



October 19, 2015

Mr. Zackary Laird  
WPX Energy, Inc.  
210 Park Ave, Suite 700  
Oklahoma City, OK 73102

**F9. C78 'K cf\_ 'D'Ub'z:f'FY'YUgY'Uh6 fi gl m8 fUk ': YX' )!\* < 'UbX' -bhYf]a '7!% %FYdcfh  
I b]h6 žGYW' ) žH&) G'F &- 9ž9XXm7 ci blmžBYk 'A Yl ]Wt'**

Dear Mr. Laird:

WPX Energy, Inc. (WPX) retained Enviro Clean Services, LLC (ECS) to collect soil samples at the Brushy Draw Fed 35-6H site located in Section 35, Township 25S, Range 29E, in Eddy County, New Mexico (approximately 32.092512°N, 103.953869°W), following a drilling mud and fracking fluids release. : ] [ i fY % is a site map depicting the area of release and soil sample locations.

The New Mexico Oil Conservation Division's (OCD) Form C-141 was prepared by WPX for this site. This document indicates that in the early morning hours of September 17, 2015, well stimulation operations released 760 barrels (bbls) of drilling mud and fracking fluids, with 600 bbls recovered. The net loss is 160 bbls of drilling mud and fracking fluids.

On September 18, 2015, ECS field personnel collected soil samples from three locations within the impacted area, and three locations representing background locations. Sample depths were from the surface and at one foot below ground surface (bgs) within the impacted area. The samples were transported under chain-of-custody to Permian Basin Environmental Lab, LP in Midland, Texas, using industry standards for care and preservation. All samples were analyzed for Chlorides (EPA method 300.0) and Total Petroleum Hydrocarbons (TPH, EPA method 8015M).

**; YbYfU'GjH'7\ UfUWYf]gH]Wj'**

The affected property is leased from the Bureau of Land Management (BLM). The *Geologic Map of New Mexico* (NMBGMR, 2003) indicates the site's surface geology is comprised primarily of Qep – Quaternary eolian and piedmont deposits (Holocene to middle Pleistocene). This usually is interlayered eolian sands and piedmont-slope deposits along the eastern flank of the Pecos River valley, primarily between Roswell and Carlsbad. The unit is typically capped by thin eolian deposits. The Natural Resource Conservation Service identifies the local soils as *PA—Pajarito*

S:\ECS Midland\ER&R\PROJECTS\RKI Exploration\RKIRTX0005 N. Bushy Draw Fed 35-6\RKI Brushy Draw 10-6-2015\_estimate.docx

loamy fine sand, 0 to 3 percent slopes, eroded for most of the affected area originating at the source, while the far end enters soils of the RE—Reagan-Upton association, 0 to 9 percent slopes. Although the Reagan soil's name indicated a steepening of the slope, the description of the soil indicates a 0 to 3 percent slope, which is consistent with the area. These soils are mixed alluvium and/or eolian sands, typically with a profile of loamy fine sand at the surface, with well drained gravelly loam to a depth of five feet or more. These descriptions are consistent with site observations.

The OCD Recommended Remediation Action Levels (RRALs) are a ranking system used to evaluate regulatory requirements. RRALs are based on depth to water, wellhead protection area distance, and the distance to surface water bodies. The nearest water well is almost three miles away, with a depth to water reported at 162 feet bgs, and a static head of 60 feet bgs. State Land Office Point of Diversion reports are attached for review. The nearest surface water is about three miles southwest of the site.

Using the site specific data, the RRALs for the site are 10 parts per million (ppm, or mg/Kg) benzene, 50 ppm BTEX, and 5,000 ppm TPH. All of the surface sample locations exhibited elevated levels of chlorides when compared to this standard, with decreasing concentrations at one foot bgs. **Table 1** summarizes the analytical results, and the laboratory analytical report and chain of custody documentation are attached for your records.

**Table 1. Analytical Results for Chloride**

| Sample ID | Depth (ft) | Date      | Chloride (mg/L) | RRAL (mg/L) | RRAL (ppm) | Notes        |
|-----------|------------|-----------|-----------------|-------------|------------|--------------|
| 001       | 0          | 9/18/2015 | 1,000           | 10          | 10         | Exceeds RRAL |
| 001A      | 1          | 9/18/2015 | <15.0           | 10          | 10         | Below RRAL   |
| 002       | 0          | 9/18/2015 | 1,000           | 10          | 10         | Exceeds RRAL |
| 002A      | 1          | 9/18/2015 | <15.0           | 10          | 10         | Below RRAL   |
| 003       | 0          | 9/18/2015 | <14.9           | 10          | 10         | Below RRAL   |
| 003A      | 1          | 9/18/2015 | <15.0           | 10          | 10         | Below RRAL   |
| 004       | 0          | 9/18/2015 | <15.0           | 10          | 10         | Below RRAL   |
| 005       | 0          | 9/18/2015 | <15.0           | 10          | 10         | Below RRAL   |
| 006       | 0          | 9/18/2015 | <15.0           | 10          | 10         | Below RRAL   |

All values are in milligrams per kilogram (mg/Kg, ppm). Analyte detections are in mg/L.

