APPROVED
By Olivia Yu at 8:05 am, Apr 10, 2018

NMOCD approves of the proposed plan for additional delineation for 1RP-4259. Current permissible chloride levels for delineation and remediation is 600 mg/kg.

1RP-4259
DELINEATION PLAN
Sunburst Spence Federal #2
Crude Oil Spill
Lea County, New Mexico

LAI Project No. 17-0175-25

March 7, 2018

Prepared for:
Legacy Reserves Operating, LP
303 West Wall Street, Suite 1300
Midland, Texas 79701

Prepared by:
Larson & Associates, Inc.
507 North Marienfeld Street, Suite 205
Midland, Texas 79701

Mark J. Larson, P.G.
Certified Professional Geologist #10490

Sarah R. Johnson
Staff Geologist

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Figures

Appendices

1.0 INTRODUCTION

Larson & Associates, Inc. (LAI) has prepared this delineation plan on behalf of Legacy Reserves Operating, LP (Legacy) for submittal to the New Mexico Oil Conservation Division (OCD) District 1 for a crude oil spill at the Sunburst Spence Federal #2 (Site) located in Unit L (NW/4, SW/4), Section 13, Township 9 South, and Range 32 East in Lea County, New Mexico. The geodetic position is North 33.531227° and West -103.631251°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The spill occurred March 2, 2016, due to a hole in an oil tank, causing the release of approximately 15 barrels (bbl) of crude oil. Approximately 10 bbl were recovered. The spill extended out approximately 900 square feet and was contained to the caliche pad. An unknown volume of crude oil was released around the well-head measuring approximately 25 x 100 feet. The initial C-141 for the tank battery release was submitted on April 22, 2016, and assigned remediation permit number 1RP-4259; No C-142 was submitted for the well-head release. Appendix A presents the initial C-141 for 1RP-4259.

On June 1, 2016 Environmental Plus, Inc. (EPI) collected soil samples at one (1) location (SP1) at a depth of 8 feet below ground surface (bgs). The sample was delivered to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico and analyzed for BTEX, TPH (GRO and DRO) and chloride by EPA SW-846 Methods 8021B, 8015M and titration method SM4500 CL-B, respectively. TPH (255 mg/Kg) and chloride (736 mg/Kg) were reported above the Recommended Remediation Action Levels (RRAL) of 100 mg/Kg and chloride delineation limit of 250 mg/Kg at SP1, 8 feet bgs.

On December 27, 2016, EPI collected soil samples at one (1) location (SP2) at a depth of 20 feet bgs. The sample was delivered to Cardinal and analyzed for BTEX, TPH (GRO and DRO) and chloride by EPA SW-846 Methods 8021B, 8015M and titration method SM4500 CL-B. BTEX and TPH reported below the RRAL of 50 mg/Kg and 100 mg/Kg, respectively. Chloride was reported at 256 mg/Kg and above the delineation limit at SP2, 20 feet bgs.

EPI ran field chloride analyses and tested for organic vapors with a Mini-Rae Photoionization Detector (PID) on select samples. The PID reported all samples below 100 parts per million (ppm). Field chloride analyses reported above 250 mg/Kg in the following samples:

- SP1, 0’ (560 mg/Kg)
- SP1, 1’ (1,360 mg/Kg)
- SP1, 2’ (1,600 mg/Kg)
- SP1, 3’ (560 mg/Kg)
- SP1, 4’ (3,600 mg/Kg)
- SP1, 5’ (3,360 mg/Kg)
- SP1, 6’ (2,800 mg/Kg)
- SP1, 7’ (2,960 mg/Kg)
- SP2, 5’ (400 mg/Kg)
- SP2, 10’ (1,040 mg/Kg)
- SP2, 15’ (560 mg/Kg)

