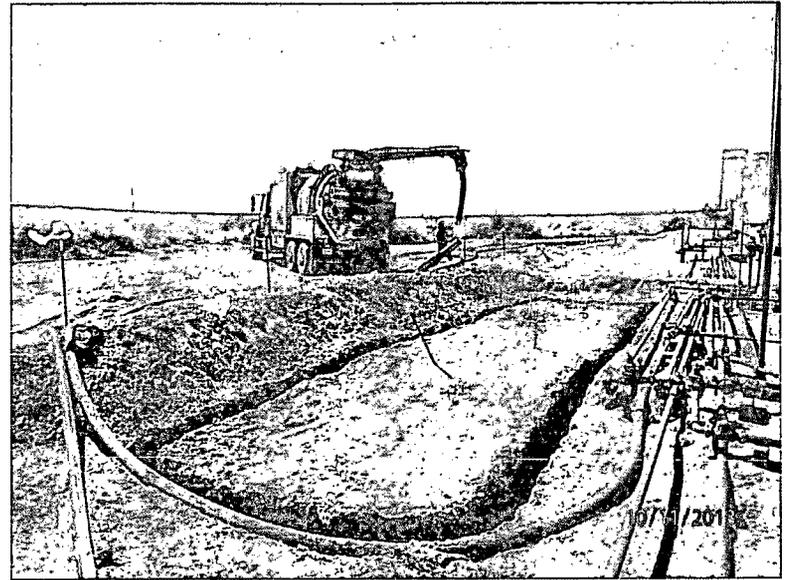
October 6, 2013 *2RP-1898*

Linn Max Friess MA Battery

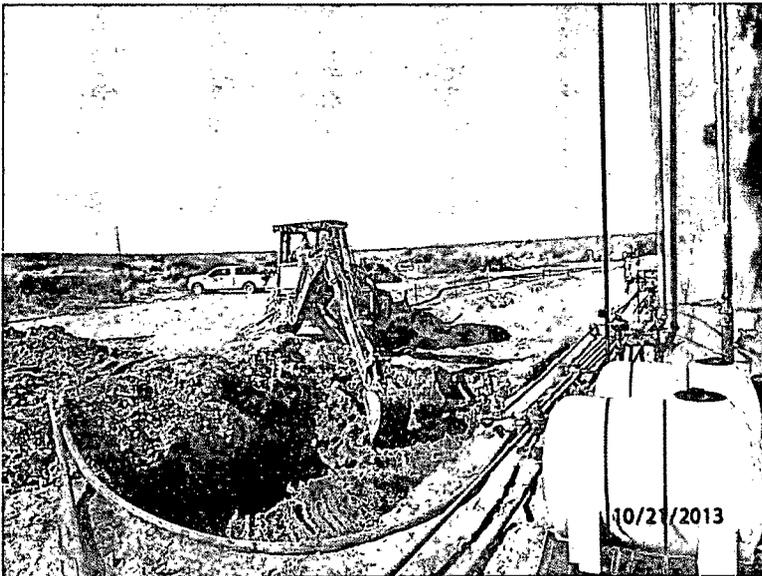
Unit Letter G, Section 30, T17S, R31E



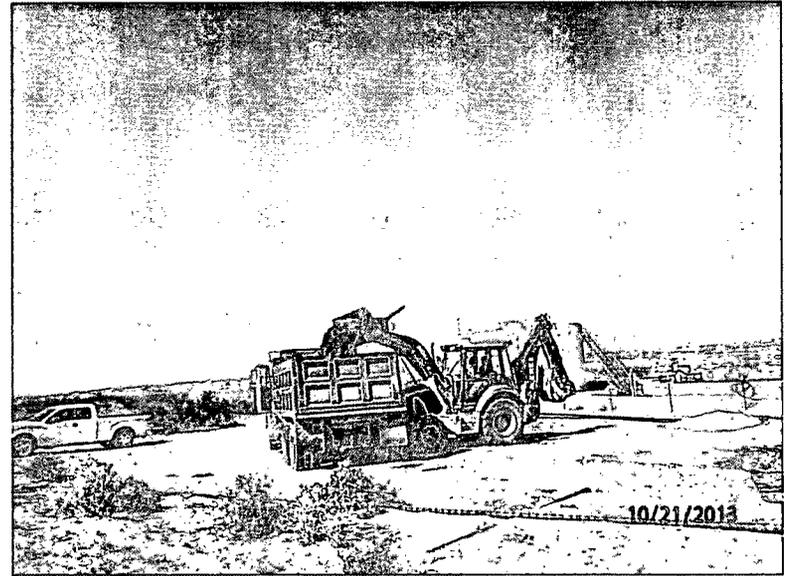
Line spot using a hydrovac, facing northeast 10/11/13



