RECEIVED
By JKeyes at 9:22 am, Mar 23, 2016

APPROVED

LINN Energy

Hale State Battery

REMEDIATION WORK PLAN

API No. 30-025-02154 (Closest Well)

Release Date: June 25, 2015

Unit Letter E, Section 31, Township 17 South, Range 34 East

December 21, 2015

Prepared by:
Lance Crenshaw, Project Manager
Environmental Department
Diversified Field Service, Inc.
206 W. Snyder
Hobbs, NM 88240
Phone: (575)964-8394
Fax: (575)393-8396

Kellie Jones
Environmental Specialist
NM Oil Conservation District-Division 2
1625 N. French
Hobbs, NM 88240

RE: **Linn Energy, Hale State Battery – Remediation Work Plan**
UL/E, Section 31, T17S, R34E
API No. 30-025-02154

Ms. Jones,

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

The site is located southeast of Maljamar, NM, in Eddy County. The leak site resulted from the heater losing all pressure, causing it to fill up with liquid, which came up through the gas line into separator, and popped off the ground. The impacted area was contained between the tanks and the heater, with some residual spray into the pasture. Approximately 50 bbls of oil was released, with 40 bbls recovered. A site map is attached. A C-141 was drafted on June 26, 2015, and is attached.

Site Assessment and Delineation

On June 30, 2015 DFSI personnel responded to the spill area and scraped up visible staining on the ground. On November 20, 2015, DFSI personnel returned to the location to begin sampling. Four points were sampled, and one bore hole was drilled. 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 137 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 spill area to 6" BGS except in the area of SP1 and SB1. The area of SP1 and SB1 will be excavated to 4' BGS. The entire excavated area will be backfilled with fresh caliche.

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
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 Shelly Tucker

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

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

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 Operating Inc.	Contact E.L. Gonzales
Address 2130 W Bender Blvd Hobbs, NM 88240	Telephone No. 575-738-1739
Facility Name Hale State Battery- (closest well Hale State #1)	Facility Type Battery

Surface Owner State	Mineral Owner	API No. closest well 30-025-02154

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	31	17S	34E	990	North	660	West	Eddy

Latitude 32.795795315483 **Longitude -**103.605900841618

NATURE OF RELEASE

Type of Release Oil	Volume of Release 50 bbls	Volume Recovered 40 bbls
Source of Release Separator	Date and Hour of Occurrence 06/25/15	Date and Hour of Discovery 06/25/2015 9:00am
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Heater lost all pressure filled it up with liquid came up through the gas line into separator and popped off on the ground. Had about fifty bbls on the ground and recovered about 40.

Describe Area Affected and Cleanup Action Taken.* Had a mess on the ground 60ft. Wide, 50 ft. long and about 50 ft. spray into the pasture about 15 ft. wide. Mess contained between the tanks and the heater.

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:	OIL CONSERVATION DIVISION	
Printed Name: E.L. Gonzales	Approved by Environmental Specialist:	
Title: Production Supervisor	Approval Date:	Expiration Date:
E-mail Address: elgonzales@linnenergy.com	Conditions of Approval:	Attached ☐
Date: 06/26/2015 Phone: 505-504-8002		

