

**APPROVED**

**By Olivia Yu at 3:16 pm, Apr 09, 2018**

NMOCD approves of the proposed additional delineation for 1RP-4575, 1RP-4641, and 1RP-4764 with one modification: delineation must include the tank battery area identified in the July 2017 report.

**1RP-4575, 1RP-4641, 1RP-4764  
DELINEATION PLAN  
Rainer State #1  
Produced Water and Crude Oil Spills  
Lea County, New Mexico**

Latitude: N33° 25' 18.74"  
Longitude: W-103° 09' 22.8"

LAI Project No. 17-0175-41

February 22, 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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**Table of Contents**

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

**Figures**

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

**Appendices**

Appendix A	Initial C-141
Appendix B	EPI Work Plan
Appendix C	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 three (3) spills, including two (2) produced water spills and a crude oil spill, at the Rainer State #1 (Site) located in Unit B (NW/4, NE/4), Section 28, Township 10 South, Range 37 East in Lea County, New Mexico. The geodetic position is North 33° 25' 18.74" and West -103° 09' 22.88". Figure 1 presents a topographic map. Figure 2 presents an aerial map.

### **1.1 Background**

The first spill occurred on January 20, 2017, due to equipment failure in the heater, releasing approximately 287 barrels (bbl) of crude oil and produced water. Approximately 260 bbl were recovered. The first spill occurred on the caliche pad and flowed into the pasture to the north. The first spill measures approximately 13,700 square feet. The spill was reported on January 20, 2017 (verbal communication with Mark Whitaker). The initial C-141 was submitted on January 24, 2017 and assigned remediation permit number 1RP-4575. Appendix A presents the initial C-141 for 1RP-4575.

The second spill occurred on February 23, 2017, due to equipment failure in the heater causing the tanks to overflow and release approximately 100 bbl of produced water. Approximately 90 bbl were recovered. The release was contained within the firewall. The initial C-141 was submitted on March 10, 2017 and assigned remediation permit number 1RP-4641. Appendix A presents the initial C-141 for 1RP-4641.

The third spill occurred on July 4, 2017 due to equipment failure in the heater treater releasing approximately 160 bbl of crude oil and produced water. Approximately 140 bbl were recovered. The spill occurred inside the firewall and pooled in the pasture to the north. The initial C-141 was submitted on July 20, 2017 and assigned remediation permit number 1RP-4764. Appendix A presents the initial C-141 for 1RP-4764.

### **1.2 Physical Setting**

The physical setting is as follows:

- The surface elevation is approximately 3,950 feet above mean sea level (msl);
- The surface topography slopes gently towards the southeast;
- There are no surface water features within 1,000 feet of the site;
- The soils are designated as "Portales and Gomez fine sandy loams, 0 to 3 percent slope", consisting of 0 to 8 inches of fine sandy loam underlain by 8 to 60 inches of clay loam;
- The surface geology is the Ogallala Formation (lower Pliocene to middle Miocene)- Alluvial and eolian deposits, and petrocalcic soils of the southern High Plains region;
- Groundwater occurs in the Ogallala formation at approximately 112 feet below ground surface (bgs) (1981);
- According to the State of New Mexico Office of the State Engineer (OSE) and U.S. Geological Survey (USGS) the nearest freshwater well is located in Unit J (NW/4, SE/4), Section 21, Township 10 South, Range 37 East, approximately 0.60 miles north of the Site.

### 1.3 Recommended Remediation Action Levels

Recommended 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 ranking score: 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 600 milligrams per kilogram (mg/Kg) and maintained to a minimum 5 feet farther in depth.

## 2.0 PRELIMINARY DELINEATION

On February 3 through 10 of 2017, Environmental Plus, Inc. (EPI) collected soil samples at eight (8) locations (SP1 through SP8) in the pasture north of the tank battery. Ground surface samples were collected at each location and at 12 feet bgs at SP4, SP5, SP6 and SP7, 16 feet bgs at SP2 and SP8, 19 feet bgs at SP3 and 20 feet bgs at SP1. The samples were delivered to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico and analyzed for BTEX, gasoline range organics (GRO), diesel range organics (DRO) and chloride by EPA SW-846 Methods 8021B, 8015M and titration method SM4500 CL-B. BTEX reported below the RRAL limit (50 mg/Kg) for all samples. GRO and DRO were reported above the RRAL for TPH (5,000 mg/Kg) at SP1, surface (24,774 m/Kg) and SP6, surface (22,190 m/Kg).

On February 13, 2017, EPI collected soil samples at four (4) locations (north, south, east and west) of the spill area. The samples were collected at ground surface and 4 feet bgs and delivered to Cardinal which analyzed the samples for BTEX, TPH (GRO and DRO) and chloride by EPA SW-846 Methods 8021B, 8015M and titration method SM4500 CL-B. All samples reported below the RRAL for BTEX, TPH (GRO and DRO) and below the delineation limit for chloride.

On April 3 - 5, 2017, EPI collected soil samples at three (3) locations (SP-1 through SP-3) inside the firewall and three locations (SP-4 through SP-6), south, east and west of the firewall. The samples were collected at ground surface, and 4 feet bgs (SP-4, SP5 and SP-6), 10 feet bgs (SP-1), 26 feet bgs (SP-2) and 30 feet bgs (SP-3). The samples were 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. All samples reported below the RRAL for BTEX and TPH. Chloride concentrations were reported above the delineation limit (600 mg/Kg) at SP-2, surface, (27,600 mg/Kg) and at SP-3, surface, (20,000 mg/Kg). Appendix B presents the EPI data.

### **3.0 DELINEATION PLAN**

LAI proposes to delineate 1RP-4575, 1RP-4641 and 1RP-4767 simultaneously. LAI proposes to collect soil samples at four (4) locations in the spill area in the pasture north of the battery and three (3) locations inside 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) or a stainless steel hand auger depending on access for DPT and subsurface conditions. Additional samples will be collected in each cardinal direction (north, south, east and west) of the north and south ends of the battery 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, BTEX, TPH, including gasoline range 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 determined to reach cleanup level standards. Figure 2 presents a site map showing proposed soil sample locations. Appendix C presents photographs.