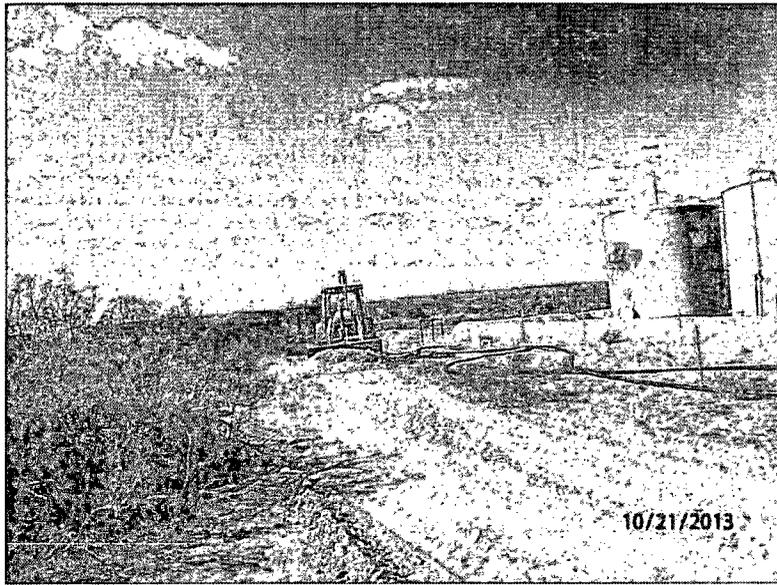
Hydrovac of site completed, facing southwest 10/11/13



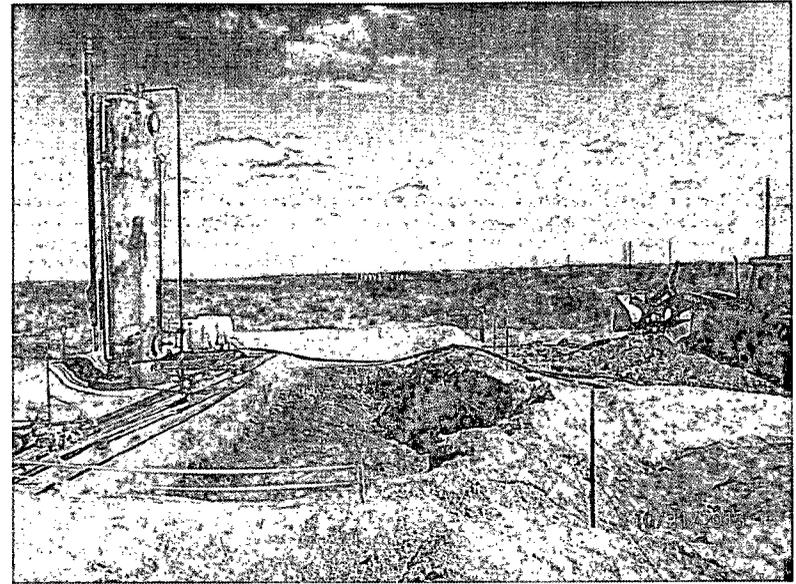
Excavating for liner installation, facing southwest
10/21/13



