

Hudson Federal Tank Battery

CLOSURE REQUEST

Release Date: May 7, 2017

Unit Letter A, Section 18, Township 17 South, Range 31 East

API #: 30-015-28962

NMOCD Case #: 2R-4206

August 7, 2017

Prepared by:

Michael Alves

Environmental Department

Diversified Field Service, Inc.

206 W. Snyder

Hobbs, NM 88240

Phone: (575)964-8394

Fax: (575)393-8396

Mike Bratcher
Environmental Specialist
NMOCD – District 2
811 S First St
Artesia, NM 88210

**RE: Linn Energy Hudson Federal Tank Battery
Closure Request**
UL/A, Section 18, T17S, R31E
API No. 30-015-28962
NMOCD Case #: 2R-4206
NMOCD Score: 0

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 spill resulted from a corroded nipple on the production tank, causing crude oil to release within the containment. Approximately 85 barrels of oil were released, with approximately 70 bbls recovered. An initial C-141 was submitted to the NMOCD on May 11, 2017 and approved on May 12, 2017 (Appendix I).

DFSI has conducted a groundwater study of the area and has determined, according to the New Mexico Office of the State Engineer, there is no known groundwater beneath the site (Appendix II).

Site Activities

On May 9, 2017, DFSI personnel were on site to obtain and field test samples. Four samples points were collected and field tested in regular intervals. Auger refusal was encountered. In order to further delineate the site, on June 1, 2017, a soil bore was installed within the former bermed area. The bore was installed to a depth of 15' bgs, with samples collected and field tested at regular intervals. The bottom samples, 15' bgs, was submitted to Hall Environmental of Albuquerque, NM to obtain confirmation, resulting in concentrations below regulatory limits of TPH (Appendix III).

Beginning May 8, 2017, the release area was to a depth of 4' bgs (Appendix IV). At the base of the excavation, a 20-mil, reinforced liner was installed and properly seated at the base of the excavation to inhibit the downward migration of soil constituents. Excavated

soil was properly disposed of at a NMOCD approved facility. The excavation was backfilled with clean soil to ground surface and contoured to the surrounding area. As this release occurred within a containment, seeding of the site was not warranted.

Conclusion

Due to the completion of approved corrective remediation work, and any remaining constituents will not impact groundwater, DFSI, on behalf of Linn Energy, submits the final C-141 (Appendix V) and respectfully requests the closure of the regulatory file for this site.

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

Sincerely,



Michael Alves

Environmental Operations Foreman | Diversified Field Service, Inc.

206 West Snyder | Hobbs, NM 88240

Office: (575)964-8394 | Mobile: (575)631-3364

Fax: (575)964-8396 | Email: Malves@diversifiedfsi.com

Cc: Shelly Tucker, BLM

Figures: Site Diagram

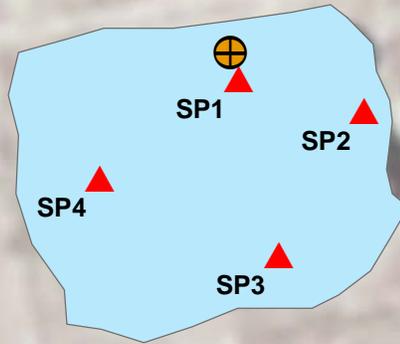
Appendices: Initial C-141
Groundwater Study
Laboratory Analysis
Site Photos
Final C-141

Site Map

SP1		SP2		SP3		SP4	
Depth	PID	Depth	PID	Depth	PID	Depth	PID
SS	15K+	SS	15K+	SS	15K+	SS	15K+
1'	15K+	1'	15K+	1'	15K+	1'	15K+
2'	15K+	2'	15K+	2'	15K+	2'	15K+
3'	15K+	3'	15K+	3'	15K+	3'	15K+
4'	15K+	4'	15K+	4'	15K+	4'	15K+
5'	15K+	5'	15K+	5'	15K+		

SB-1

Depth	Cl-	PID	GRO	DRO
10'	823	#		
15'	1017	9	ND	27



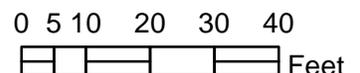
Legend

-  Soil Bores
-  Sample Points
-  Oil (2516 sq ft)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Linn
Hudson Federal Tank Battery
UL/A, Section 18, T17S, R31E
Eddy County, NM
API No. 30-015-28962
NMOCD Case #: 2R-4206