### **4.0 REMEDIATION PLAN**

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

## Figures

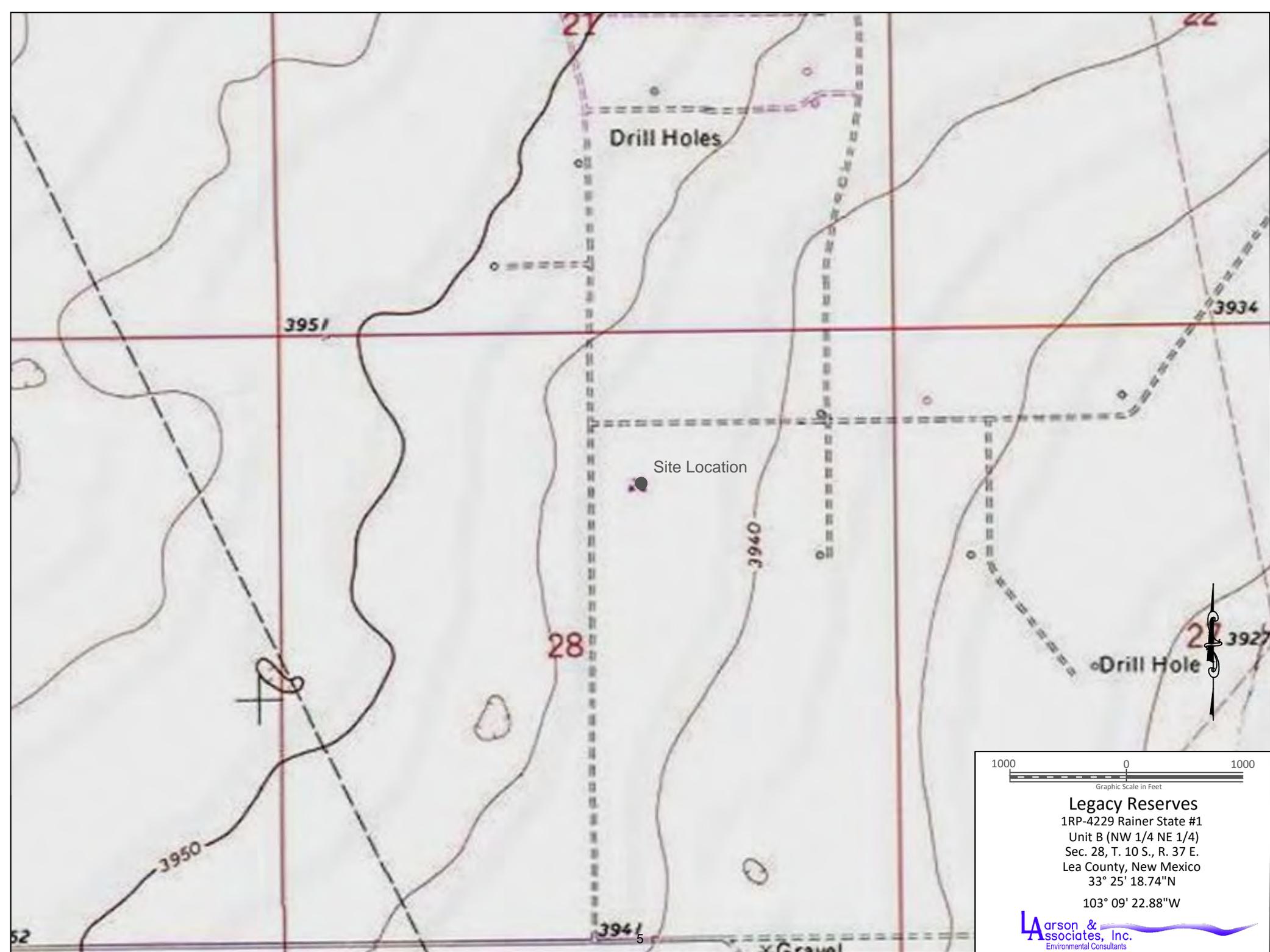


Figure 1 - Topographic Map

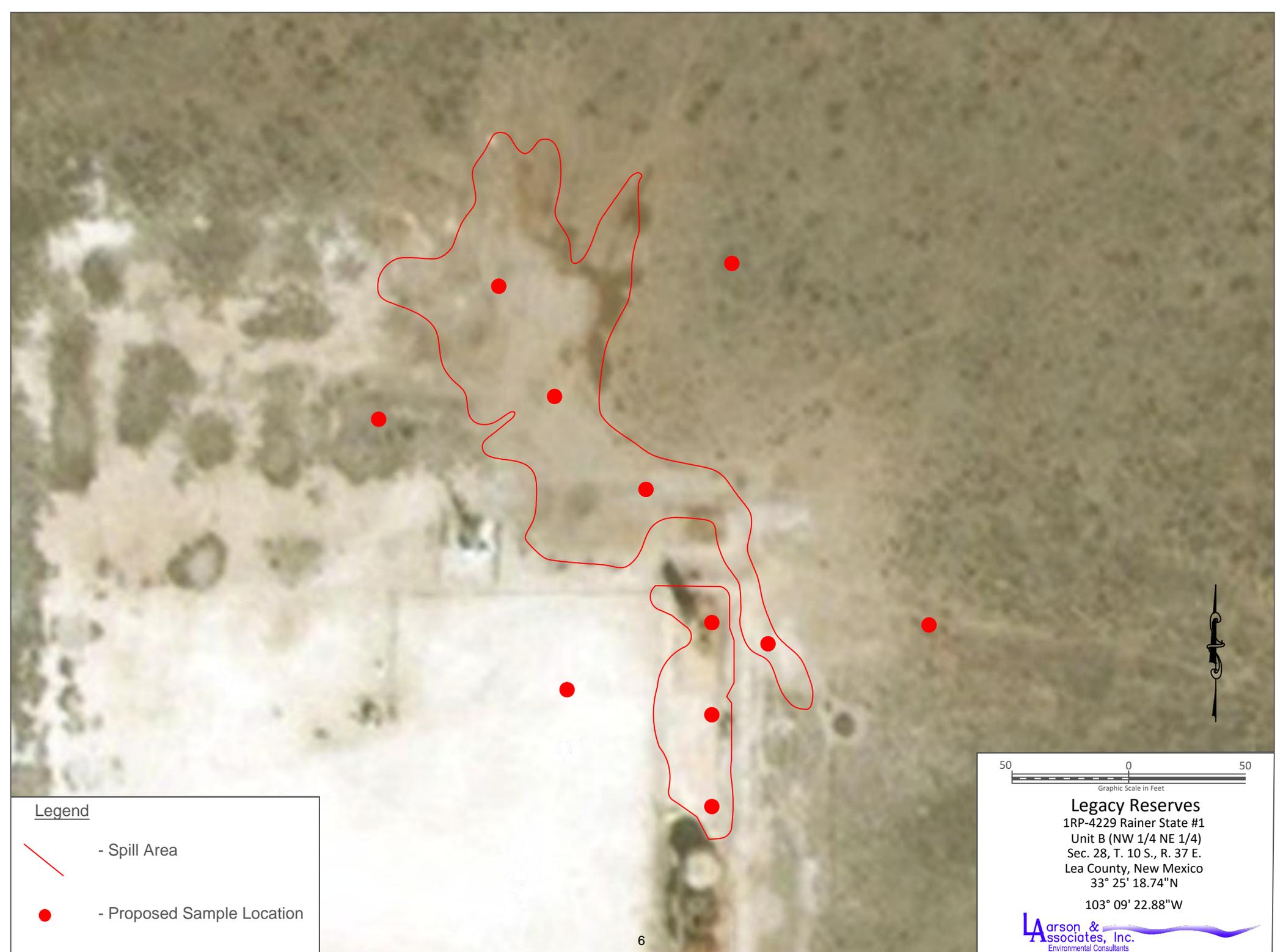


Figure 2 - Aerial Map and Proposed Soil Sample Location

**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, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Rainer State #1	Facility Type: Battery
Surface Owner: State	Mineral Owner: <span style="float: right;">API No. 30-025-34125</span>

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	28	10S	37E					Lea

Latitude: N 33.421819° Longitude: W 103.156819°

**NATURE OF RELEASE**

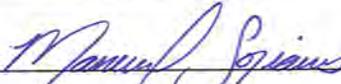
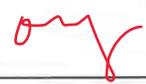
Type of Release: oil and water	Volume of Release: ~287 bbls	Volume Recovered: 260 bbls
Source of Release: heater failed	Date and Hour of Occurrence: 1-20-17 @ pm	Date and Hour of Discovery: 1-20-17 @ pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mark Whitaker	
By Whom? EPI	Date and Hour: 1-20-17	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse: Not Applicable	
If a Watercourse was Impacted, Describe Fully.* Not Applicable		

**RECEIVED**  
By Olivia Yu at 7:41 am, Feb 06, 2017

Describe Cause of Problem and Remedial Action Taken.\*  
Release occurred when a heater failed. Approximately 287 bbls of oil and water were released and approximately 260 bbls were recovered.

Describe Area Affected and Cleanup Action Taken.\*  
The spill impacted approximately 13,700 sq. ft. of caliche tank battery pad and pasture. The stained soil will be removed and hauled to a state approved disposal facility. Samples will be collected.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Manuel Soriano	Approved by Environmental Specialist: 	
Title: Production Foreman	Approval Date:	Expiration Date:
E-mail Address: jsoriano@legacylp.com	Conditions of Approval: <span style="border: 1px solid red; padding: 2px;">see attached directive</span>	Attached <input checked="" type="checkbox"/>
Date: <u>1-24-2017</u> Phone: 432-269-8806		

\* Attach Additional Sheets If Necessary

1RP-4575

nOY1703727487

pOY1703727861

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 01/20/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1R-4575 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 03/06/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

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: Legacy, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Rainer State #1	Facility Type: Battery
Surface Owner: State	Mineral Owner: API No. 30-025-34125

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	28	10S	37E					Lea

Latitude: N 33.421819° Longitude: W 103.156819°

**NATURE OF RELEASE**

Type of Release: produced water	Volume of Release: ~100 bbls	Volume Recovered: ~90 bbls
Source of Release: heater failed	Date and Hour of Occurrence: 2-23-17 @ pm	Date and Hour of Discovery: 2-23-17 @ pm
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: Not Applicable	
If a Watercourse was Impacted, Describe Fully.* Not Applicable		

**RECEIVED**  
By Olivia Yu at 10:57 am, Mar 13, 2017

Describe Cause of Problem and Remedial Action Taken. \*

Release occurred when a heater failed causing the tanks to overflow. Approximately 100 bbls of produced water were released and approximately 90 bbls were recovered.

Describe Area Affected and Cleanup Action Taken.\*

The release was contained within the tank battery berm. The stained soil will be removed and hauled to a state approved disposal facility. Samples will be collected. This release will be remediated in conjunction with a previous release; IRP 4575.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Manuel Soriano	Approved by Environmental Specialist: 	
Title: Production Foreman	Approval Date: <b>3/13/2017</b>	Expiration Date:
E-mail Address: jsoriano@legacyp.com	Conditions of Approval: <b>see attached directive</b>	Attached <input checked="" type="checkbox"/>
Date: <b>3-10-17</b> Phone: 432-269-8806		

\* Attach Additional Sheets If Necessary

**1RP-4641**

**nOY1707239776**

**pOY1707240003**

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 3/13/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1R-4641 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 4/13/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

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- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

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- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

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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: Legacy, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Rainer State #1	Facility Type: Battery

Surface Owner: State	Mineral Owner:	API No. 30-025-34125
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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
B	28	10S	37E					Lea

Latitude: N 33.421819° Longitude: W 103.156819°

**NATURE OF RELEASE**

Type of Release: oil and water	Volume of Release: ~160 bbls	Volume Recovered: ~140 bbls
Source of Release: heater failed	Date and Hour of Occurrence: 7-4-17 @ pm	Date and Hour of Discovery: 7-4-17 @ pm
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: Not Applicable	

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

**RECEIVED**  
By Olivia Yu at 11:02 am, Jul 26, 2017

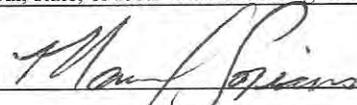
Describe Cause of Problem and Remedial Action Taken.\*

Release occurred when a heater failed. Approximately 160 bbls of oil and water were released and approximately 140 bbls were recovered.

Describe Area Affected and Cleanup Action Taken.\*

The spill impacted the same area that was impacted by a previous release, IRP 4575. The stained soil will be removed and hauled to a state approved disposal facility. This release will be remediated in conjunction with the Work Plan written for IRP 4575 and IRP 4641.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Manuel Soriano	Approved by Environmental Specialist: 	
Title: Production Foreman	Approval Date: <span style="border: 1px solid red; padding: 2px;">7/26/2017</span>	Expiration Date:
E-mail Address: jsoriano@legacyp.com	Conditions of Approval: <span style="border: 1px solid red; padding: 2px;">see attached directive</span>	Attached <input checked="" type="checkbox"/>
Date: <u>7-20-17</u> Phone: 432-269-8806		

\* Attach Additional Sheets If Necessary

1RP-4764

nOY1720741763

pOY1720743524

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 7/20/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-4764 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 8/26/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

**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



## **Site Characterization and Work Plan**

**Legacy, L.P.  
Rainer State #1  
Lea County, New Mexico  
Unit Letter "B", Section 28, Township 10 South, Range 37 East  
Latitude 32.421819 North, Longitude 103.156819 West  
NMOCD Reference # 1RP-4575  
NMOCD Reference # 1RP-4641  
NMOCD Reference # 1RP-4764**

Prepared For:

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

Prepared By:

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

**July 2017**

A handwritten signature in black ink, appearing to read 'Daniel Dominguez', is written over a horizontal line.