On an unknown date, EPI excavated soil around the tanks to a depth of about 1 foot bgs. The contaminated soil was hauled to an unknown disposal facility. The excavation was backfilled with clean caliche. Appendix B presents the EPI work plan.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 4,350 feet above mean sea level (msl):
- The topography slopes gradually to the southwest;
- There is no surface water features within 1,000 feet of the Site;
- The soils are designated as "Amarill-Arvana fine sandy loams, association, 0 to 3 percent slope" consisting of 0 to 8 inches fine sandy loam underlain by 8 to 36 inches sand clay loam.
- Surface geology is of the Ogallala formation from the lower Pliocene to middle Miocene, the depositional environment is of alluvial and eolian nature with petrocalcic soils of the southern High Plains;
- Groundwater occurs in the Ogallala formation;
- The nearest fresh water well is located in Unit N (SE/4, SW/4), Section 14, Township 9 South, and Range 32 East about 0.75 miles southwest of the Site;
- Depth to groundwater is reported at 39.42 feet below ground surface (bgs) (1995).

1.3 Remediation Action Levels

Remediation action levels (RRAL) were calculated for benzene, BTEX, and TPH based on the following criteria established by OCD in "*Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993"*:

Criteria	***Result***	***Score***
Depth-to-Groundwater	<50 Feet	20
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1,000 Horizontal Feet	0

The following RRAL apply to the release for ranking sore: 20

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 100 mg/Kg

Depth to groundwater less than 50 feet bgs requires vertical delineation for chloride to 250 milligrams per kilogram (mg/Kg) and maintained for a minimum of 10 feet further in depth.

2.0 DELINEATION PLAN

LAI proposes to collect soil samples at seven (7) locations within the contaminated areas around the tank battery and well-head. The samples will be collected in 1 foot intervals to approximately 4 feet bgs

and 2 foot intervals to approximately 12 feet bgs using direct push technology (DPT) dependent on subsurface conditions. Additional samples will be collected in each cardinal direction (north, south, east and west) of the spill areas at same depths. The soil samples will be delivered under preservation and chain of custody to Xenco Laboratories (Xenco) in Midland, Texas, and analyzed for BTEX, TPH, including gasoline organics (GRO), diesel range organics (DRO) and oil range organics (ORO) and chloride by EPA SW-846 Methods 8021B, 8015M and 300 respectively. Pending laboratory results, further delineation may be required will be required to achieve the RRALs. Appendix C presents photographs.

3.0 REMEDIATION

Legacy will include a remediation plan in the delineation report to be submitted to the OCD upon receipt of the laboratory report.

