

APPROVED

By Olivia Yu at 12:07 pm, Apr 02, 2018

NMOCD approves of the proposed delineation for 1RP-3678 with one modification: permissible level for delineation and remediation is 600 mg/kg chlorides.

**1RP-3678
DELINEATION PLAN
Will 693 LTD Battery
Crude Oil Spill
Roosevelt County, New Mexico**

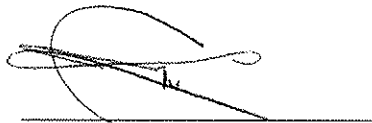
Latitude: N33°34' 19.51"
Longitude: W-103° 20' 31.64"

LAI Project No. 17-0175-14

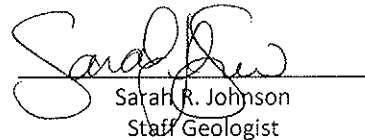
February 19, 2018

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

Prepared by:
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Table of Contents

1.0 INTRODUCTION.....	1
1.1 Background.....	1
1.2 Physical Setting.....	1
1.3 Remediation Action Levels.....	1
2.0 DELINEATION PLAN.....	2
3.0 REMEDIATION PLAN.....	2

Figures

Figure 1	Topographic Map
Figure 2	Aerial Map Showing Proposed Sample Points

Appendices

Appendix A	Initial C-141
Appendix B	Photographs

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 from a fire at the Will 693 LTD Battery (Site) located in Unit P (SE/4, SE/4), Section 34, Township 8 South, Range 35 East in Roosevelt County, New Mexico. The geodetic position is North 33° 34' 19.51" and West -103° 20' 31.64". Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The spill occurred on May 29, 2015, due to lightening striking and engulfing an oil tank, releasing 72 barrels (bbl) of crude oil. No liquids were recovered. The majority of the released fluids were burned, leaving a residue on location. An unknown release of crude oil from the separator caused a spill to occur inside and outside the secondary containment east of the tanks. The containment measures approximately 25 x 50 feet. The spill area outside the containment measures approximately 20 x 25 feet. The initial C-141 for the battery fire was submitted on June 9, 2015 and assigned remediation permit number 1RP-3678, presented in Appendix A. No C-141 was submitted for the separator spill.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 4,180 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 "Jalmar, Amarose, and Vestwells soils, 1 to 3 percent slopes", consisting of 0 to 30 inches of fine sand underlain by 30 to 55 inches of fine sandy loam;
- The surface geology is Older alluvial deposits of upland plains and piedmont areas, and calcic soils and eolian cover sediments of High Plains region (middle to lower Pleistocene);
- Groundwater occurs in the Ogallala formation at approximately 176.0 feet below ground surface (bgs) (1990);
- The nearest freshwater well is located in Unit B (NW/4, NE/4), Section 1, Township 9 South, Range 35 East, about 1.70 miles southeast of the Site.

1.3 Remediation Action Levels

Remediation action levels (RRAL) were calculated for benzene, BTEX and TPH based on the following criteria established by the OCD in "Guidelines for Remediation of Leaks, Spills and Releases, pp. 6-7, August 13, 1993":

Criteria	Result	Score
Depth-to-Groundwater	>100 Feet	0
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1,000 Horizontal Feet	0

The following RRAL apply to the release for ranking scale: 0

- Benzene 10 mg/Kg

- BTEX 50 mg/Kg
- TPH 5,000 mg/Kg

Depth to groundwater greater than 100 feet bgs requires vertical delineation for chloride to 3,000 milligrams per kilogram (mg/Kg) and maintained 5 feet farther in depth.

2.0 DELINEATION PLAN

LAI proposes to collect soil samples at three (3) locations within the tank battery contaminated area and two (2) locations outside the containment. Soil samples will be collected at two (2) locations inside the separator firewall and one (1) location outside the containment. 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. Additional samples will be collected in each cardinal direction (north, south, east and west) of the spill areas at the same depth intervals for horizontal delineation. The soil samples will be delivered under chain of custody and preservation to Xenco Laboratories (Xenco) in Midland, Texas, and analyzed for BTEX, total petroleum hydrocarbons (TPH), including gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO) by EPA Methods 8021B and 8015M, respectively, until the RRAL is achieved. 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 upon receipt of the laboratory report.