Daniel Dominguez  
Project Manager



The following *Site Characterization and Work Plan* serves as a condensed update on field activities undertaken and proposed actions for the afore referenced Site.

**Background:**

The site is located in Unit Letter B (NW ¼ NE ¼), Section 28, Township 10 South, Range 37 East, approximately fourteen miles north-east of Tatum, in Lea County, New Mexico. The property is owned by the State of New Mexico.

The release site is located on an active tank battery pad; latitude 33.421819 North, longitude 103.156819 West. Area Map, Site Location Map, and Sample/Site Map are included as Figure 1, Figure 2, and Figure 3, respectively. The Initial NMOCD Forms C-141 indicate the first release occurred on January 20, 2017 when approximately 287 barrels of produced water and oil were released when a heater failed releasing the fluid to lease pad and pasture. A vacuum truck was dispatched to the site and recovered approximately 260 barrels, resulting in a net loss of 17 barrels. The visually stained area covers approximately 13,700 square feet of pad and pasture. The second release occurred on February 23, 2017 when a heater failed causing the tanks to overflow. Approximately 100 bbls of produced water were released to the caliche lined containment area. A vacuum truck was dispatched to the site and recovered approximately 90 bbls, resulting in a net loss of 10 barrels. The third release occurred on July 4, 2017 when approximately 160 barrels of produced water and oil were released when a heater failed releasing the fluid to lease pad and pasture. A vacuum truck was dispatched to the site and recovered approximately 140 barrels, resulting in a net loss of 20 barrels. The Initial NMOCD Forms C-141 are 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 no wells located in the area surrounding the release site (reference *Table I*). 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 located no wells in the area to determine average depth to water, however, the Chevron Trend Map (2005) indicates average water depth is approximately 115 feet below ground surface (bgs) (reference *Attachment II*).

Utilizing this information, the NMOCD guidelines indicate the Rainer State #1 release site to have a ranking score of zero. Based on this score, the NMOCD Recommended Remedial Action Levels (RRALs) for vertical delineation at this Site were determined as follows: Benzene – 10 mg/Kg, BTEX – 50 mg/Kg, TPH – 5,000 mg/Kg, and Chloride – 600 mg/Kg. The RRALs for horizontal delineation at this Site were determined as follows: Benzene – 10 mg/Kg, BTEX – 50 mg/Kg, TPH – 5,000 mg/Kg, and Chloride – 600 mg/Kg.

The fluid spread out off the caliche to the north approximately 100’ into pasture area consisting of approximately six inches to one foot of topsoil atop hard caliche. The fluid also spread out on the caliche pad to the south approximately 100’. The second release was contained within the bermed containment. The third release impacted the same area as the first release (reference *Figure 3*).

---

**Delineation Progress:**

From February 3-10, 2017 EPI personnel mobilized on site to collect soil samples to determine the vertical extent of contamination. A total of forty-four soil samples were collected from eight sample locations; SP1 – SP8. Sixteen representative samples, two from each sample location, were sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate elevated TPH and/or Chlorides at the surface at SP1 – SP8, however, at sample location TD, the release area is void of Benzene, BTEX, TPH, and Chloride concentrations more than NMOCD RRALs. Field testing indicates elevated Chlorides between surface and eight to twelve feet bgs (reference *Figure 3* and *Table 2*).

On February 13, 2017 EPI personnel collected soil samples to determine the horizontal extent of contamination. A total of eight soil samples were collected from four sample locations; North, East, South, and West. All samples, two from each sample location, were sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate that Benzene, BTEX, TPH, and Chloride concentrations in the area adjacent to the release area, horizontally, are below NMOCD RRALs (reference *Figure 3* and *Table 2*).

On April 3 and 4, 2017 EPI personnel mobilized on site to collect soil samples from the second release area to determine the vertical extent of contamination. A total of nineteen soil samples were collected from three sample locations; SP1 – SP3. Six representative samples, two from each sample location, were sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate elevated Chlorides at the surface at SP2 and SP3, however, at sample location TD, the release area is void of Benzene, BTEX, TPH, and Chloride concentrations more than NMOCD RRALs. Field testing indicates elevated Chlorides between surface and eighteen to twenty-six feet bgs (reference *Figure 3* and *Table 3*).

On April 5, 2017 EPI personnel collected soil samples from the second release area to determine the horizontal extent of contamination. A total of six soil samples were collected from three sample locations; SP4 – SP6. All samples, two from each sample location, were sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate that Benzene, BTEX, TPH, and Chloride concentrations in the area adjacent to the release area, horizontally, are below NMOCD RRALs (reference *Figure 3* and *Table 3*).

Samples were not collected after the third release as it occurred within the same area as the first release and will be remediated in conjunction with the first release.

**Proposed Actions:**

Taking into consideration the releases occurred at an active tank battery, EPI proposes to excavate the first release area to three feet bgs, with all contaminated soil hauled to a state approved disposal facility. At the conclusion of excavation activities, a twenty-mil poly-ethylene liner will be installed over the areas of SP3 and SP5. Bottom and sidewall confirmation samples will also be collected and analyzed. If laboratory analytical results are below NMOCD RRALs the pasture area excavation will be backfilled with three feet of select top soil, while the pad area excavation will be backfilled with caliche, to finish grade. If analytical results are above RRALs the process will be repeated until acceptable levels are achieved.

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The second release area, being within the bermed containment of the tank battery, will be excavated approximately six inches, taking extreme care to not compromise the stability of the tanks or process equipment. All contaminated soil will be hauled to a state approved disposal facility. The excavated area will then be backfilled with caliche, to finish grade. The berms around the tanks will also be removed during excavation activities and replaced with clean caliche.

Top soil, and caliche will be free of deleterious material or rocks or large clumps. Backfilling will continue until the entire excavation is closed. Upon completion of backfill activities, the entire disturbed area will be contoured to blend with existing tank battery pad and pasture area and protected against wind/water erosion. The disturbed pasture area will also be seeded and watered.

It is requested that any further remediation of the second release area within the bermed tank battery be deferred until the location is taken out of service. At that time, a more thorough delineation and remediation of the area will be conducted.

**Revegetation Plan:**

In an attempt to achieve native plant cover and diversity levels equal to or exceeding the natural potential levels in undisturbed soils adjacent to the release area, the disturbed pasture area will be seeded with BLM mixture #2 at a rate of 22 lbs per acre. Seed will be applied to the area utilizing a drill seeder in late spring 2017 when ground conditions are more conducive to vegetative growth. After drill seeding has been completed the area will be thoroughly watered. After a period of three months the area will be examined for vegetative growth and re-seeded if no growth has occurred.

**Noxious Weed Management Plan:**

In an effort to prevent the spread of noxious weeds such as African Rue, Siberian Elm, Jointed Goatgrass, Russian Olive, Camelthorn, Saltcedar, Starthistle varieties, Hoary Cress and Russian Knapweed, the area will be confirmed to be clear of any noxious weeds. If any are located they will be removed by hand and the area treated with an appropriate herbicide. Applied seed mix will contain no primary or secondary noxious weeds and will either be certified or registered seed. After a period of three months the area will be examined for noxious weed growth and re-treated if any growth has occurred.

Following completion of NMOCD and NMSLO approved Proposed Actions, EPI will provide a detailed *Final Closure Report* to Legacy, L.P., NMOCD, and NMSLO personnel. Legacy, L.P. and EPI personnel would welcome an opportunity to briefly discuss the *Work Plan* at your earliest convenience.

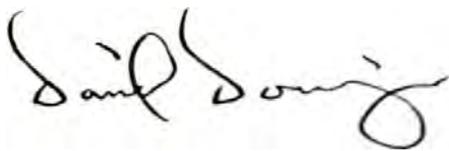
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Should you have any questions or concerns please feel free to contact me at (575) 394-3481 or via e-mail at [ddominguezepi@gmail.com](mailto:ddominguezepi@gmail.com) or Mr. Manuel Soriano at (432) 269-8806 or via e-mail at [jsoriano@legacylp.com](mailto:jsoriano@legacylp.com).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

Mr. Manuel Soriano  
Legacy, L.P.  
P.O. Box 10848  
Midland, 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  
Release Area 1  
Table 3 – Summary of Soil Sample Field Testing and Laboratory Analytical Results  
Release Area 2  
Attachment I – Photographs  
Attachment II – NMOSE Average Depth to Groundwater  
Attachment III – Laboratory Analytical Results  
Attachment IV – Copy of Initial NMOCD Forms C-141