Figures

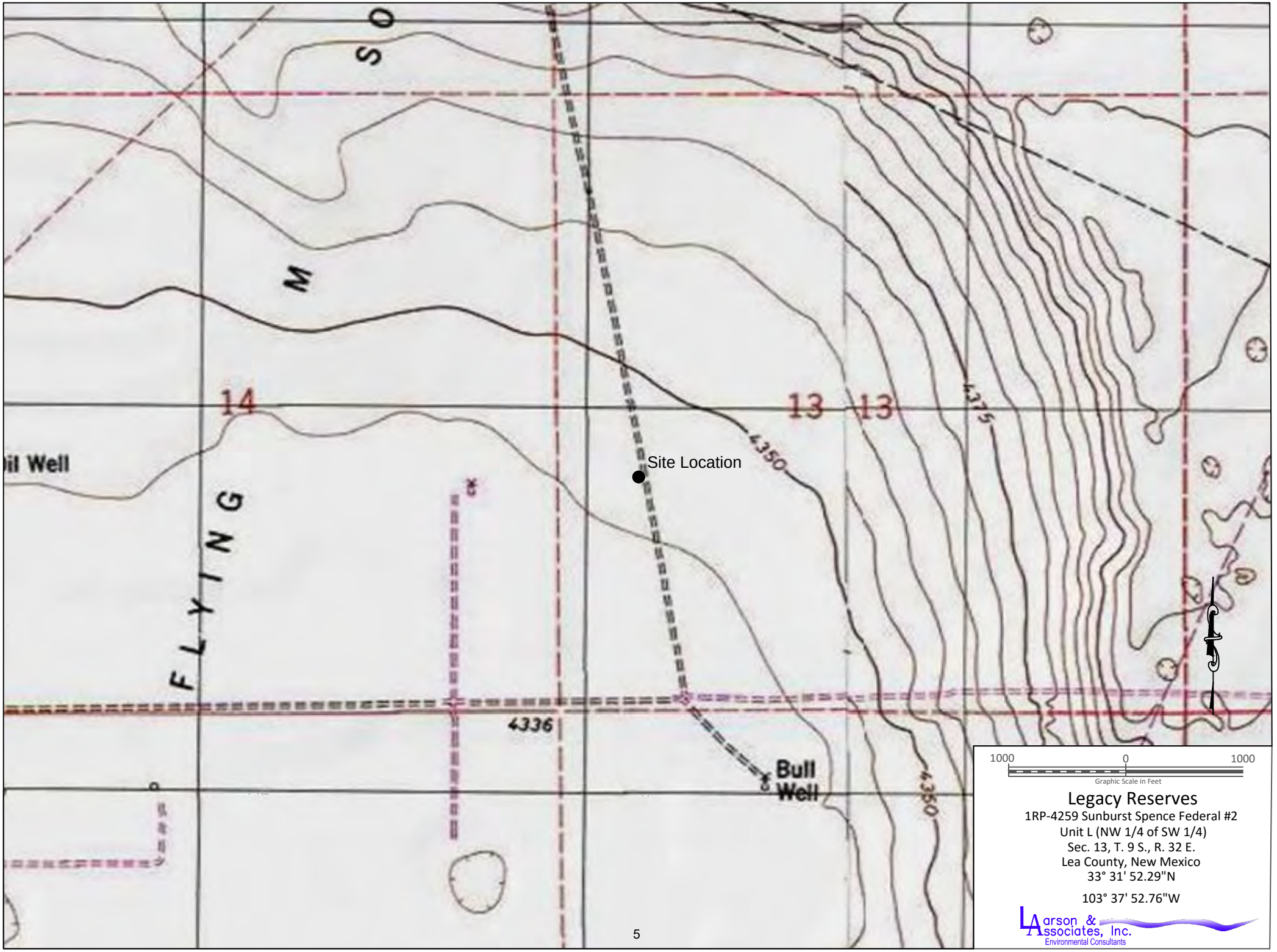


Figure 1 - Topographic Map

Figure 2 - Aerial Map

Appendix A
Initial C-141

RECEIVED
By JKeyes at 8:50 am, Apr 25, 2016

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: Legacy, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Sunburst Spence Federal #2	Facility Type: Battery

Surface Owner: State	Mineral Owner:	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	13	9S	32E					Lea

Latitude: N 33.531227° **Longitude:** W 103.631251°

NATURE OF RELEASE

Type of Release: oil	Volume of Release: ~15 bbls	Volume Recovered: ~10 bbls
Source of Release: oil tank developed hole	Date and Hour of Occurrence: 3-2-16 @ 7:00 am	Date and Hour of Discovery: 3-2-16 @ 7:00 am
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: Not Applicable	

If a Watercourse was Impacted, Describe Fully.* Not Applicable

Describe Cause of Problem and Remedial Action Taken. *
Release occurred when an oil tank developed a hole. A vacuum truck were called in to draw up standing fluid.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 900 sq. ft. of caliche tank battery pad. The entire release of oil was contained within the berms. A vacuum truck collected approximately 10 bbls of oil from within containment. The stained soil will be scraped up and hauled to a state approved disposal facility.

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: Manuel Soriano	OIL CONSERVATION DIVISION
Printed Name: Manuel Soriano	Approved by Environmental Specialist: Jami Keyes
Title: Production Foreman	Approval Date: 04/25/2016 Expiration Date: 06/25/2016
E-mail Address: jsoriano@legacylp.com	Conditions of Approval: Discrete site samples only. Delineate and remediate per NMOCD guidelines. Ensure BLM concurrence/approval. Attached ☐
Date: 4-22-16 Phone: 432-269-8806	1RP 4259

* Attach Additional Sheets If Necessary

nJXK1611631525
pJXK1611631629

Appendix B
EPI Work Plan

ENVIRONMENTAL PLUS, INC.