* Attach Additional Sheets If Necessary

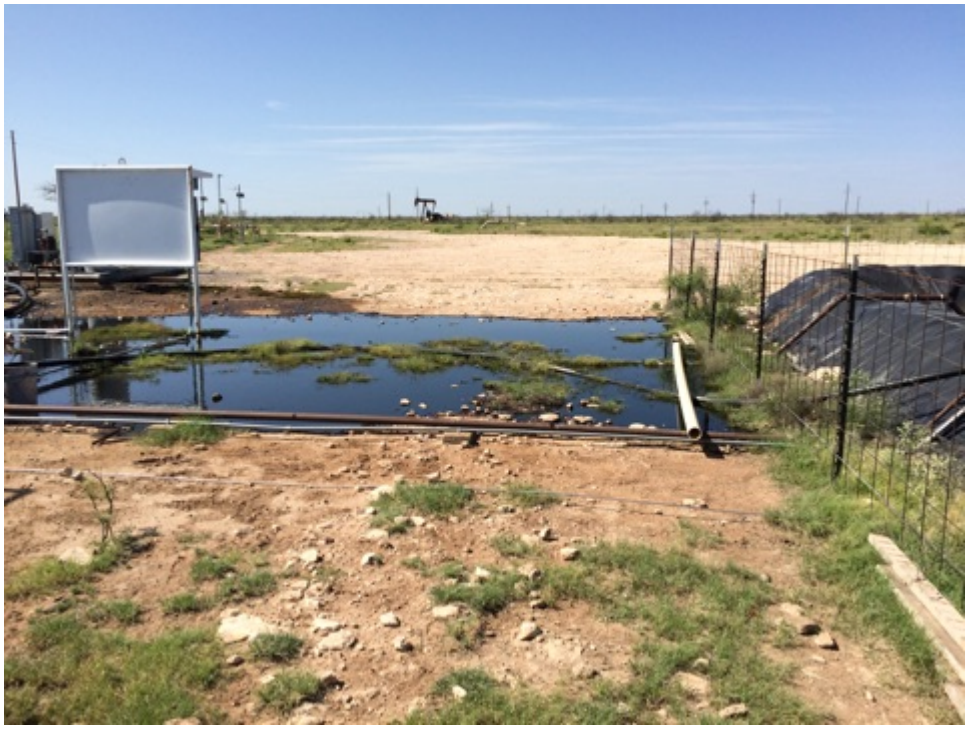
Site Diagram

LINN Energy

Hale State Battery

PHOTO PAGE

12/21/2015



Initial spill photo

Sampling spill area vertically

Using drill for bore hole

Diversified Environmental Services

Company Name: Linn
Location Name: Hale State Battery

SP Date: 11/20/2015
Rel Date:

SP1	CHL	PID
Surface	146	1.1
1'	169	399.7

SP2	CHL	PID
Surface	117	1.9
1'	90	13.9
Surface	48	
1'	64	

SP3	CHL	PID
Surface	503	1.7
1'	220	3
Surface	464	
1'	288	

SP4	CHL	PID
Surface	926	1
1'	341	0.9
Surface	1090	
1'	320	

SB1	CHL	PID
1'	84	487.4
2'	120	335.1
3'	88	135.1
4'	86	40.8
5'	209	16.9
6'	203	4.9
6'	192	<10

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 30, 2015

JOE HERNANDEZ

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: HALE STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/20/15 16:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

LINN OPERATING-HOBBS
JOE HERNANDEZ
2130 W. BENDER
HOBBS NM, 88240
Fax To: (575) 738-1740

Received:	11/20/2015	Sampling Date:	11/20/2015
Reported:	11/30/2015	Sampling Type:	Soil
Project Name:	HALE STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LINN		

Sample ID: SAMPLE POINT 2 @ SURFACE (H503084-01)

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	11/25/2015	ND	2.02	101	2.00	0.897	
Toluene*	<0.050	0.050	11/25/2015	ND	2.00	99.9	2.00	1.29	
Ethylbenzene*	<0.050	0.050	11/25/2015	ND	2.07	104	2.00	0.196	
Total Xylenes*	<0.150	0.150	11/25/2015	ND	6.10	102	6.00	0.168	
Total BTEX	<0.300	0.300	11/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	11/25/2015	ND	400	100	400	14.8	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/23/2015	ND	189	94.6	200	3.05	
DRO >C10-C28	<10.0	10.0	11/23/2015	ND	183	91.7	200	2.06	

Surrogate: 1-Chlorooctane *94.9 %* *35-147*

Surrogate: 1-Chlorooctadecane *105 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

LINN OPERATING-HOBBS
JOE HERNANDEZ
2130 W. BENDER
HOBBS NM, 88240
Fax To: (575) 738-1740

Received:	11/20/2015	Sampling Date:	11/20/2015
Reported:	11/30/2015	Sampling Type:	Soil
Project Name:	HALE STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LINN		

Sample ID: SAMPLE POINT 2 @ 1' (H503084-02)

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	11/25/2015	ND	2.02	101	2.00	0.897	
Toluene*	<0.050	0.050	11/25/2015	ND	2.00	99.9	2.00	1.29	
Ethylbenzene*	<0.050	0.050	11/25/2015	ND	2.07	104	2.00	0.196	
Total Xylenes*	<0.150	0.150	11/25/2015	ND	6.10	102	6.00	0.168	
Total BTEX	<0.300	0.300	11/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	11/25/2015	ND	400	100	400	14.8	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/23/2015	ND	189	94.6	200	3.05	
DRO >C10-C28	**13.4**	10.0	11/23/2015	ND	183	91.7	200	2.06	