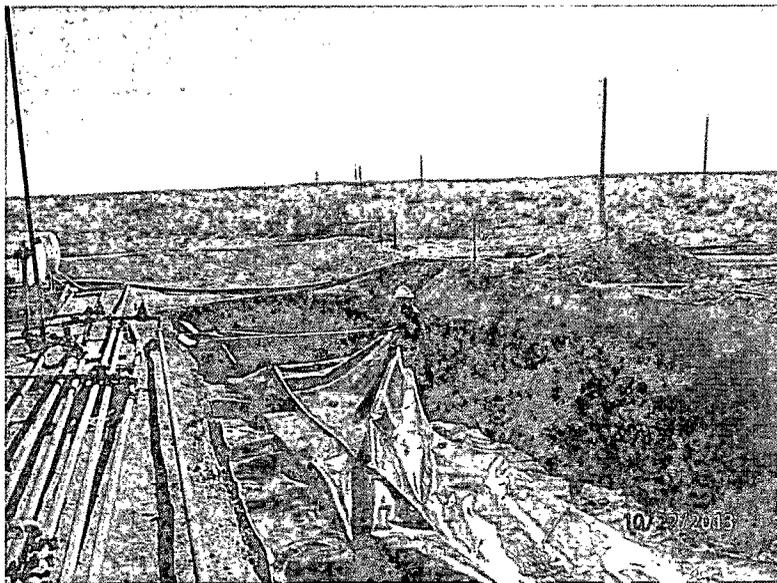
Exporting soil, facing northwest 10/21/13



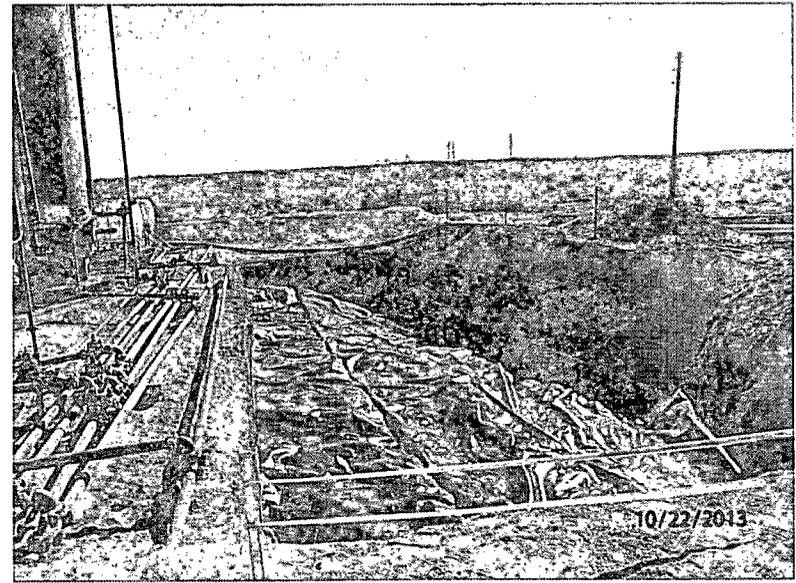
Scraping up road used to conduct soil bores, facing west
10/21/13



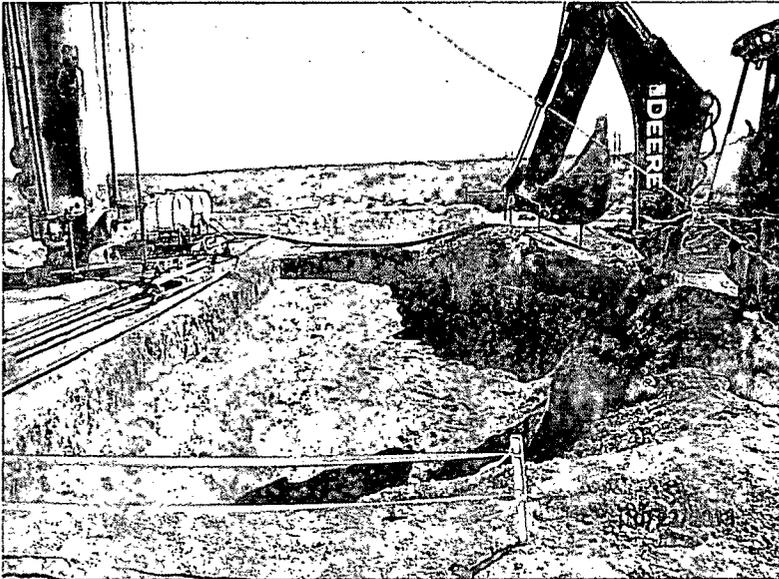
Excavation completed, facing east
10/21/13



