

APPROVED

By CHernandez at 11:18 am, Nov 05, 2018

**1RP-5201
DELINEATION PLAN
Lea Unit #8D
Crude Oil Spill
Lea County, New Mexico**

Latitude: N 32.59254°
Longitude: W 103.51155°

LAI Project No. 18-0138-03

October 5, 2018

Prepared for:
Legacy Reserves Operating, LP
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Midland, Texas 79701

Prepared by:
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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 (OCD) District I for a crude oil spill at the Lea Unit #8D Battery (Site) located in Unit B, Section 12, Township 20 South, Range 34 East in Lea County, New Mexico. The geodetic position is North 32.59254° and West 103.51155°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The spill occurred on September 20, 2018, due to a malfunction on an injection well, causing the tank to overflow. Approximately 80 barrels (bbls) of crude oil were released and 20 bbls of crude oil were recovered. The spill occurred on the well pad and flowed to the pasture area southeast of the pad. The spill area measures approximately 20,284 ft². The spill is considered a major release due to the volume of released fluids greater than 25 bbls. LAI, on behalf of Legacy, called the spill into the OCD District 1 the same day (Olivia Yu was called on September 20, 2018 at approximately 13:45 CST). The initial C-141 was submitted to OCD District 1 on September 21, 2018 and assigned remediation permit number 1RP-5201. Appendix A presents the initial C-141.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,685 feet above mean sea level (msl);
- The topography slopes gently towards the southeast;
- There are no surface water features within 1,000 feet of the Site;
- The soils are designated as “Kermit soils and dune land, 0 to 12 percent slopes”, consisting of 0 to 60 inches of fine sand.
- The surface geology is the Ogallala Formation (lower Pliocene to middle Miocene)- Alluvial and eolian deposits, and petrocalcic soils of the southern High Plains;
- Groundwater occurs in the Ogallala formation at approximately 64.0 feet below ground surface (bgs) based on New Mexico State Engineer records;
- The nearest fresh water well is located in Unit P (SE/4, SE/4), Section 12, Township 20 South, Range 34 East, approximately 0.6 miles or about 3,200 feet southeast of the Site.

2.0 DELINEATION PLAN

LAI proposes to collect soil samples at eight (8) locations within the spill area. Additional soil samples will be collected at four (4) locations in each cardinal direction (north, south, east and west) of the spill for horizontal delineation. The samples will be collected at 1 foot intervals to approximately 4 feet bgs and 2 foot intervals to approximately 12 feet bgs using direct push technology (DPT) depending on subsurface conditions. The soil samples will be delivered under chain of custody and preservation to Xenco Laboratories (Xenco) in Midland, Texas, and analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) by EPA SW-846 Methods 8021B and 8015M, respectively. All samples will be analyzed for chloride by Method 300. Pending laboratory results, further delineation will be determined to reach cleanup level standards. Appendix B presents photographs.

3.0 REMEDIATION

Legacy will include a remediation plan in the delineation report to be submitted to the OCD within 15 days upon receipt of the final laboratory report.