Surrogate: 1-Chlorooctane *102 %* *35-147*

Surrogate: 1-Chlorooctadecane *114 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

LINN OPERATING-HOBBS
JOE HERNANDEZ
2130 W. BENDER
HOBBS NM, 88240
Fax To: (575) 738-1740

Received:	11/20/2015	Sampling Date:	11/20/2015
Reported:	11/30/2015	Sampling Type:	Soil
Project Name:	HALE STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LINN		

Sample ID: SAMPLE POINT 3 @ SURFACE (H503084-03)

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	11/25/2015	ND	2.02	101	2.00	0.897	
Toluene*	<0.050	0.050	11/25/2015	ND	2.00	99.9	2.00	1.29	
Ethylbenzene*	<0.050	0.050	11/25/2015	ND	2.07	104	2.00	0.196	
Total Xylenes*	<0.150	0.150	11/25/2015	ND	6.10	102	6.00	0.168	
Total BTEX	<0.300	0.300	11/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	11/25/2015	ND	400	100	400	14.8	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/23/2015	ND	189	94.6	200	3.05	
DRO >C10-C28	**13.8**	10.0	11/23/2015	ND	183	91.7	200	2.06	

Surrogate: 1-Chlorooctane *101 %* *35-147*

Surrogate: 1-Chlorooctadecane *111 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

LINN OPERATING-HOBBS
JOE HERNANDEZ
2130 W. BENDER
HOBBS NM, 88240
Fax To: (575) 738-1740

Received:	11/20/2015	Sampling Date:	11/20/2015
Reported:	11/30/2015	Sampling Type:	Soil
Project Name:	HALE STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LINN		

Sample ID: SAMPLE POINT 3 @ 1' (H503084-04)

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	11/25/2015	ND	2.02	101	2.00	0.897	
Toluene*	<0.050	0.050	11/25/2015	ND	2.00	99.9	2.00	1.29	
Ethylbenzene*	<0.050	0.050	11/25/2015	ND	2.07	104	2.00	0.196	
Total Xylenes*	<0.150	0.150	11/25/2015	ND	6.10	102	6.00	0.168	
Total BTEX	<0.300	0.300	11/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	11/25/2015	ND	400	100	400	14.8	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/23/2015	ND	189	94.6	200	3.05	
DRO >C10-C28	<10.0	10.0	11/23/2015	ND	183	91.7	200	2.06	

Surrogate: 1-Chlorooctane *102 %* *35-147*

Surrogate: 1-Chlorooctadecane *110 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

LINN OPERATING-HOBBS
JOE HERNANDEZ
2130 W. BENDER
HOBBS NM, 88240
Fax To: (575) 738-1740

Received:	11/20/2015	Sampling Date:	11/20/2015
Reported:	11/30/2015	Sampling Type:	Soil
Project Name:	HALE STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LINN		

Sample ID: SAMPLE POINT 4 @ SURFACE (H503084-05)

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	11/25/2015	ND	2.11	106	2.00	3.99	
Toluene*	<0.050	0.050	11/25/2015	ND	2.11	105	2.00	4.90	
Ethylbenzene*	<0.050	0.050	11/25/2015	ND	2.22	111	2.00	4.05	
Total Xylenes*	<0.150	0.150	11/25/2015	ND	6.40	107	6.00	3.31	
Total BTEX	<0.300	0.300	11/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1090**	16.0	11/25/2015	ND	400	100	400	14.8	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/24/2015	ND	198	98.8	200	2.97	
DRO >C10-C28	**246**	10.0	11/24/2015	ND	197	98.6	200	3.60	

Surrogate: 1-Chlorooctane *99.6 %* *35-147*

Surrogate: 1-Chlorooctadecane *116 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

LINN OPERATING-HOBBS
JOE HERNANDEZ
2130 W. BENDER
HOBBS NM, 88240
Fax To: (575) 738-1740

Received:	11/20/2015	Sampling Date:	11/20/2015
Reported:	11/30/2015	Sampling Type:	Soil
Project Name:	HALE STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LINN		

Sample ID: SAMPLE POINT 4 @ 1' (H503084-06)