2100 AVE 'O'
P.O. BOX 1558
EUNICE, NM 88231
ddominguezepi@gmail.com
Office: (575) 394-3481
Fax: (575) 394-2601

Final Closure Report

Legacy, L.P.
Sunburst Spence Federal #2
Lea County, New Mexico
Unit Letter "L", Section 13, Township 9 South, Range 32 East
Latitude 33.531227 North, Longitude 103.631251 West
NMOCD Reference #1RP-4259

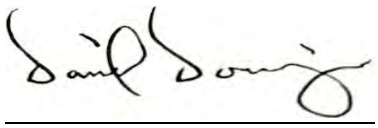
Prepared For:

Legacy, L.P.
P.O. Box 10848
Midland, Texas 79702

Prepared By:

Environmental Plus, Inc.
2100 Ave 'O'
Eunice, NM 88231

June 2017



Daniel Dominguez
Project Manager

The following *Final Closure Report* serves as a condensed update on field activities undertaken at the afore referenced Site.

Background:
The site is located in Unit Letter L (NW ¼ SW ¼), Section 13, Township 9 South, Range 32 East, approximately eleven miles north-east of Caprock, in Lea County, New Mexico. The property is owned by the State of New Mexico.

The release site is located on an active lease road; latitude 33.531227 North, longitude 103.631251 West. Area Map, Site Location Map, and Sample/Site Map are included as Figure 1, Figure 2, and Figure 3, respectively. The Initial NMOCD Form C-141 indicated that on March 2, 2016 approximately 15 barrels of oil was released when an oil tank developed a leak releasing the fluid to containment. A vacuum truck was dispatched to the site and recovered approximately 10 barrels, resulting in a net loss of 5 barrels of oil. The visually stained area covers approximately 900 square feet of caliche tank battery pad. The Initial NMOCD Form C-141 in included as Attachment IV.

NMOCD Site Classification:
A search for water wells was completed utilizing the New Mexico Office of the State Engineer's (NMOSE) website. There are two wells located in the area surrounding the release site (reference *Table 1*). Also, no wells (domestic, agriculture or public) and no bodies of surface water exist within a 1,000-foot radius of the release site (reference *Figure 2*). The NMOSE database indicates average water depth is approximately 120 feet below ground surface (bgs) within a 5,000-meter radius of the release site (reference *Attachment II*). However, as the closest documented well to this location is over 4,000 meters away and this is too great a distance to accurately determine depth to water for this location, the Chevron Trend Map for Lea County was utilized to determine an approximate depth to water of seventy-five to eighty feet bgs.

Utilizing this information, the NMOCD guidelines indicate the Sunburst Spence Federal #2 release site to have a ranking score of ten. Based on this score, the NMOCD Recommended Remedial Action Levels (RRALs) for this Site were determined as follows: Benzene – 10 mg/Kg, BTEX – 50 mg/Kg, TPH – 1,000 mg/Kg, and Chloride – 500 mg/Kg.

The fluid spread out to an area measuring approximately eighteen by fifty-seven feet within the bermed containment lined with caliche.

Delineation Activities:
On June 1, 2016 EPI personnel mobilized on site to collect soil samples to determine the vertical extent of contamination. A total of nine soil samples were collected from one sample location; SP1. One representative sample, from TD at the sample location, was sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate Chloride concentrations more than NMOCD RRALs at eight feet bgs at SP1 (reference *Figure 3* and *Table 2*).

On December 22, 2016 EPI personnel mobilized on site to collect soil samples to further determine the vertical extent of contamination. A total of four soil samples were collected from

ENVIRONMENTAL PLUS, INC.

one sample location; SP2. One representative sample, from TD at the sample location, was sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate contaminant concentrations are below NMOCD RRALs at TD of sample location.

Field testing of the samples collected on June 1 and December 22, 2016 indicate elevated Chloride concentrations from surface level to between seven and fifteen feet bgs (reference *Figure 3* and *Table 2*).