Appendix I

INITIAL C-141

Diversified Field Service, Inc.
206 W. Snyder
Hobbs, NM 88240
(575) 964-8394

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

NM OIL CONSERVATION
ARTESIA DISTRICT

MAY 11 2017

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
conformance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

NAB1713235838

OPERATOR

Initial Report Final Report

Name of Company LINN Operating, Inc. <i>269324</i>	Contact Aaron Hickert
Address 2130 W Bender Blvd Hobbs, NM 88240	Telephone No. 432-363-9496
Facility Name Hudson Federal Tank Battery	Facility Type Tank Battery, closest well - Hudson Federal #011
Surface Owner Federal	Mineral Owner Federal
API No. 30-015-28962	

LOCATION OF RELEASE

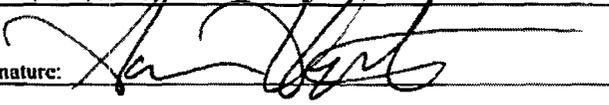
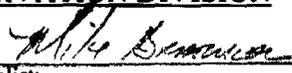
Unit Letter A	Section 18	Township 17S	Range 31E	Feet from the 1150	North/South Line North	Feet from the 1310	East/West Line East	County Eddy
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	-----------------------	------------------------	----------------

Latitude 32.839107 Longitude -103.902429

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 85 Bbl	Volume Recovered 70 Bbl
Source of Release Circulation Line, Corrosion	Date and Hour of Occurrence 5/7/17 at 9:40am	Date and Hour of Discovery 5/7/17 at 9:40am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input 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.*		
<p style="text-align: right;">New forms can be found in the New Mexico State Website in forms: http://www.emnrd.state.nm.us/ OCD/forms.html</p>		
Describe Cause of Problem and Remedial Action Taken.* 4" nipple on production tanks circulating line failed due to corrosion releasing crude oil inside containment. Shut in production, called Vac truck to recover crude oil, fixed piping.		
Describe Area Affected and Cleanup Action Taken.* Initial cleanup started, and delineation in progress to develop work plan.		

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: Aaron Hickert	Signed By:  Approved by Environmental Specialist:	
Title: Sr. EH&S Representative	Approval Date: 5/12/17	Expiration Date: N/A
E-mail Address: ahickert@linnenergy.com	Conditions of Approval: See attached	Attached <input type="checkbox"/>
Date: 5-11-2017 Phone: 432-363-9496		

* Attach Additional Sheets If Necessary

2PP-4206

Appendix II

GROUNDWATER STUDY

Diversified Field Service, Inc.
206 W. Snyder
Hobbs, NM 88240
(575) 964-8394



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

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

No records found.

PLSS Search:

Section(s): 12, 13, 24 Township: 17S Range: 30E

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.

5/17/17 3:09 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Appendix III

LABORATORY ANALYSIS

Diversified Field Service, Inc.
206 W. Snyder
Hobbs, NM 88240
(575) 964-8394



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 08, 2017

Michael Burton
Diversified Field Services, Inc
315 S. Leech St
Hobbs, NM 88240
TEL: (575) 964-8394
FAX

RE: Hudson Fed Batt Unit A

OrderNo.: 1706163

Dear Michael Burton:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1706163

Date Reported: 6/8/2017

CLIENT: Diversified Field Services, Inc

Client Sample ID: SB1 @ 15'

Project: Hudson Fed Batt Unit A

Collection Date: 6/1/2017 10:17:00 AM

Lab ID: 1706163-001

Matrix: SOIL

Received Date: 6/3/2017 10:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	27	9.8		mg/Kg	1	6/7/2017 2:28:10 PM	32127
Surr: DNOP	93.1	70-130		%Rec	1	6/7/2017 2:28:10 PM	32127
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/6/2017 2:15:38 PM	32111
Surr: BFB	105	54-150		%Rec	1	6/6/2017 2:15:38 PM	32111

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706163

08-Jun-17

Client: Diversified Field Services, Inc

Project: Hudson Fed Batt Unit A

Sample ID	LCS-32146	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	32146	RunNo:	43305					
Prep Date:	6/7/2017	Analysis Date:	6/7/2017	SeqNo:	1363279	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		76.2	70	130			