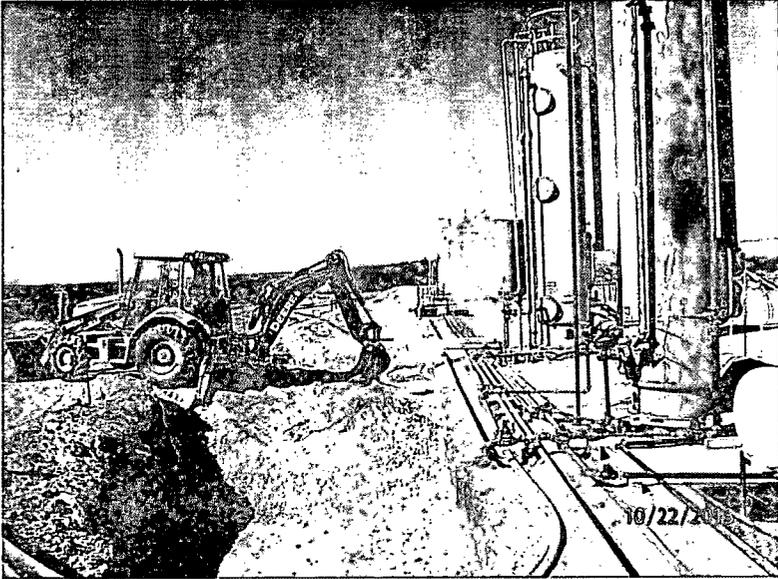
Installing 20-mil reinforced poly liner, facing southeast
10/22/13



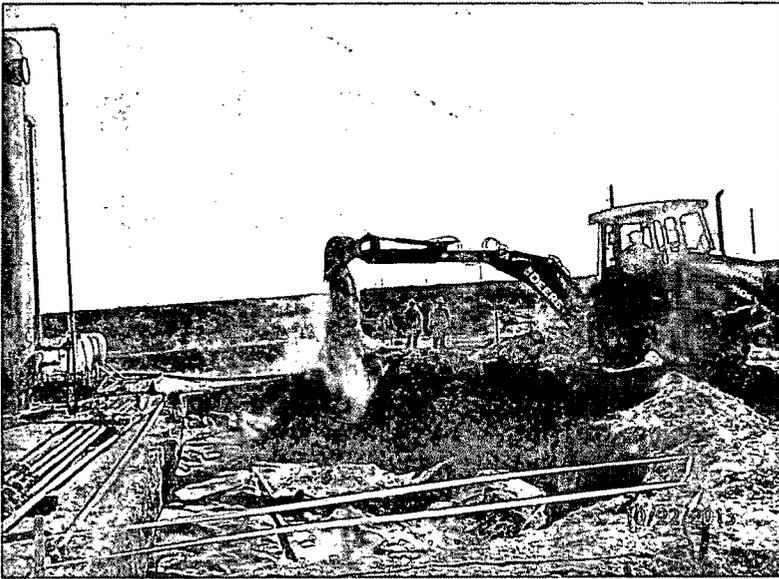
Liner installation completed, facing southeast
10/22/13



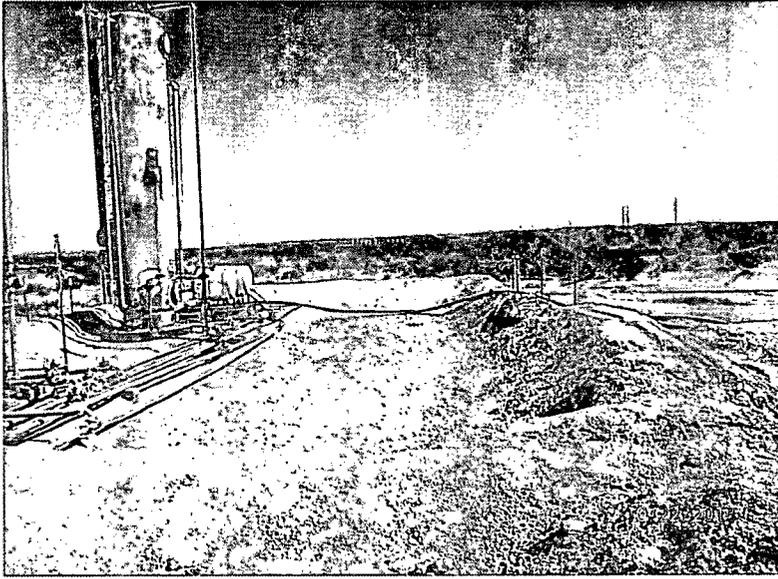
Padding of liner completed, facing east 10/22/13



Backfilling site with caliche, facing west 10/22/13



Padding liner with 6 in of sand, facing east 10/22/13



Site completed, facing east 10/22/13

October 28, 2013

JACOB KAMPLAIN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: MAX FRIESS MA BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 10/23/13 8:15.