Portions of select soil samples were field tested for organic vapors and chloride concentrations. Soil samples collected for field testing of organic vapors were placed in self-sealing polyethylene bags and allowed to equilibrate to ~70° F. Field testing of organic vapors utilized a Mini-Rae™ Photoionization Detector (PID) equipped with a 10.6 electron-volt (eV) calibrated for benzene response. Chloride concentrations were determined via use of a LaMotte Chloride Kit (Titration Method).

Soil samples designated for laboratory analyses were collected into laboratory provided glass containers, labeled and inserted into self-sealing polyethylene bags, placed in a cooler, chilled and transported to an independent laboratory for quantification of contaminant concentrations under Chain-of-Custody protocol.

Completed Actions:
The tank battery area was excavated approximately one foot bgs, taking extreme care to not comprise the stability of the tanks. All contaminated soil was hauled to a state approved disposal facility. The excavation was then backfilled with one foot of caliche to impede the further vertical migration of chloride impacts. The preceding delineation and reclamation activities performed on this site were completed with approval, via phone conversation and in office meeting, with Jaime Keyes, NMOCD District 1, Hobbs.

Taking into consideration field chloride testing indicating chloride levels above NMOCD RRALs between surface and fifteen feet bgs (reference *Table 2*), and that the release occurred at an active tank battery, EPI proposes to differ any further delineation or reclamation activities until the tank battery is removed from service.

Revegetation Plan:
As the release area occurred within a bermed tank battery on a lease pad, no seeding will be required.

Noxious Weed Management Plan:
This location is an active oil operation pad. Legacy routinely maintains the entire pad to be free of any vegetation and weeds for the safety of personnel.

Should you have any questions or concerns please feel free to contact me at (575) 394-3481 or via e-mail at ddominguezepi@gmail.com or Mr. Manuel Soriano at (432) 269-8806 or via e-mail at jsoriano@legacylp.com. All official communication should be addressed to:

Mr. Manuel Soriano
Legacy, L.P.
P.O. Box 10848
Midalnd, TX 79702

Sincerely,

ENVIRONMENTAL PLUS, INC.

Daniel Dominguez
Environmental Consultant

cc: Olivia Yu, Environmental Specialist – NMOCD District 1, Hobbs
Amber Groves, Remediation Specialist – NMSLO, Hobbs, NM
Manuel Soriano, Production Foreman – Legacy, L.P.
File

Encl.: Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Sample/Site Map
Table 1 – Well Data
Table 2 – Summary of Soil Sample Field Testing and Laboratory Analytical Results
Attachment I – Photographs
Attachment II – NMOSE Average Depth to Groundwater
Attachment III – Laboratory Analytical Results
Attachment IV – Copy of Initial NMOCD Form C-141, Final NMOCD Form C-141

FIGURES

Figure 1 Area Map Legacy, L.P. Sunburst Spence Federal #2	Lea County, New Mexico NW 1/4 of SW 1/4, Sec. 13, T9S, R32E N 33° 31' 52.42" W 103° 37' 52.51" Elevation: 4,350 feet amsl	DWG By: D Dominguez April 2016	REVISED:
		0 3 6 Miles	SHEET 1 of 1
			N

15

Figure 2 Site Location Map Legacy, L.P. Sunburst Spence Federal #2	Lea County, New Mexico NW 1/4 of SW 1/4, Sec. 13, T9S, R32E N 33° 31' 52.42" W 103° 37' 52.51" Elevation: 4,350 feet amsl	DWG By: D Dominguez April 2016	REVISED:
		0 2,000 4,000 Feet	SHEET 1 of 1

N

16

Figure 3 Site Map Legacy, L.P. Sunburst Spence Federal #2	Lea County, New Mexico NW 1/4 of SW 1/4, Sec. 13, T9S, R32E N 33° 31' 52.42" W 103° 37' 52.51" Elevation: 4,350 feet amsl	DWG By: D Dominguez April 2016	REVISED:	N
		0 20 40 Feet	SHEET 1 of 1	