## **FIGURES**

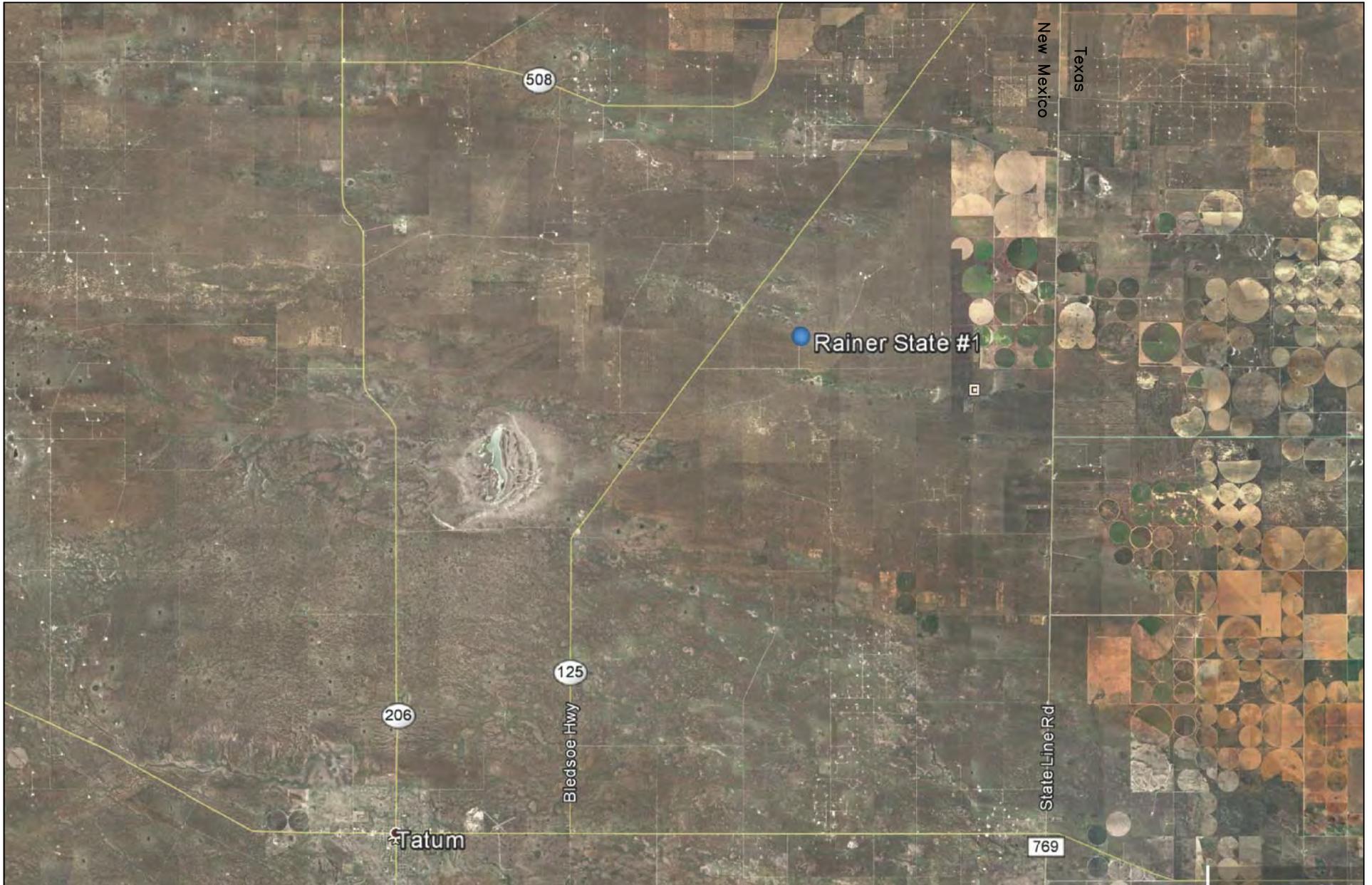
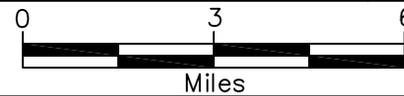


Figure 1  
 Area Map  
 Legacy, L.P.  
 Rainer State #1

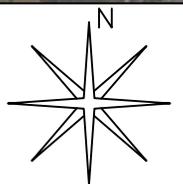
Lea County, New Mexico  
 NW 1/4 of NE 1/4, Sec. 28, T10S, R37E  
 N 32° 25' 18.55" W 103° 09' 24.55"  
 Elevation: 3,951 feet amsl

DWG By: D Dominguez  
 January 2017

REVISED:



SHEET  
 1 of 1



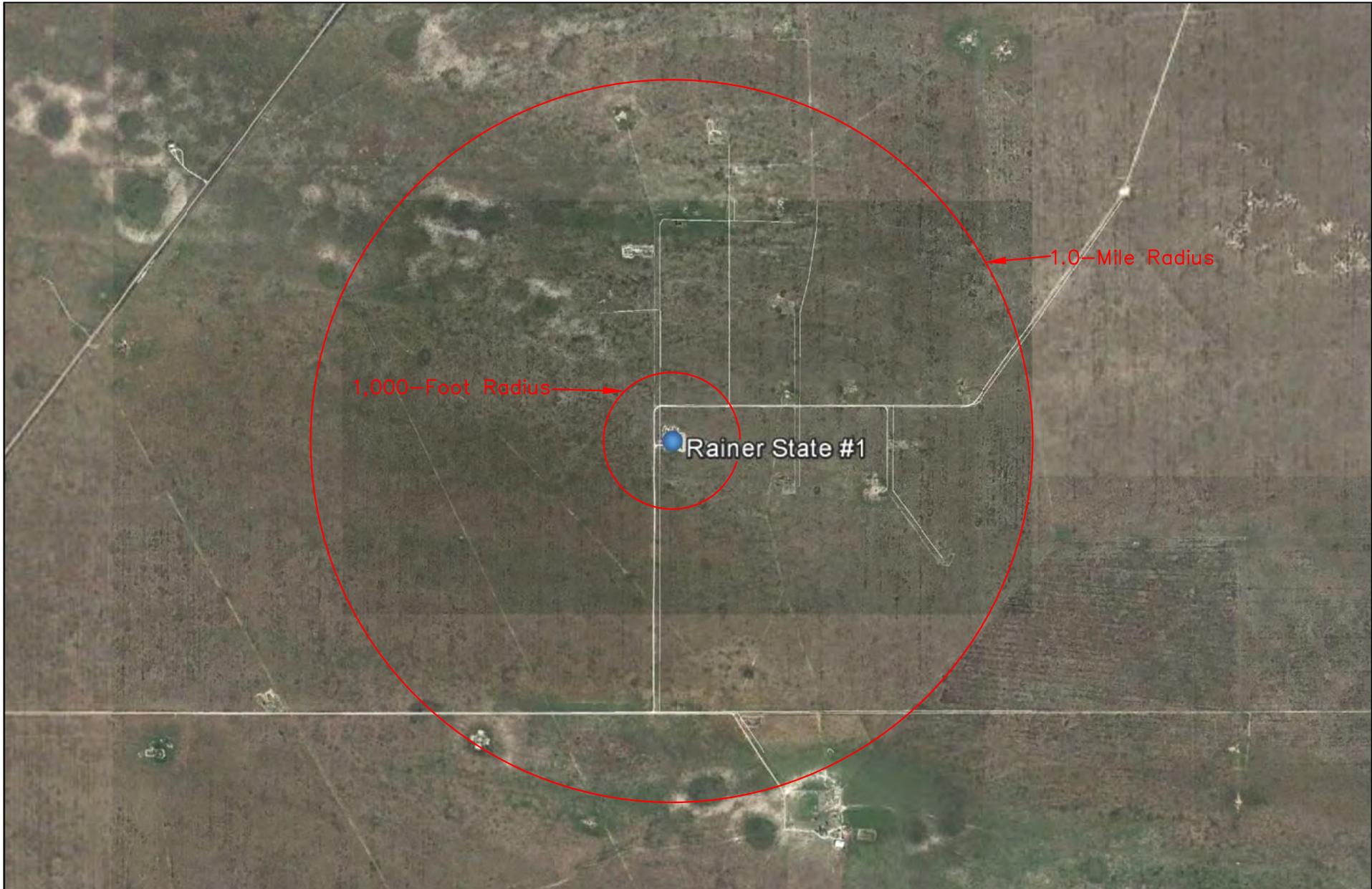
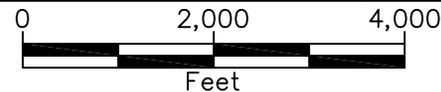


Figure 2  
 Site Location Map  
 Legacy, L.P.  
 Rainer State #1

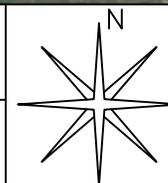
Lea County, New Mexico  
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DWG By: D Dominguez  
 January 2017

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 1 of 1



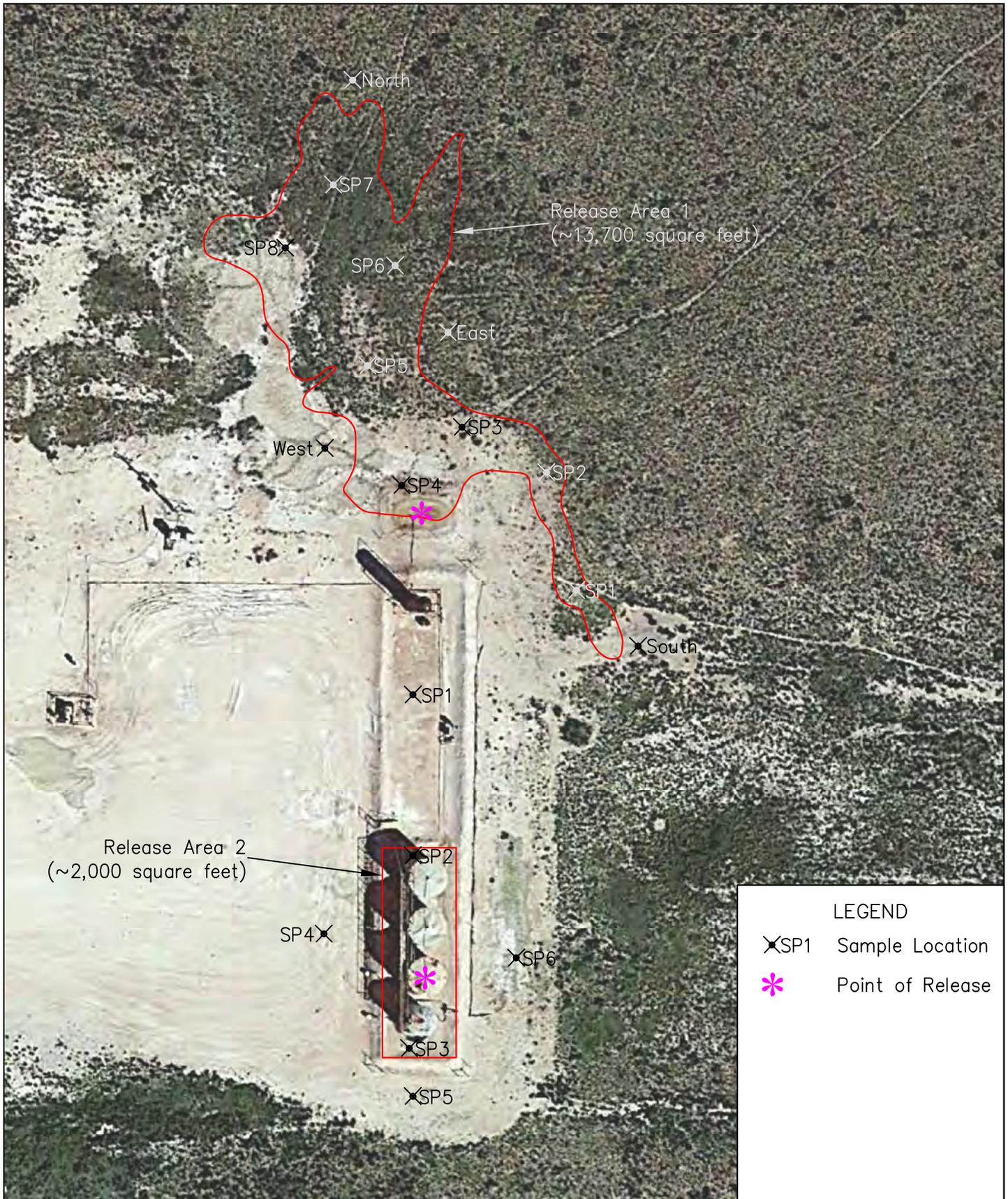
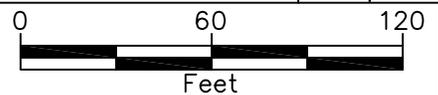
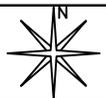