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	11/25/2015	ND	2.11	106	2.00	3.99	
Toluene*	<0.050	0.050	11/25/2015	ND	2.11	105	2.00	4.90	
Ethylbenzene*	<0.050	0.050	11/25/2015	ND	2.22	111	2.00	4.05	
Total Xylenes*	<0.150	0.150	11/25/2015	ND	6.40	107	6.00	3.31	
Total BTEX	<0.300	0.300	11/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	11/25/2015	ND	400	100	400	14.8	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/24/2015	ND	198	98.8	200	2.97	
DRO >C10-C28	<10.0	10.0	11/24/2015	ND	197	98.6	200	3.60	

Surrogate: 1-Chlorooctane *88.5 %* *35-147*

Surrogate: 1-Chlorooctadecane *96.3 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Linn
Project Manager:	Joe Hernandez
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	Linn
Project Location:	Hale State Battery
Sampler Name:	Chris Flores

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chloride	BTEX	TPH
H503084-1	Sample Point 2 @ Surface	G	1			✓					✓		11/20/2015	11:30 AM	X	X	X
2	Sample Point 2 @ 1'	G	1			✓					✓			11:35 AM	X	X	X
3	Sample Point 3 @ Surface	G	1			✓					✓			11:40 AM	X	X	X
4	Sample Point 3 @ 1'	G	1			✓					✓			11:45 AM	X	X	X
5	Sample Point 4 @ Surface	G	1			✓					✓			11:50 AM	X	X	X
6	Sample Point 4 @ 1'	G	1			✓					✓			11:55 AM	X	X	X

Relinquished By:	Date: 11-20-2015	Received By: Jodi Henson	
Relinquished By:	Time: 4:40	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	5.2° C	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: email to lcrenshaw@diversifiedfsi.com
malves@
mburton@
mpatterson@
cflores@

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

#541

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 11, 2015

JOE HERNANDEZ

LINN OPERATING-HOBBS

2130 W. BENDER

HOBBS, NM 88240

RE: HALE STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/07/15 16:25.

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

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

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

Accreditation applies to public drinking water matrices.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

LINN OPERATING-HOBBS
JOE HERNANDEZ
2130 W. BENDER
HOBBS NM, 88240
Fax To: (575) 738-1740

Received:	12/07/2015	Sampling Date:	12/07/2015
Reported:	12/11/2015	Sampling Type:	Soil
Project Name:	HALE STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LINN		

Sample ID: SOIL BORE 1 @ 6' (H503187-01)

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	12/09/2015	ND	1.62	80.8	2.00	3.31	
Toluene*	<0.050	0.050	12/09/2015	ND	1.61	80.6	2.00	3.71	
Ethylbenzene*	<0.050	0.050	12/09/2015	ND	1.65	82.6	2.00	3.94	
Total Xylenes*	<0.150	0.150	12/09/2015	ND	5.05	84.2	6.00	3.89	
Total BTEX	<0.300	0.300	12/09/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	12/10/2015	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/08/2015	ND	186	93.0	200	7.67	
DRO >C10-C28	<10.0	10.0	12/08/2015	ND	177	88.3	200	12.5	

Surrogate: 1-Chlorooctane *76.1 %* *35-147*

Surrogate: 1-Chlorooctadecane *76.2 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Linn		BILL TO	
Project Manager:		P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name: Linn		State: Zip:	
Project Location: Hale State Battery		Phone #:	
Sampler Name: Chris Flores		Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	TPH	BTEX
H503187	Soil Bore 1@ 6'	G	1			✓					✓		12-7-2015	10:00am	X	X	X

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 the client for the 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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 12-7-2015	Received By: Jodi Henson	
Relinquished By:	Time: 4:25	Received By:	
	Date:		
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5.2°C

Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials) JA

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:
email to: lcrenshaw@diversifiedfsi.com
malves@
mburton@
mpatterson@
cflores@

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

#511

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

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 04734	L	LE		3	3	31	17S	34E	630555	3628397*	186	135	51
L 11232	L	LE	2	3	4	31	17S	34E	631413	3628508*	235	140	95

Average Depth to Water: **137 feet**

Minimum Depth: **135 feet**

Maximum Depth: **140 feet**

Record Count: 2

PLSS Search:

Section(s): 31 **Township:** 17S **Range:** 34E

***UTM location was derived from PLSS - see Help**