TABLES

TABLE 1

Well Data

Legacy, L.P. - Sunburst Spence Federal #2

Ref #	Well Number	Use	Diversion[A]	Owner	q64	q16	q4	Sec	Twsp	Rng	Easting	Northing	Distance[B]	Date Measured	Surface Elevation[C]	Depth to Water (ft bgs)
1	L 13691	EXP	0	CARL L JOHNSON LLC	3	1	4	22	09S	32E	624695	3709265	2,973	--	4,322	--
2	L 13785	STK	3	REVOCABLE LIVING TRUST MARK	1	1	2	3	09S	32E	624520	3715032	4,767	14-May-15	4,417	120
3	L 13310	MON	0	SOUTHWEST ROYALTIES	3	3	1	21	09S	33E	631860	3709731	4,936	--	4,380	--

* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1)

[A] = In acre feet per annum [B] = In meters [C] = Elevation interpolated from satellite map based on referenced location.

EXP = Exploration

STK = 72-12-1 Livestock watering

MON = Monitoring Well

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are smallest to biggest

-- = Data not provided on the NM iwaters website

Shaded area indicates wells not shown in Figure 2

TABLE 2
Summary of Soil Sample Field Testing and Laboratory Analytical Results
Legacy, L.P.
Sunburst Spence Federal #2

Lab Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C10 (mg/Kg)	DRO C10-C28 (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
SP1	Surface	Excavated	01-Jun-16	79.3	560	--	--	--	--	--	--	--	--	--
	1	Excavated	01-Jun-16	2.9	1,360	--	--	--	--	--	--	--	--	--
	2	In-Situ	01-Jun-16	2.1	1,600	--	--	--	--	--	--	--	--	--
	3	In-Situ	01-Jun-16	2.1	560	--	--	--	--	--	--	--	--	--
	4	In-Situ	01-Jun-16	2.3	3,600	--	--	--	--	--	--	--	--	--
	5	In-Situ	01-Jun-16	4.9	3,360	--	--	--	--	--	--	--	--	--
	6	In-Situ	01-Jun-16	1.2	2,800	--	--	--	--	--	--	--	--	--
	7	In-Situ	01-Jun-16	7.8	2,960	--	--	--	--	--	--	--	--	--
	8	In-Situ	01-Jun-16	13.9	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	255	255	**736**
SP2	5	In-Situ	22-Dec-16	0.9	400	--	--	--	--	--	--	--	--	--
	10	In-Situ	22-Dec-16	1.9	1,040	--	--	--	--	--	--	--	--	--
	15	In-Situ	22-Dec-16	1.7	560	--	--	--	--	--	--	--	--	--
	20	In-Situ	22-Dec-16	1.8	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	21.1	21.1	256
NMOCD Recommended Remedial Action Levels				100		10				50			1,000	500

- - = Not Analyzed
Bold *values are in excess of NMOCD Recommended Remedial Action Levels*
Shaded values indicates soil has been excavated

ATTACHMENTS

ATTACHMENT I
Photographs

Photograph #1- Lease sign


Photograph #2- Looking across release area.

Photograph #3- Looking across release area.

Photograph #4- Looking across release area.

Photograph #5- Looking across release area.

Photograph #6- Looking across release area.

Photograph #7 – Tank battery area excavated

Photograph #8 – Tank battery area excavated

Photograph #9 – Tank battery area excavated

Photograph #10 – Tank battery area excavated

Photograph #11 – Backfilled

Photograph #12 – Backfilled

Photograph #13 – Backfilled


Photograph #14 – Backfilled

ATTACHMENT II
NMOSE Average Depth to Groundwater

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	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 13785 POD1	L	LE	1	1	2	03	09S	32E	624521	3715032	4767	175	120	55

Average Depth to Water: **120 feet**

Minimum Depth: **120 feet**

Maximum Depth: **120 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 627095.8 **Northing (Y):** 3711020 **Radius:** 5000

ATTACHMENT III
Laboratory Analytical Results

CARDINAL Laboratories

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

June 17, 2016

Daniel Dominguez

Environmental Plus, Inc.