Figure 3  
 Sample/Site Map  
 Legacy, L.P.  
 Rainer State #1

Lea County, New Mexico  
 NW 1/4 of NE 1/4, Sec. 28, T10S, R37E  
 N 32° 25' 18.55" W 103° 09' 24.55"  
 Elevation: 3,951 feet amsl

DWG By: D Dominguez  
 Feb. 2017



## **TABLES**

**TABLE 1**

**Well Data**

**Legacy, L.P. - Rainer State #1**

Ref #	Well Number	Use	Diversion <sup>A</sup>	Owner	q64	q16	q4	Sec	Twsp	Rng	Easting	Northing	Distance <sup>B</sup>	Date Measured	Surface Elevation <sup>C</sup>	Depth to Water
																(ft bgs)
				No POD's Found												

\* = Data obtained from the New Mexico Office of the State Engineer Website ([http://iwaters.ose.state.nm.us:7001/iWATERS/wr\\_RegisServlet1](http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1))

<sup>A</sup> = In acre feet per annum      <sup>B</sup> = In meters      <sup>C</sup> = Elevation interpolated from satellite map based on referenced location.  
 quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are smallest to biggest

-- = Data not provided on the NM iwaters website

**TABLE 2**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Legacy, L.P.**  
**Rainer State #1 - Release 1**

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	In-Situ	03-Feb-17	2.9	1,600	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	97.0	97.0	<b>2,080</b>
	2	In-Situ	03-Feb-17	2.1	560	--	--	--	--	--	--	--	--	--
	4	In-Situ	03-Feb-17	0.0	640	--	--	--	--	--	--	--	--	--
	6	In-Situ	03-Feb-17	0.0	450	--	--	--	--	--	--	--	--	--
	8	In-Situ	03-Feb-17	0.0	400	--	--	--	--	--	--	--	--	--
	10	In-Situ	03-Feb-17	0.0	240	--	--	--	--	--	--	--	--	--
	12	In-Situ	03-Feb-17	0.0	320	--	--	--	--	--	--	--	--	--
	16	In-Situ	03-Feb-17	0.0	240	--	--	--	--	--	--	--	--	--
	20	In-Situ	03-Feb-17	0.0	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	16
SP2	Surface	In-Situ	06-Feb-17	137.0	400	<0.050	<0.050	<0.050	1.76	1.76	374	24,400	<b>24,774</b>	384
	2	In-Situ	06-Feb-17	5.2	400	--	--	--	--	--	--	--	--	--
	4	In-Situ	06-Feb-17	3.1	400	--	--	--	--	--	--	--	--	--
	6	In-Situ	06-Feb-17	3.5	320	--	--	--	--	--	--	--	--	--
	8	In-Situ	06-Feb-17	2.4	400	--	--	--	--	--	--	--	--	--
	10	In-Situ	06-Feb-17	0.0	880	--	--	--	--	--	--	--	--	--
	12	In-Situ	06-Feb-17	0.0	880	--	--	--	--	--	--	--	--	--
	16	In-Situ	06-Feb-17	0.0	240	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	192

**TABLE 2**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Legacy, L.P.**  
**Rainer State #1 - Release 1**

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)
SP3	Surface	In-Situ	07-Feb-17	826.0	4,000	<0.050	0.678	<0.050	5.42	6.09	510	4,460	4,970	<b>6,800</b>
	4	In-Situ	07-Feb-17	194.0	2,130	--	--	--	--	--	--	--	--	--
	8	In-Situ	07-Feb-17	31.6	1,600	--	--	--	--	--	--	--	--	--
	12	In-Situ	07-Feb-17	12.1	160	--	--	--	--	--	--	--	--	--
	16	In-Situ	07-Feb-17	40.4	480	--	--	--	--	--	--	--	--	--
	19	In-Situ	07-Feb-17	1.8	160	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	13.0	13.0	160
SP4	Surface	In-Situ	08-Feb-17	8	4,000	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	31.4	31.4	<b>10,700</b>
	4	In-Situ	08-Feb-17	0.0	400	--	--	--	--	--	--	--	--	--
	8	In-Situ	08-Feb-17	0.0	400	--	--	--	--	--	--	--	--	--
	12	In-Situ	08-Feb-17	0.0	400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	384
SP5	Surface	In-Situ	09-Feb-17	11	4,000	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	4,380	4,380	<b>34,000</b>
	4	In-Situ	09-Feb-17	2.5	1,360	--	--	--	--	--	--	--	--	--
	8	In-Situ	09-Feb-17	2.4	2,400	--	--	--	--	--	--	--	--	--
	12	In-Situ	09-Feb-17	0.9	400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	320
SP6	Surface	In-Situ	09-Feb-17	220	4,000	<0.050	<0.050	<0.050	3.50	3.50	590	21,600	<b>22,190</b>	32
	4	In-Situ	09-Feb-17	11.3	80	--	--	--	--	--	--	--	--	--
	8	In-Situ	09-Feb-17	4.9	80	--	--	--	--	--	--	--	--	--
	12	In-Situ	09-Feb-17	0.0	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	48

**TABLE 2**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Legacy, L.P.**  
**Rainer State #1 - Release 1**

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)
SP7	Surface	In-Situ	10-Feb-17	0	3,760	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	<b>4,930</b>
	4	In-Situ	10-Feb-17	0.7	80	--	--	--	--	--	--	--	--	--
	8	In-Situ	10-Feb-17	0.5	480	--	--	--	--	--	--	--	--	--
	12	In-Situ	10-Feb-17	0.9	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	64
SP8	Surface	In-Situ	10-Feb-17	1	3,680	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	<b>4,260</b>
	4	In-Situ	10-Feb-17	3.5	400	--	--	--	--	--	--	--	--	--
	8	In-Situ	10-Feb-17	2.0	400	--	--	--	--	--	--	--	--	--
	12	In-Situ	10-Feb-17	2.8	240	--	--	--	--	--	--	--	--	--
	16	In-Situ	10-Feb-17	1.4	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	96
North	Surface	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	32
	4	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	64
East	Surface	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	<16.0
	4	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	32
South	Surface	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	16
	4	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	32
West	Surface	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	16
	4	In-Situ	13-Feb-17	--	80	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	32
NMOCD Recommended Remedial Action Levels				100		10				50			5,000	600

-- = Not Analyzed

**Bold** values are in excess of NMOCD Recommended Remedial Action Levels

**TABLE 3**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Legacy, L.P.**  
**Rainer State #1 - Release 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	In-Situ	04-Apr-17	0.0	40	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	144
	3	In-Situ	04-Apr-17	0.0	80	--	--	--	--	--	--	--	--	--
	6	In-Situ	04-Apr-17	0.0	160	--	--	--	--	--	--	--	--	--
	10	In-Situ	04-Apr-17	0.0	160	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	80
SP2	Surface	In-Situ	03-Apr-17	8.3	4,000	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	27,600
	3	In-Situ	03-Apr-17	88.3	4,000	--	--	--	--	--	--	--	--	--
	6	In-Situ	03-Apr-17	9.5	3,200	--	--	--	--	--	--	--	--	--
	14	In-Situ	03-Apr-17	0.0	560	--	--	--	--	--	--	--	--	--
	18	In-Situ	03-Apr-17	0.0	400	--	--	--	--	--	--	--	--	--
	22	In-Situ	03-Apr-17	0.0	240	--	--	--	--	--	--	--	--	--
	26	In-Situ	03-Apr-17	0.0	240	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	192
SP3	Surface	In-Situ	04-Apr-17	826.0	4,000	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	1,430	1,430	20,000
	3	In-Situ	04-Apr-17	194.0	4,000	--	--	--	--	--	--	--	--	--
	6	In-Situ	04-Apr-17	31.6	2,560	--	--	--	--	--	--	--	--	--
	14	In-Situ	04-Apr-17	12.1	2,080	--	--	--	--	--	--	--	--	--
	18	In-Situ	04-Apr-17	40.4	1,040	--	--	--	--	--	--	--	--	--
	22	In-Situ	04-Apr-17	1.8	880	--	--	--	--	--	--	--	--	--
	26	In-Situ	04-Apr-17	8	400	--	--	--	--	--	--	--	--	--
	30	In-Situ	04-Apr-17	0.0	80	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	112

**TABLE 3**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Legacy, L.P.**  
**Rainer State #1 - Release 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)
SP4	Surface	In-Situ	05-Apr-17	0.0	160	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	240
	4	In-Situ	05-Apr-17	0.0	80	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	96
SP5	Surface	In-Situ	05-Apr-17	0.0	160	<0.025	0.284	0.170	0.932	1.39	<10.0	<10.0	<20.0	80
	4	In-Situ	05-Apr-17	0.0	80	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	32
SP6	Surface	In-Situ	05-Apr-17	0.0	160	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	128
	4	In-Situ	05-Apr-17	0.0	160	<0.025	<0.025	<0.025	<0.075	<0.150	<10.0	<10.0	<20.0	224
NMOCD Recommended Remedial Action Levels				100		10				50			5,000	600

-- = Not Analyzed

**Bold** values are in excess of NMOCD Recommended Remedial Action Levels

## **ATTACHMENTS**

**ATTACHMENT I**  
**Photographs**



Photograph #1- Point of release



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- Looking across second release area.