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

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/23/2013	Sampling Date:	10/22/2013
Reported:	10/28/2013	Sampling Type:	Soil
Project Name:	MAX FRIESS MA BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: 5 PT. COMP CALICHE PILE (H302560-01)

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	10/23/2013	ND	432	108	400	0.00	

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 D. Keene, Lab Director/Quality Manager

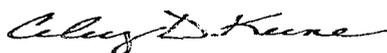
Notes and Definitions

- 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

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 D. Keene, Lab Director/Quality Manager

Appendix C

Final C-141

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

District I
1625 N. French Dr., Hobbs, NM 88240
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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 August 8, 2011

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 Energy	Contact	Brian Wall
Address	2130 W. Bender Blvd., Hobbs, NM 88240	Telephone No.	(806) 367-0645
Facility Name	Max Friess 'MA' Battery	Facility Type	Battery
Surface Owner	State	Mineral Owner	BLM
		API No.	3001526882

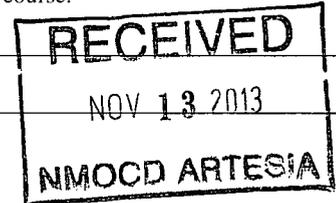
LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	30	17S	31E	1682	FNL	1479	FEL	Eddy

Latitude 32°48'29.354"N Longitude 103°54'19.52"W

NATURE OF RELEASE

Type of Release	Produced Water and Oil	Volume of Release	5-10 bbls	Volume Recovered	0 bbls
Source of Release	Battery Release	Date and Hour of Occurrence	1/31/13	Date and Hour of Discovery	1/31/13
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
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.*
A release in the battery of produced water and oil occurred.

Describe Area Affected and Cleanup Action Taken.* The release remained inside the bermed area of the battery. RECS met with BLM on July 29th, 2013. BLM stated that a vertical needed to be conducted at the site. On August 5th, 2013 a vertical was installed to a depth of 15 ft bgs. Samples were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples were taken to a commercial laboratory for analysis. As the vertical was advanced, laboratory chloride readings dropped until they reached 608 mg/kg at 15 ft bgs. GRO, DRO and BTEX laboratory readings were non-detect, except for at the surface where the DRO reading was 4,100 mg/kg. On August 6th, 2013 BLM approved soil bore installation activities at the site that occurred on August 20th, 2013. One soil bore was installed at the site to a depth of 35 ft bgs. Field samples were taken at regular intervals as the bore was advanced and representative samples from the bore were taken to a commercial laboratory for analysis. A Corrective Action Plan (CAP) was submitted to NMOCD and BLM on September 16th, 2013. BLM approved the CAP on September 16th, 2013 and NMOCD approved the CAP on September 17th, 2013. On October 17th, 2013, NMOCD and BLM gave RECS permission to begin CAP activities at the site. On October 21st, 2013, the site was excavated to 18 ft x 38 ft to a depth of 3 ft bgs. A total of 96 yards of excavated soil was taken to a NMOCD approved facility for disposal. At the base of the 3 ft excavation, a 20-mil reinforced poly liner was installed and properly seated. A total of 12 yards of clean, imported sand was imported to the site to serve as a 6 inch sand pad to protect the liner from punctures. Clean, imported caliche was then backfilled over the sand pad to ground surface and contoured to the surrounding location. A sample of the caliche was taken to a commercial laboratory for analysis and returned a chloride result of non-detect.

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Signature: <i>Fred B Wall</i>	OIL CONSERVATION DIVISION		
Printed Name: Brian Wall	Approved by Environmental Specialist:		
Title: Construction Foreman II	Approval Date:	Expiration Date:	
E-mail Address: Bwall@linenergy.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date:	Phone: (806) 367-0645		

* Attach Additional Sheets If Necessary