P.O. Box 1558

Eunice, NM 88231

RE: SUNBURST SPENCE

Enclosed are the results of analyses for samples received by the laboratory on 06/14/16 15:41.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received:	06/14/2016	Sampling Date:	06/01/2016
Reported:	06/17/2016	Sampling Type:	Soil
Project Name:	SUNBURST SPENCE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	UL-L SEC. 13, T9S, R32E		

Sample ID: SP 1 (8') (H601304-01)

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	06/15/2016	ND	1.94	97.0	2.00	4.06	
Toluene*	<0.050	0.050	06/15/2016	ND	1.97	98.4	2.00	3.51	
Ethylbenzene*	<0.050	0.050	06/15/2016	ND	1.80	90.2	2.00	3.02	
Total Xylenes*	<0.150	0.150	06/15/2016	ND	5.71	95.2	6.00	3.06	
Total BTEX	<0.300	0.300	06/15/2016	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**736**	16.0	06/15/2016	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	06/14/2016	ND	211	106	200	2.90	
DRO >C10-C28	**255**	50.0	06/14/2016	ND	208	104	200	0.505	

Surrogate: 1-Chlorooctane *76.4 %* *35-147*

Surrogate: 1-Chlorooctadecane *89.0 %* *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

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

Chain of Custody Form

LAB Cardinal

Company Name	Environmental Plus, Inc.
EPI Project Manager	Daniel Dominguez
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Legacy LP
Facility Name	Sunburst Spence
Location	UL-L Sec. 13, T9S, R32E
Project Reference	
EPI Sampler Name	Dustin Crockett

Bill To

Attn: Daniel Dominguez
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
H601304-01	1 SP1 (8')	G	1			X					X		01-Jun-16	11:48	X	X	X								
	2																								
	3																								
	4																								
	5																								
	6																								
	7																								
	8																								
	9																								
	10																								

Sampler Relinquished: Dustin Crockett — Date 6/7/16 — Time 6:00 am — Received By:

Relinquished by: — Date 6/7/16 — Time 3:41 pm — Received By: (lab staff)

Delivered by: -7.8°C — Sample Cool & Intact: Yes / No — Checked By:

E-mail results to: ddominguezepi@gmail.com & jsoriano@legacylp.com

NOTES:

#75

CARDINAL Laboratories

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

January 12, 2017

Daniel Dominguez

Environmental Plus, Inc.

P.O. Box 1558

Eunice, NM 88231

RE: SUNBURST SPENCE

Enclosed are the results of analyses for samples received by the laboratory on 01/05/17 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received:	01/05/2017	Sampling Date:	12/27/2016
Reported:	01/12/2017	Sampling Type:	Soil
Project Name:	SUNBURST SPENCE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-L SEC. 13, T9S, R32E		

Sample ID: SP 2 (20') (H700046-01)

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	01/09/2017	ND	1.96	97.8	2.00	0.256	
Toluene*	<0.050	0.050	01/09/2017	ND	1.92	96.2	2.00	0.0186	
Ethylbenzene*	<0.050	0.050	01/09/2017	ND	1.96	98.0	2.00	0.0618	
Total Xylenes*	<0.150	0.150	01/09/2017	ND	5.54	92.3	6.00	0.00642	
Total BTEX	<0.300	0.300	01/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	01/09/2017	ND	416	104	400	0.00	

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	01/07/2017	ND	218	109	200	2.08	
DRO >C10-C28	**21.1**	10.0	01/07/2017	ND	231	115	200	0.483	

Surrogate: 1-Chlorooctane *98.8 %* *35-147*

Surrogate: 1-Chlorooctadecane *104 %* *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

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

Chain of Custody Form

LAB Cardinal

Company Name	Environmental Plus, Inc.
EPI Project Manager	Daniel Dominguez
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Legacy LP
Facility Name	Sunburst Spence
Location	UL-L Sec. 13, T9S, R32E
Project Reference	
EPI Sampler Name	Dustin Crockett

Bill To

Attn: Daniel Dominguez
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
H7000416																									
1	SP2 (20')	G	1			X					X		27-Dec-16	10:00	X	X	X								
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Sampler Relinquished: Dustin Crockett — Date 1/5/17 — Time 6:00 am — Received By:

Relinquished by: Dan Dominguez — Date 1/5/17 — Time 3:24 pm — Received By: (lab staff) Jodi Henson

Delivered by: #75 -5.0°C — Sample Cool & Intact: Yes (X) / No — Checked By:

E-mail results to: ddominguezepi@gmail.com & jsoriano@legacylp.com

NOTES:

ATTACHMENT IV
Copy of Initial NMOCD Form C-141
Final NMOCD Form C-141

RECEIVED
By JKeyes at 8:50 am, Apr 25, 2016

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: Legacy, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Sunburst Spence Federal #2	Facility Type: Battery

Surface Owner: State	Mineral Owner:	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	13	9S	32E					Lea

Latitude: N 33.531227° **Longitude:** W 103.631251°

NATURE OF RELEASE

Type of Release: oil	Volume of Release: ~15 bbls	Volume Recovered: ~10 bbls
Source of Release: oil tank developed hole	Date and Hour of Occurrence: 3-2-16 @ 7:00 am	Date and Hour of Discovery: 3-2-16 @ 7:00 am
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: Not Applicable	

If a Watercourse was Impacted, Describe Fully.* Not Applicable

Describe Cause of Problem and Remedial Action Taken. *
Release occurred when an oil tank developed a hole. A vacuum truck were called in to draw up standing fluid.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 900 sq. ft. of caliche tank battery pad. The entire release of oil was contained within the berms. A vacuum truck collected approximately 10 bbls of oil from within containment. The stained soil will be scraped up and hauled to a state approved disposal facility.

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: Manuel Soriano	OIL CONSERVATION DIVISION
Printed Name: Manuel Soriano	Approved by Environmental Specialist: Jami Keyes
Title: Production Foreman	Approval Date: 04/25/2016 Expiration Date: 06/25/2016
E-mail Address: jsoriano@legacylp.com	Conditions of Approval: Discrete site samples only. Delineate and remediate per NMOCD guidelines. Ensure BLM concurrence/approval. Attached ☐
Date: 4-22-16 Phone: 432-269-8806	1RP 4259

* Attach Additional Sheets If Necessary

nJXK1611631525
pJXK1611631629

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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State of New Mexico
Energy Minerals and Natural Resources

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1220 South St. Francis Dr.
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Form C-141
Revised August 8, 2011

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Facility Name: Sunburst Spence Federal #2	Facility Type: Battery

Surface Owner: State	Mineral Owner:	API No.

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Source of Release: oil tank developed hole	Date and Hour of Occurrence: 3-2-16 @ 7:00 am	Date and Hour of Discovery: 3-2-16 @ 7:00 am
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: Not Applicable	

If a Watercourse was Impacted, Describe Fully.* Not Applicable

Describe Cause of Problem and Remedial Action Taken. *
Release occurred when an oil tank developed a hole. A vacuum truck were called in to draw up standing fluid.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted approximately 900 sq. ft. of caliche tank battery pad. The entire release of oil was contained within the berms. A vacuum truck collected approximately 10 bbls of oil from within containment. The release area was excavated and contaminated soil hauled to a state approved disposal facility. Samples were collected from the excavated area, tested, and with NMOCD approval the excavation was backfilled with clean caliche.

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: Manuel Soriano	OIL CONSERVATION DIVISION	
Printed Name: Manuel Soriano	Approved by Environmental Specialist:	
Title: Production Foreman	Approval Date:	Expiration Date:
E-mail Address: jsoriano@legacylp.com	Conditions of Approval:	Attached ☐
Date: 6/26/2017 Phone: 432-269-8806		

* Attach Additional Sheets If Necessary

Appendix C
Photographs

Site Location, September 15, 2017

Site Prior to Remediation Viewing West, September 15, 2017

Site Prior to Remediation Viewing North, September 15, 2017

Site Prior to Remediation Viewing East, September 15, 2017

Site Prior to Remediation Viewing North, September 15, 2017

Site Prior to Remediation Viewing South, September 15, 2017

Tank Battery After EPI Remediaiton Viewing West

Tank Battery After EPI Remediaiton Viewing West