Photograph #8- Looking across second release area.



Photograph #9- Looking across second release area.



Photograph #10- Looking across second release area.

**ATTACHMENT II**  
**NMOSE Average Depth to Groundwater**



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# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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No records found.

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 671370

**Northing (Y):** 3699570

**Radius:** 2000

**ATTACHMENT III**  
**Laboratory Analytical Results**

February 17, 2017

Daniel Dominguez  
Environmental Plus, Inc.  
P.O. Box 1558  
Eunice, NM 88231

RE: RAINER STATE #1

Enclosed are the results of analyses for samples received by the laboratory on 02/13/17 15:41.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/03/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP1 ( SURFACE) (H700368-01)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452	
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697	
Total BTEX	<0.300	0.300	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 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
<b>Chloride</b>	<b>2080</b>	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/15/2017	ND	201	101	200	9.90	
<b>DRO &gt;C10-C28</b>	<b>97.0</b>	10.0	02/15/2017	ND	219	110	200	6.81	

Surrogate: 1-Chlorooctane 78.2 % 35-147

Surrogate: 1-Chlorooctadecane 101 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/06/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP1 ( 20' ) (H700368-02)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452	
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697	
Total BTEX	<0.300	0.300	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 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	16.0	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/15/2017	ND	201	101	200	9.90	
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81	

Surrogate: 1-Chlorooctane 80.1 % 35-147

Surrogate: 1-Chlorooctadecane 88.2 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/06/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP2 ( SURFACE) (H700368-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	02/16/2017	ND	1.97	98.7	2.00	0.452	
Toluene*	<0.200	0.200	02/16/2017	ND	1.85	92.7	2.00	0.785	
Ethylbenzene*	<0.200	0.200	02/16/2017	ND	1.87	93.5	2.00	0.656	
<b>Total Xylenes*</b>	<b>1.76</b>	0.600	02/16/2017	ND	5.32	88.6	6.00	0.697	
<b>Total BTEX</b>	<b>1.76</b>	1.20	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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
<b>Chloride</b>	<b>384</b>	16.0	02/17/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>374</b>	50.0	02/15/2017	ND	201	101	200	9.90		
<b>DRO &gt;C10-C28</b>	<b>24400</b>	50.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 138 % 35-147

Surrogate: 1-Chlorooctadecane 265 % 28-171

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/07/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP2 ( 16' ) (H700368-04)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452		
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 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	192	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 88.3 % 35-147

Surrogate: 1-Chlorooctadecane 94.0 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/07/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP3 ( SURFACE) (H700368-05)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	02/16/2017	ND	1.97	98.7	2.00	0.452	
<b>Toluene*</b>	<b>0.678</b>	0.200	02/16/2017	ND	1.85	92.7	2.00	0.785	
Ethylbenzene*	<0.200	0.200	02/16/2017	ND	1.87	93.5	2.00	0.656	
<b>Total Xylenes*</b>	<b>5.42</b>	0.600	02/16/2017	ND	5.32	88.6	6.00	0.697	
<b>Total BTEX</b>	<b>6.09</b>	1.20	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>6800</b>	16.0	02/17/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>510</b>	50.0	02/15/2017	ND	201	101	200	9.90		
<b>DRO &gt;C10-C28</b>	<b>4460</b>	50.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 156 % 35-147

Surrogate: 1-Chlorooctadecane 192 % 28-171

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\*=Accredited Analyte

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**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/08/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP3 ( 19' ) (H700368-06)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452	
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697	
Total BTEX	<0.300	0.300	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 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
<b>Chloride</b>	<b>160</b>	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/16/2017	ND	201	101	200	9.90	
<b>DRO &gt;C10-C28</b>	<b>13.0</b>	10.0	02/16/2017	ND	219	110	200	6.81	

Surrogate: 1-Chlorooctane 83.0 % 35-147

Surrogate: 1-Chlorooctadecane 86.7 % 28-171

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Received:	02/13/2017	Sampling Date:	02/08/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP4 ( SURFACE) (H700368-07)**

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	02/16/2017	ND	2.01	100	2.00	0.801	
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14	
Total BTEX	<0.300	0.300	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>10700</b>	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/16/2017	ND	201	101	200	9.90	
<b>DRO &gt;C10-C28</b>	<b>31.4</b>	10.0	02/16/2017	ND	219	110	200	6.81	

Surrogate: 1-Chlorooctane 89.7 % 35-147

Surrogate: 1-Chlorooctadecane 102 % 28-171

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 Fax To: (505) 394-2601

Received:	02/13/2017	Sampling Date:	02/08/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP4 ( 12' ) (H700368-08)**

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	02/16/2017	ND	2.01	100	2.00	0.801	
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14	
Total BTEX	<0.300	0.300	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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
<b>Chloride</b>	<b>384</b>	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/16/2017	ND	201	101	200	9.90	
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	219	110	200	6.81	

Surrogate: 1-Chlorooctane 94.2 % 35-147

Surrogate: 1-Chlorooctadecane 98.5 % 28-171

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Received:	02/13/2017	Sampling Date:	02/09/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP5 ( SURFACE) (H700368-09)**

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	02/16/2017	ND	2.01	100	2.00	0.801	
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14	
Total BTEX	<0.300	0.300	02/16/2017	ND					

*Surrogate: 4-Bromofluorobenzene (PID) 102 % 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
<b>Chloride</b>	<b>34000</b>	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/16/2017	ND	201	101	200	9.90	
<b>DRO &gt;C10-C28</b>	<b>4380</b>	50.0	02/16/2017	ND	219	110	200	6.81	

*Surrogate: 1-Chlorooctane 81.6 % 35-147*
*Surrogate: 1-Chlorooctadecane 170 % 28-171*

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Received:	02/13/2017	Sampling Date:	02/09/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP5 ( 12' ) (H700368-10)**

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	02/16/2017	ND	2.01	100	2.00	0.801	
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14	
Total BTEX	<0.300	0.300	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 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	320	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/16/2017	ND	201	101	200	9.90	
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	219	110	200	6.81	

Surrogate: 1-Chlorooctane 96.2 % 35-147

Surrogate: 1-Chlorooctadecane 106 % 28-171

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Received:	02/13/2017	Sampling Date:	02/09/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP6 ( SURFACE) (H700368-11)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	02/16/2017	ND	2.01	100	2.00	0.801	
Toluene*	<0.200	0.200	02/16/2017	ND	1.89	94.6	2.00	1.27	
Ethylbenzene*	<0.200	0.200	02/16/2017	ND	1.92	95.8	2.00	1.11	
<b>Total Xylenes*</b>	<b>3.50</b>	0.600	02/16/2017	ND	5.47	91.2	6.00	1.14	
<b>Total BTEX</b>	<b>3.50</b>	1.20	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	02/17/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>590</b>	50.0	02/16/2017	ND	201	101	200	9.90		
<b>DRO &gt;C10-C28</b>	<b>21600</b>	50.0	02/16/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 177 % 35-147

Surrogate: 1-Chlorooctadecane 265 % 28-171

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Received:	02/13/2017	Sampling Date:	02/09/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP6 ( 12' ) (H700368-12)**

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	02/16/2017	ND	2.01	100	2.00	0.801		
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 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	48.0	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/16/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 90.4 % 35-147

Surrogate: 1-Chlorooctadecane 100 % 28-171

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Received:	02/13/2017	Sampling Date:	02/10/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP7 ( SURFACE) (H700368-13)**

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	02/16/2017	ND	2.01	100	2.00	0.801		
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 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	4930	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/16/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 102 % 35-147

Surrogate: 1-Chlorooctadecane 113 % 28-171

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Received:	02/13/2017	Sampling Date:	02/10/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP7 ( 12' ) (H700368-14)**

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	02/16/2017	ND	2.01	100	2.00	0.801		
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 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	
<b>Chloride</b>	<b>64.0</b>	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	186	93.2	200	2.60		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	201	101	200	1.45		

Surrogate: 1-Chlorooctane 85.9 % 35-147

Surrogate: 1-Chlorooctadecane 104 % 28-171

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/10/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP8 ( SURFACE) (H700368-15)**

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	02/16/2017	ND	2.01	100	2.00	0.801		
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4260	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	186	93.2	200	2.60		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	201	101	200	1.45		

Surrogate: 1-Chlorooctane 78.2 % 35-147

Surrogate: 1-Chlorooctadecane 92.2 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/10/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP8 ( 16' ) (H700368-16)**

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	02/16/2017	ND	2.01	100	2.00	0.801		
Toluene*	<0.050	0.050	02/16/2017	ND	1.89	94.6	2.00	1.27		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.92	95.8	2.00	1.11		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.47	91.2	6.00	1.14		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 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	96.0	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/16/2017	ND	186	93.2	200	2.60		
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	201	101	200	1.45		