Sample ID	MB-32146	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	32146	RunNo:	43305					
Prep Date:	6/7/2017	Analysis Date:	6/7/2017	SeqNo:	1363280	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.1		10.00		81.2	70	130			

Sample ID	LCS-32127	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	32127	RunNo:	43305					
Prep Date:	6/6/2017	Analysis Date:	6/7/2017	SeqNo:	1363486	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.4	73.2	114			
Surr: DNOP	3.6		5.000		72.1	70	130			

Sample ID	MB-32127	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	32127	RunNo:	43305					
Prep Date:	6/6/2017	Analysis Date:	6/7/2017	SeqNo:	1363487	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.1		10.00		80.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1706163

08-Jun-17

Client: Diversified Field Services, Inc

Project: Hudson Fed Batt Unit A

Sample ID MB-32111	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 32111		RunNo: 43287							
Prep Date: 6/5/2017	Analysis Date: 6/6/2017		SeqNo: 1363134		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.2	54	150			

Sample ID LCS-32111	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 32111		RunNo: 43287							
Prep Date: 6/5/2017	Analysis Date: 6/6/2017		SeqNo: 1363135		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	76.4	125			
Surr: BFB	1100		1000		111	54	150			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975 FAX: 505-345-4107
 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **DIVERSIFIED FIELD SE** Work Order Number: **1706163** RcptNo: **1**

Received By: **Anne Thorne** *6/3/17* **6/2/2017 10:40:00 AM** *Anne Thorne*

Completed By: **Richie Eriacho** **6/5/2017 11:47:00 AM**

Reviewed By: **ENH** **06/05/17**

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Courier

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels? Yes No
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No
(If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good				

Appendix IV

SITE PHOTOS

Hudson Federal Tank Battery



Site prior



Site prior



Site prior



Site prior



Collecting sample by auger



Collecting sample by bore installation



Importing soil



Excavation completed



Installed 20-mil, reinforced poly liner



Backfilling with imported soil



Backfilling site



Site completed

Appendix V

FINAL C-141

Diversified Field Service, Inc.
206 W. Snyder
Hobbs, NM 88240
(575) 964-8394

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

Form C-141
Revised August 8, 2011

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 Energy	Contact: Aaron Hickert
Address: 2130 W Bender, Hobbs, NM 88240	Telephone No. 432-363-9496
Facility Name: Hudson Federal Tank Battery	Facility Type: Tank Battery, closest well - Hudson Federal #011
Surface Owner: Federal	Mineral Owner: Federal
API No. 30-015-28962	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from	East/West Line	County
A	18	17S	31E	1150	North	1310	East	Eddy

Latitude: 32.839107 Longitude: -103.902429

NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 85 bbls	Volume Recovered: 70 bbls
Source of Release: Circulation Line, Corrosion	Date and Hour of Occurrence 05/07/2017 9:40 AM	Date and Hour of Discovery 05/07/2017 9:40 AM
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.*

4" nipple on production tanks circulating line failed due to corrosion releasing crude oil inside containment. Shut in production, called vacuum truck to recover crude oil, fixed piping.

Describe Area Affected and Cleanup Action Taken.

On May 9, 2017, DFSI personnel were on site to obtain and field test samples. Four samples points were collected and field tested in regular intervals. Auger refusal was encountered. In order to further delineate the site, on June 1, 2017, a soil bore was installed within the former bermed area. The bore was installed to a depth of 15' bgs, with samples collected and field tested at regular intervals. The bottom samples, 15' bgs, was submitted to Hall Environmental of Albuquerque, NM to obtain confirmation, resulting in concentrations below regulatory limits of TPH. Beginning May 8, 2017, the release area was to a depth of 4' bgs. At the base of the excavation, a 20-mil, reinforced liner was installed and properly seated at the base of the excavation to inhibit the downward migration of soil constituents. Excavated soil was properly disposed of at a NMOCD approved facility. The excavation was backfilled with clean soil to ground surface and contoured to the surrounding area. As this release occurred within a containment, seeding of the site was not warranted.

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: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Aaron Hickert	Approved by Environmental Specialist:	
Title: Sr EH&S Representative	Approval Date:	Expiration Date:
E-mail Address: ahickert@linenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 08/2/2017 Phone: 432-363-9496		

* Attach Additional Sheets If Necessary