Figures

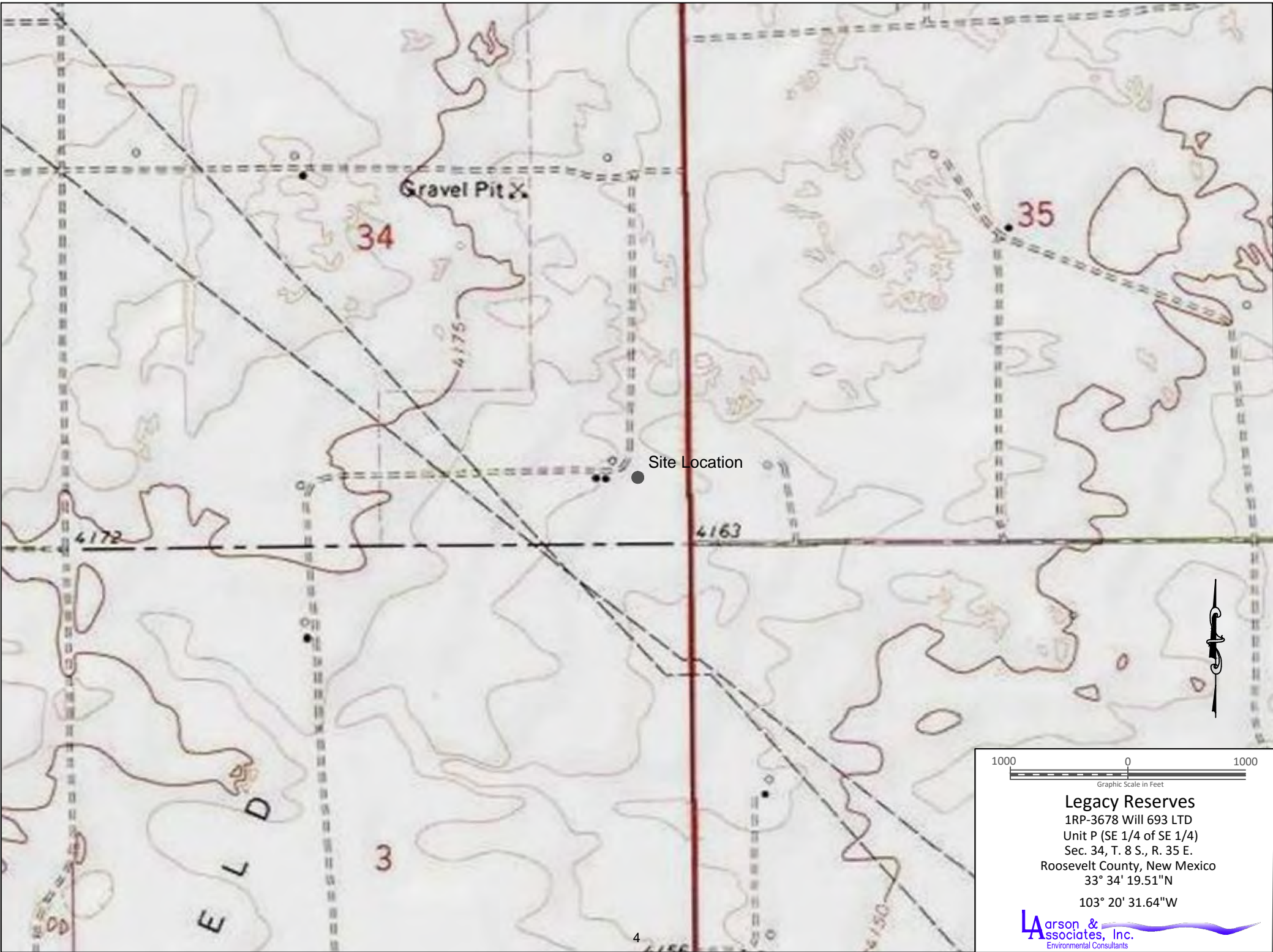


Figure 1 - Topographic Map

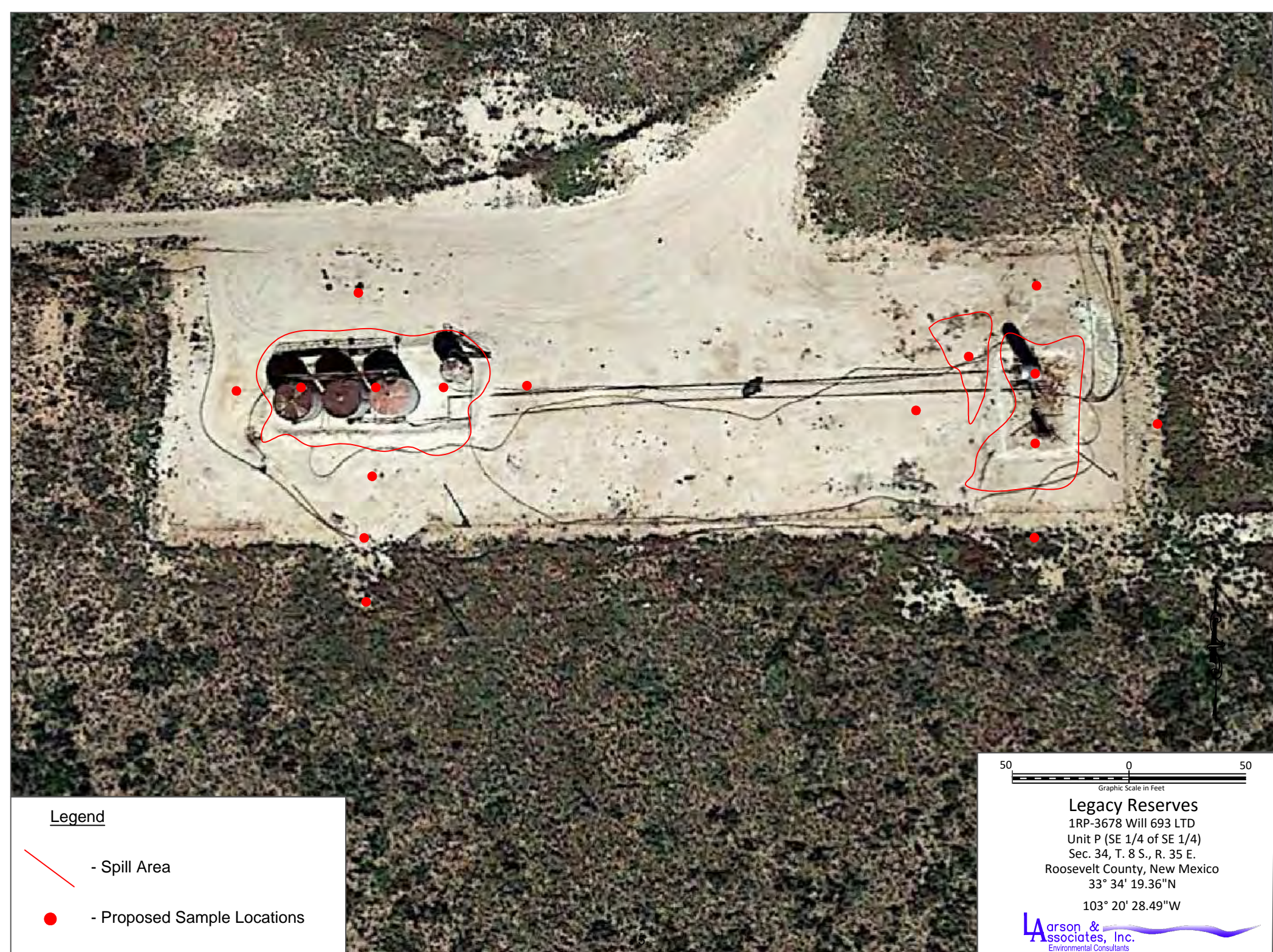


Figure 3 - Aerial Map

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
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 Reserves	Contact	Jesse Garcia
Address	P O Box 10848	Telephone No.	432-853-3535
Facility Name	Will 693 LTD	Facility Type	Oil

Surface Owner	Mineral Owner	API No.	3004120848
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	34	8S	35E					Roosevelt

Latitude 33.575420 Longitude -103.345459

NATURE OF RELEASE

Type of Release	Oil	Volume of Release	72 bbls	Volume Recovered	0
Source of Release	Battery	Date and Hour of Occurrence	9:00 P M, May 29 2015	Date and Hour of Discovery	9:00 PM
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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.*

RECEIVED

By OCD District 1 at 7:59 am, Jun 19, 2015

Describe Cause of Problem and Remedial Action Taken.*

Lighting hit oil tank, engulfed in fire, burned 72 bbls of oil, some was spilled on location but it caught on fire. Left some residue on location. Put fire out.

Describe Area Affected and Cleanup Action Taken.*

Will clean up location, and replace any soil compromised to the proper waste disposal site and replaced with clean soil

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:

Printed Name: Jesse Garcia

Title: Foreman

E-mail Address: jgarcia@legacyp.com

Date: 6/9/15

Phone: 432-853-3535

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 06/19/2015

Expiration Date: 09/19/2015

Conditions of Approval:

Site samples required. Delineate and remediate as per MNOCD guides. Geotag photographs of remediation required.

Attached ☐

240974

1RP-3678

* Attach Additional Sheets If Necessary

nKJ1517028912

pKJ1517029350

Appendix B Photographs



Site Location



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



Site Prior to Remediation Viewing West, September 15, 2017



Outside of Firewall Prior to Remediation Viewing West, September 15, 2017