Surrogate: 1-Chlorooctane 79.2 % 35-147

Surrogate: 1-Chlorooctadecane 94.6 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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



---

Celey D. Keene, Lab Director/Quality Manager





February 17, 2017

Daniel Dominguez  
Environmental Plus, Inc.  
P.O. Box 1558  
Eunice, NM 88231

RE: RAINER STATE #1

Enclosed are the results of analyses for samples received by the laboratory on 02/13/17 15:41.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: NORTH (SURFACE) (H700367-01)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452	
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697	
Total BTEX	<0.300	0.300	02/16/2017	ND					

*Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 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
<b>Chloride</b>	<b>32.0</b>	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/15/2017	ND	181	90.7	200	0.745	
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	198	98.8	200	2.04	

*Surrogate: 1-Chlorooctane 70.5 % 35-147*
*Surrogate: 1-Chlorooctadecane 83.1 % 28-171*

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: NORTH (4') (H700367-02)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452		
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>64.0</b>	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 80.1 % 35-147

Surrogate: 1-Chlorooctadecane 90.4 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: EAST (SURFACE) (H700367-03)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452		
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 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	<16.0	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 110 % 35-147

Surrogate: 1-Chlorooctadecane 114 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: EAST (4') (H700367-04)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452		
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	32.0	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 84.7 % 35-147

Surrogate: 1-Chlorooctadecane 95.9 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SOUTH (SURFACE) (H700367-05)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452		
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>16.0</b>	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 90.2 % 35-147

Surrogate: 1-Chlorooctadecane 101 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SOUTH (4') (H700367-06)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452		
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 91.0 % 35-147

Surrogate: 1-Chlorooctadecane 101 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: WEST (SURFACE) (H700367-07)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452		
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785		
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656		
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697		
Total BTEX	<0.300	0.300	02/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/17/2017	ND	448	112	400	3.64		

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	02/15/2017	ND	201	101	200	9.90		
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81		

Surrogate: 1-Chlorooctane 91.1 % 35-147

Surrogate: 1-Chlorooctadecane 102 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/13/2017	Sampling Date:	02/13/2017
Reported:	02/17/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: WEST (4') (H700367-08)**

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	02/16/2017	ND	1.97	98.7	2.00	0.452	
Toluene*	<0.050	0.050	02/16/2017	ND	1.85	92.7	2.00	0.785	
Ethylbenzene*	<0.050	0.050	02/16/2017	ND	1.87	93.5	2.00	0.656	
Total Xylenes*	<0.150	0.150	02/16/2017	ND	5.32	88.6	6.00	0.697	
Total BTEX	<0.300	0.300	02/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/17/2017	ND	448	112	400	3.64	

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	02/15/2017	ND	201	101	200	9.90	
DRO >C10-C28	<10.0	10.0	02/15/2017	ND	219	110	200	6.81	

Surrogate: 1-Chlorooctane 79.0 % 35-147

Surrogate: 1-Chlorooctadecane 86.8 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- QR-02            The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- 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



---

Celey D. Keene, Lab Director/Quality Manager





April 13, 2017

Daniel Dominguez  
Environmental Plus, Inc.  
P.O. Box 1558  
Eunice, NM 88231

RE: RAINIER STATE #1

Enclosed are the results of analyses for samples received by the laboratory on 04/06/17 15:50.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene  
Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/04/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP1 ( SURFACE) (H700921-01)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane 101 % 90.4-111

Surrogate: Toluene-d8 98.2 % 85.3-114

Surrogate: 4-Bromofluorobenzene 99.6 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>144</b>	16.0	04/10/2017	ND	432	108	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	04/08/2017	ND	207	103	200	8.32		
DRO >C10-C28	<10.0	10.0	04/08/2017	ND	219	110	200	13.4		

Surrogate: 1-Chlorooctane 76.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.7 % 34.7-157

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/04/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP1 ( 10') (H700921-02)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 91.6 % 85.3-114

Surrogate: 4-Bromofluorobenzene 95.1 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>80.0</b>	16.0	04/10/2017	ND	432	108	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	04/08/2017	ND	207	103	200	8.32		
DRO >C10-C28	<10.0	10.0	04/08/2017	ND	219	110	200	13.4		

Surrogate: 1-Chlorooctane 74.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 67.9 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/03/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP2 ( SURFACE) (H700921-03)**

BTEX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20	
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32	
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47	
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27	
Total BTEX	<0.150	0.150	04/10/2017	ND					

Surrogate: Dibromofluoromethane 104 % 90.4-111

Surrogate: Toluene-d8 92.7 % 85.3-114

Surrogate: 4-Bromofluorobenzene 92.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>27600</b>	16.0	04/10/2017	ND	432	108	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	04/08/2017	ND	207	103	200	8.32	
DRO >C10-C28	<10.0	10.0	04/08/2017	ND	219	110	200	13.4	

Surrogate: 1-Chlorooctane 89.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.7 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/03/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP2 ( 26' ) (H700921-04)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane 97.5 % 90.4-111  
 Surrogate: Toluene-d8 94.2 % 85.3-114  
 Surrogate: 4-Bromofluorobenzene 93.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	04/10/2017	ND	432	108	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	04/08/2017	ND	207	103	200	8.32		
DRO >C10-C28	<10.0	10.0	04/08/2017	ND	219	110	200	13.4		

Surrogate: 1-Chlorooctane 91.2 % 28.3-164  
 Surrogate: 1-Chlorooctadecane 91.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/04/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP3 ( SURFACE) (H700921-05)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane      109 %      90.4-111  
 Surrogate: Toluene-d8      98.5 %      85.3-114  
 Surrogate: 4-Bromofluorobenzene      97.5 %      80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>20000</b>	16.0	04/10/2017	ND	432	108	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	04/10/2017	ND	197	98.6	200	7.04		
<b>DRO &gt;C10-C28</b>	<b>1430</b>	10.0	04/10/2017	ND	216	108	200	2.70		

Surrogate: 1-Chlorooctane      82.5 %      28.3-164  
 Surrogate: 1-Chlorooctadecane      101 %      34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 04/06/2017  
 Reported: 04/13/2017  
 Project Name: RAINER STATE #1  
 Project Number: NONE GIVEN  
 Project Location: UL-B SEC.28,T10S, R37E

 Sampling Date: 04/04/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP3 ( 30' ) (H700921-06)**

<b>BTEX 8260B</b>		<b>mg/kg</b>		<b>Analyzed By: MS</b>						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

*Surrogate: Dibromofluoromethane* 105 % 90.4-111

*Surrogate: Toluene-d8* 95.9 % 85.3-114

*Surrogate: 4-Bromofluorobenzene* 89.7 % 80.1-121

<b>Chloride, SM4500Cl-B</b>		<b>mg/kg</b>		<b>Analyzed By: AC</b>						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>112</b>	16.0	04/10/2017	ND	432	108	400	0.00		

<b>TPH 8015M</b>		<b>mg/kg</b>		<b>Analyzed By: MS</b>						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	04/08/2017	ND	207	103	200	8.32		
DRO >C10-C28	<10.0	10.0	04/08/2017	ND	219	110	200	13.4		

*Surrogate: 1-Chlorooctane* 88.6 % 28.3-164

*Surrogate: 1-Chlorooctadecane* 87.4 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/05/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP4 ( SURFACE) (H700921-07)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane 104 % 90.4-111

Surrogate: Toluene-d8 95.7 % 85.3-114

Surrogate: 4-Bromofluorobenzene 94.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>240</b>	16.0	04/10/2017	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	04/08/2017	ND	207	103	200	8.32		
DRO >C10-C28	<10.0	10.0	04/08/2017	ND	219	110	200	13.4		

Surrogate: 1-Chlorooctane 72.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 69.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 04/06/2017  
 Reported: 04/13/2017  
 Project Name: RAINER STATE #1  
 Project Number: NONE GIVEN  
 Project Location: UL-B SEC.28,T10S, R37E

 Sampling Date: 04/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP4 ( 4') (H700921-08)**

<b>BTEX 8260B</b>		<b>mg/kg</b>		<b>Analyzed By: MS</b>					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20	
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32	
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47	
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27	
Total BTEX	<0.150	0.150	04/10/2017	ND					

Surrogate: Dibromofluoromethane 102 % 90.4-111

Surrogate: Toluene-d8 98.2 % 85.3-114

Surrogate: 4-Bromofluorobenzene 95.9 % 80.1-121

<b>Chloride, SM4500Cl-B</b>		<b>mg/kg</b>		<b>Analyzed By: AC</b>					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>96.0</b>	16.0	04/10/2017	ND	416	104	400	0.00	

<b>TPH 8015M</b>		<b>mg/kg</b>		<b>Analyzed By: MS</b>					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/08/2017	ND	207	103	200	8.32	
DRO >C10-C28	<10.0	10.0	04/08/2017	ND	219	110	200	13.4	

Surrogate: 1-Chlorooctane 90.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.7 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/05/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP5 ( SURFACE) (H700921-09)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
<b>Toluene*</b>	<b>0.284</b>	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
<b>Ethylbenzene*</b>	<b>0.170</b>	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
<b>Total Xylenes*</b>	<b>0.932</b>	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
<b>Total BTEX</b>	<b>1.39</b>	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane 100 % 90.4-111

Surrogate: Toluene-d8 97.3 % 85.3-114

Surrogate: 4-Bromofluorobenzene 94.1 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>80.0</b>	16.0	04/10/2017	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	04/10/2017	ND	207	104	200	4.30		
DRO >C10-C28	<10.0	10.0	04/10/2017	ND	219	109	200	3.12		

Surrogate: 1-Chlorooctane 86.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.9 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/05/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP5 ( 4') (H700921-10)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane 106 % 90.4-111