Figures

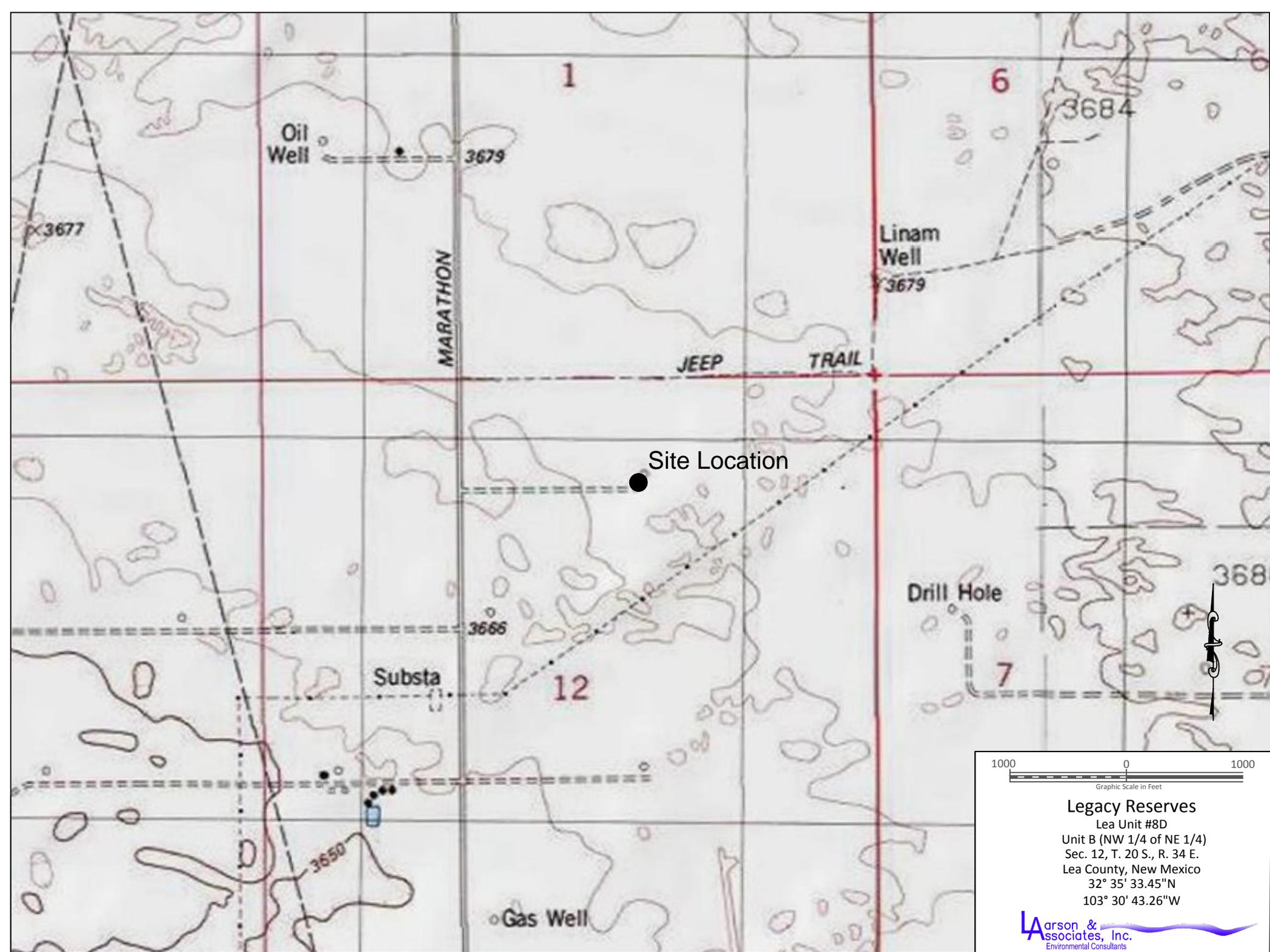


Figure 1 - Topographic Map

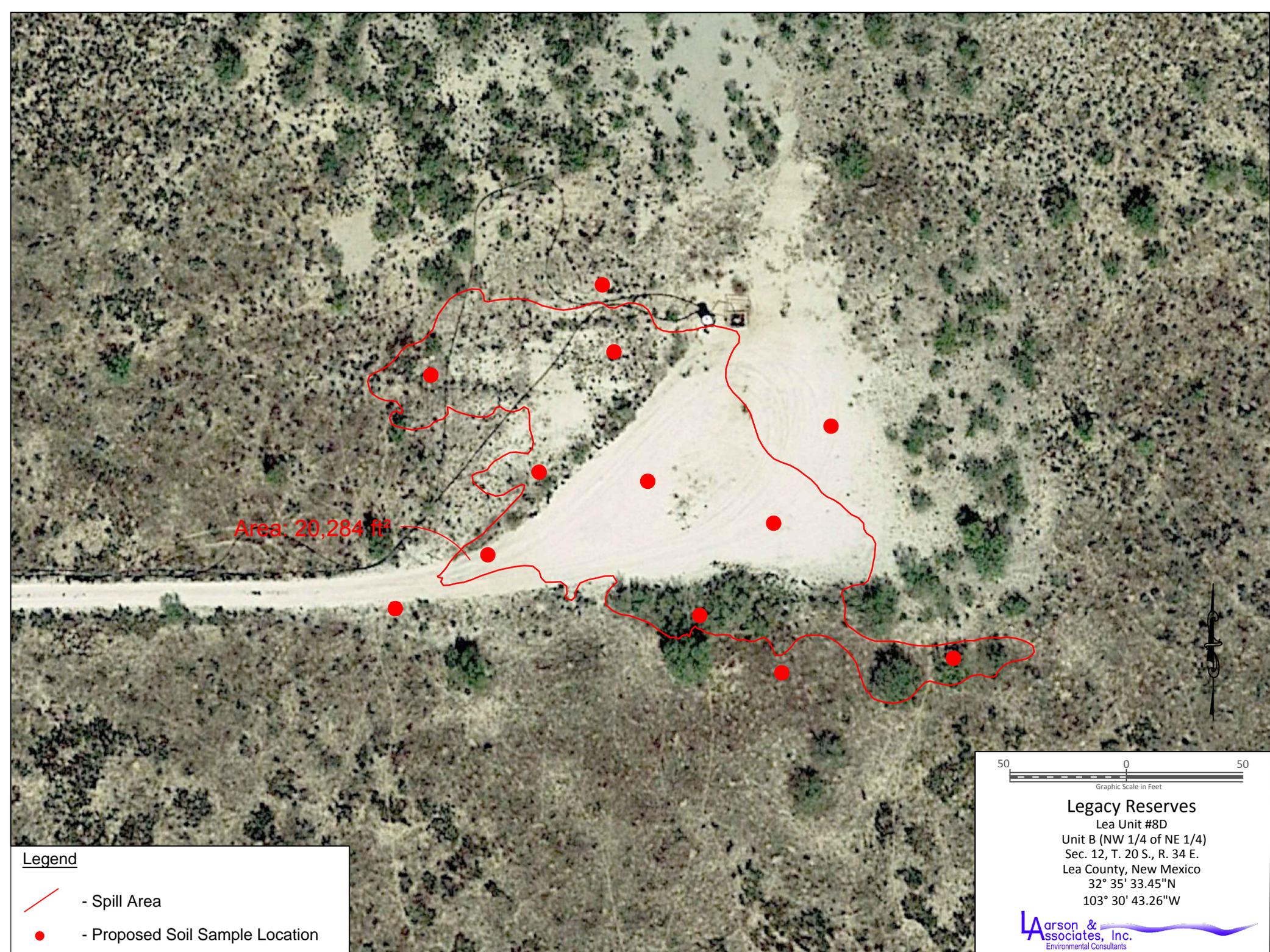


Figure 2 - Aerial Map

Appendix A

Initial C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1600 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

HOBBS OCD
SEP 21 2018
RECEIVED

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NOY1826757876
District RP	1RP-5201
Facility ID	
Application ID	NOY1826756384

Release Notification

Responsible Party

Responsible Party Legacy Reserves Operating, LP	OGRID 240974
Contact Name Brian Cunningham	Contact Telephone 432-234-9450
Contact email bcunningham@legacyp.com	Incident # (assigned by OCD)
Contact mailing address 303 W. Wall St. Midland, TX 79701	

Location of Release Source

Latitude 32.59254 N Longitude 103.51155 W
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Lea Unit #8D	Site Type Tank Battery
Date Release Discovered 9/20/2018	API# (if applicable) 3002502431

Unit Letter	Section	Township	Range	County
B	12	20S	34E	Lea

Federal minerals

Surface Owner: State Federal Tribal Private (Name: Kenneth Smith)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 80 bbls	Volume Recovered (bbls) N/A
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

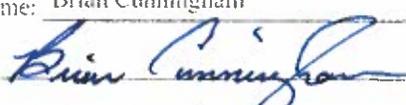
The tank battery overflowed due to a malfunction on the injection well.

Incident ID	NOY1826757876
District RP	1RP-5201
Facility ID	
Application ID	POY1826756384

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release was greater than 25 bbls of liquid.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Larson and Associates personnel called Olivia Yu from OCD on 9/20/2018 and left a voice mail.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (sec 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.
Printed Name: <u>Brian Cunningham</u> Title: <u>Production Foreman</u> Signature: <u></u> Date: <u>9/20/2018</u> email: <u>bcunningham@legacylp.com</u> Telephone: <u>432-234-9450</u>
OCD Only Received by: RECEIVED By Olivia Yu at 4:06 pm, Sep 24, 2018 Date: _____

Appendix B
Photographs



Lea Unit #8D SWD Viewing Northwest, September 26, 2018



Spill Area Viewing Northeast, September 26, 2018



Spill Area Viewing Southeast, September 26, 2018



Spill Area Viewing East, September 26, 2018