Surrogate: Toluene-d8 95.6 % 85.3-114

Surrogate: 4-Bromofluorobenzene 94.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>32.0</b>	16.0	04/10/2017	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	04/10/2017	ND	207	104	200	4.30		
DRO >C10-C28	<10.0	10.0	04/10/2017	ND	219	109	200	3.12		

Surrogate: 1-Chlorooctane 88.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.4 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/05/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP6 ( SURFACE) (H700921-11)**

BTEX 8260B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20	
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32	
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47	
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27	
Total BTEX	<0.150	0.150	04/10/2017	ND					

Surrogate: Dibromofluoromethane 112 % 90.4-111

Surrogate: Toluene-d8 94.3 % 85.3-114

Surrogate: 4-Bromofluorobenzene 93.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>128</b>	16.0	04/10/2017	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	04/10/2017	ND	207	104	200	4.30	
DRO >C10-C28	<10.0	10.0	04/10/2017	ND	219	109	200	3.12	

Surrogate: 1-Chlorooctane 85.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.5 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	04/06/2017	Sampling Date:	04/05/2017
Reported:	04/13/2017	Sampling Type:	Soil
Project Name:	RAINER STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	UL-B SEC.28,T10S, R37E		

**Sample ID: SP6 ( 4' ) (H700921-12)**

BTEX 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	04/10/2017	ND	1.55	77.4	2.00	2.20		
Toluene*	<0.025	0.025	04/10/2017	ND	1.67	83.3	2.00	3.32		
Ethylbenzene*	<0.025	0.025	04/10/2017	ND	1.70	84.8	2.00	3.47		
Total Xylenes*	<0.075	0.075	04/10/2017	ND	5.32	88.6	6.00	4.27		
Total BTEX	<0.150	0.150	04/10/2017	ND						

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 95.2 % 85.3-114

Surrogate: 4-Bromofluorobenzene 96.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>224</b>	16.0	04/10/2017	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	04/10/2017	ND	207	104	200	4.30		
DRO >C10-C28	<10.0	10.0	04/10/2017	ND	219	109	200	3.12		

Surrogate: 1-Chlorooctane 93.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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



---

Celey D. Keene, Lab Director/Quality Manager





**ATTACHMENT IV**  
**Copy of Initial NMOCD Forms 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, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Rainer State #1	Facility Type: Battery
Surface Owner: State	Mineral Owner: API No. 30-025-34125

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	28	10S	37E					Lea

Latitude: N 33.421819° Longitude: W 103.156819°

**NATURE OF RELEASE**

Type of Release: oil and water	Volume of Release: ~287 bbls	Volume Recovered: 260 bbls
Source of Release: heater failed	Date and Hour of Occurrence: 1-20-17 @ pm	Date and Hour of Discovery: 1-20-17 @ pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mark Whitaker	
By Whom? EPI	Date and Hour: 1-20-17	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse: Not Applicable	

**RECEIVED**  
By Olivia Yu at 7:41 am, Feb 06, 2017

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

Describe Cause of Problem and Remedial Action Taken.\*  
Release occurred when a heater failed. Approximately 287 bbls of oil and water were released and approximately 260 bbls were recovered.

Describe Area Affected and Cleanup Action Taken.\*  
The spill impacted approximately 13,700 sq. ft. of caliche tank battery pad and pasture. The stained soil will be removed and hauled to a state approved disposal facility. Samples will be collected.

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: <i>Manuel Soriano</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Manuel Soriano	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Production Foreman	Approval Date:	Expiration Date:
E-mail Address: jsoriano@legacyp.com	Conditions of Approval: <b>see attached directive</b>	Attached <input checked="" type="checkbox"/>
Date: <u>1-24-2017</u> Phone: 432-269-8806		

\* Attach Additional Sheets If Necessary

1RP-4575

nOY1703727487

pOY1703727861

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: Legacy, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Rainer State #1	Facility Type: Battery
Surface Owner: State	Mineral Owner:
API No. 30-025-34125	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	28	10S	37E					Lea

Latitude: N 33.421819° Longitude: W 103.156819°

**NATURE OF RELEASE**

Type of Release: produced water	Volume of Release: ~100 bbls	Volume Recovered: ~90 bbls
Source of Release: heater failed	Date and Hour of Occurrence: 2-23-17 @ pm	Date and Hour of Discovery: 2-23-17 @ pm
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: Not Applicable	
If a Watercourse was Impacted, Describe Fully.* Not Applicable		

**RECEIVED**  
By Olivia Yu at 10:57 am, Mar 13, 2017

Describe Cause of Problem and Remedial Action Taken. \*  
Release occurred when a heater failed causing the tanks to overflow. Approximately 100 bbls of produced water were released and approximately 90 bbls were recovered.

Describe Area Affected and Cleanup Action Taken.\*  
The release was contained within the tank battery berm. The stained soil will be removed and hauled to a state approved disposal facility. Samples will be collected. This release will be remediated in conjunction with a previous release; IRP 4575.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Manuel Soriano	Approved by Environmental Specialist: 	
Title: Production Foreman	Approval Date: <b>3/13/2017</b>	Expiration Date:
E-mail Address: jsoriano@legacyp.com	Conditions of Approval: <b>see attached directive</b>	Attached <input checked="" type="checkbox"/>
Date: <b>3-10-17</b> Phone: 432-269-8806		

\* Attach Additional Sheets If Necessary

**1RP-4641** **nOY1707239776**  
**pOY1707240003**

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: Legacy, L.P.	Contact: Manuel Soriano
Address: P.O. Box 10848, Midland, Texas 79702	Telephone No. 432-269-8806
Facility Name: Rainer State #1	Facility Type: Battery

Surface Owner: State	Mineral Owner:	API No. 30-025-34125
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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
B	28	10S	37E					Lea

Latitude: N 33.421819° Longitude: W 103.156819°

**NATURE OF RELEASE**

Type of Release: oil and water	Volume of Release: ~160 bbls	Volume Recovered: ~140 bbls
Source of Release: heater failed	Date and Hour of Occurrence: 7-4-17 @ pm	Date and Hour of Discovery: 7-4-17 @ pm
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: Not Applicable	

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

**RECEIVED**  
By Olivia Yu at 11:02 am, Jul 26, 2017

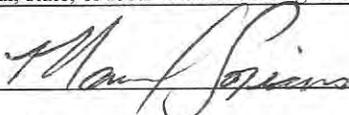
Describe Cause of Problem and Remedial Action Taken.\*

Release occurred when a heater failed. Approximately 160 bbls of oil and water were released and approximately 140 bbls were recovered.

Describe Area Affected and Cleanup Action Taken.\*

The spill impacted the same area that was impacted by a previous release, IRP 4575. The stained soil will be removed and hauled to a state approved disposal facility. This release will be remediated in conjunction with the Work Plan written for IRP 4575 and IRP 4641.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Manuel Soriano	Approved by Environmental Specialist: 	
Title: Production Foreman	Approval Date: <span style="border: 1px solid red; padding: 2px;">7/26/2017</span>	Expiration Date:
E-mail Address: jsoriano@legacyp.com	Conditions of Approval: <span style="border: 1px solid red; padding: 2px;">see attached directive</span>	Attached <input checked="" type="checkbox"/>
Date: 7-20-17	Phone: 432-269-8806	

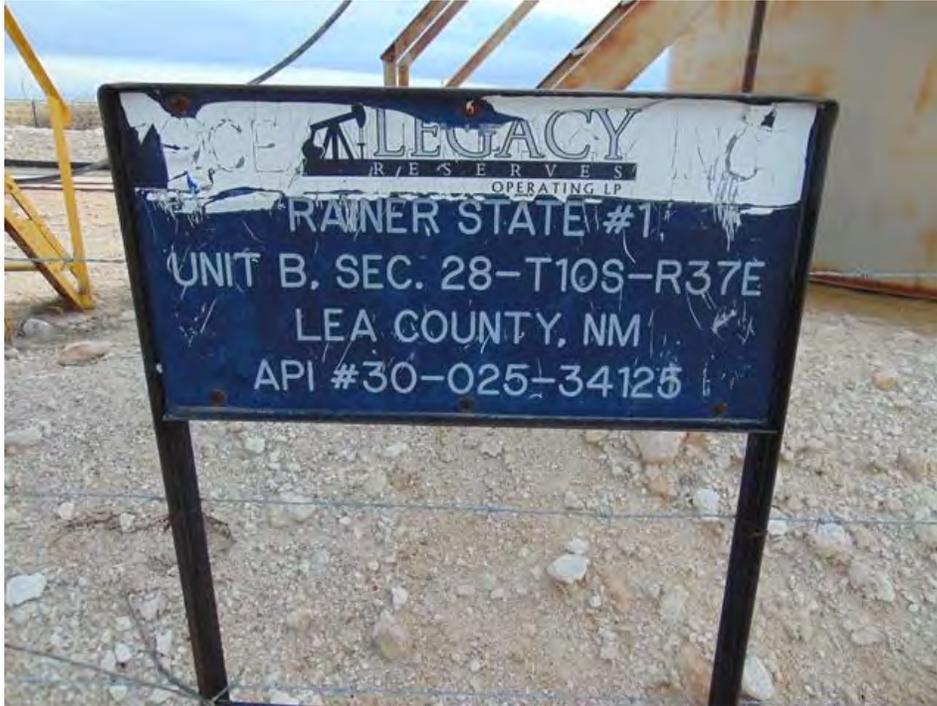
\* Attach Additional Sheets If Necessary

1RP-4764

nOY1720741763

pOY1720743524

## **Appendix C Photographs**



Site Location



Site Prior to Remediation Viewing East



Site Prior to Remediation Viewing West



Site Prior to Remediation Viewing Southwest



Site Prior to Remediation Viewing North, September 14, 2017



Site Prior to Remediation Viewing East, September 14, 2017



Site Prior to Remediation Viewing South, September 14, 2017



Site Prior to Remediation, September 14, 2017



Site Prior to Remediation, September 14, 2017