Values that exceed the Recommended Remediation Action Levels are shaded.

\*Chloride values are site specific; 1,000 is a regionally accepted target value.

**Recommendations for Chloride Remediation**

Additional subsurface chloride vertical delineation (soil samples) will be performed in all "fingers" of the spill area. Additional sample results will be evaluated and appropriate remediation efforts taken accordingly.

For vertical delineation ECS recommends field screening with laboratory confirmation that chlorides are below 1,000 ppm chloride, and approaching the 250 ppm New Mexico Water Quality

Control Commission (WQCC) standard. Soil samples will be field screened using an electrical conductivity meter and one-to-one soil-water solution, with laboratory chloride confirmation.

The flow path is narrow and long, approximate 3,000 feet in length. Screening samples will be selected at approximately 100 foot linear intervals, with laboratory samples selected at approximately 500 foot intervals. The results of both field screening and the laboratory analyses will be tabulated in a final report.

### **Low Surface Impact Remediation Work Plan**

In order to reduce the amount of vegetation and area disturbed, ECS recommends tilling the impacted soil with hand tillers and treating with a MicroBind solution rather than excavating and disposing of the impacted soil. The treated area will then be seeded with a 50/50 mixture of BLM Seed Mix 3 and BLM Seed Mix 4. Confirmation samples will be collected from the remediated area approximately 180 days after treatment to determine that Chloride levels are below the OCD action level. Additional tilling and chemical applications will take place as necessary until chlorides are reduced below action levels.

ECS appreciates the opportunity to be of service to WPX. If you have any questions about the information presented in this report, please feel free to contact the undersigned.

Sincerely,

**Enviro Clean Services, LLC**



James M. Collier III, EIT  
Field Services Manager  
432.301.0176  
[james.collier@eccgrp.com](mailto:james.collier@eccgrp.com)



Tom Weber, P.E.  
Texas Regional Manager  
432.301.0209  
[tom.weber@eccgrp.com](mailto:tom.weber@eccgrp.com)

Attachments: Figure 1: Area of Release and Soil Sample Locations  
Initial C-141  
State Land Office Point of Diversion Reports  
Laboratory Analytical Report and Chain of Custody Documentation  
Photographic Documentation



Area of Release and Soil Sample Locations  
 WPX Energy, Inc.  
 Brushy Draw 35-6H  
 Unit B, Sec. 35, Township 25S, Range 29E  
 Eddy County, New Mexico

|   |              |   |               |         |   |
|---|--------------|---|---------------|---------|---|
| Scale:  | Not to Scale |  | Drawn By:     | ECS     |   |
| Date:   | 10/2/2015    |   | Project Mgr.: | ECS     |   |
| 2405 East County Road 123, Midland, Texas 79706 |              |   |               |         |   |
| Project No.:                                    | RKIRTX0005   |   |               | Figure: | 1 |

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 | RKI E&P, LLC                            | Contact         | Zack Laird       |
| Address         | 210 Park Ave. – Ste. 700, OKC, OK 73102 | Telephone No.   | 405-987-2213     |
| Facility Name:  | North Brushy Draw Fed 35-6H             | Facility Type : | Oil and Gas Well |

|                        |                        |                      |
|------------------------|------------------------|----------------------|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 30-015-42293 |
|------------------------|------------------------|----------------------|

**LOCATION OF RELEASE**

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| A           | 35      | 25S      | 29E   | 175           | FNL              | 2290          | FEL            | Eddy   |

Latitude: 32.0929574 Longitude: -103.95337

**NATURE OF RELEASE**

|  |  |   |
|--|--|---|
| Type of Release. Drilling Mud/Frac Fluid   | Volume of Release: 760 Bbls                            | Volume Recovered: 600 Bbls                          |
| Source of Release 5.5" x 9.675" annulus  | Date and Hour of Occurrence<br>09/17/15 – 0200hrs MT   | Date and Hour of Discovery<br>09/17/15 – 0200hrs MT |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom? Heather Patterson/Shelly Tucker (BLM) |   |
| By Whom? Zack Laird  | Date and Hour: 09/17/15 – 1000hrs and 1715hrs          |   |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  | If YES, Volume Impacting the Watercourse.<br>N/A       |   |

If a Watercourse was Impacted, Describe Fully.\* N/A

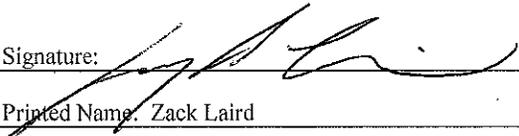
Describe Cause of Problem and Remedial Action Taken.\*

During stage 8 stimulation operations an unknown downhole failure (i.e. casing part) caused communication between 5.5" and 9.625" casing, pressure relief valve plumbed to "B" section of wellhead parted under pressure and allowed well flow on surface for approximately 1.5hrs.

Describe Area Affected and Cleanup Action Taken.\*

Fluid accumulated on well pad and ran off location to the South for approximately .5 miles

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:<br> | <b>OIL CONSERVATION DIVISION</b>      |                                   |
| Printed Name: Zack Laird   | Approved by Environmental Specialist: |                                   |
| Title: Sr. EHS Manager   | Approval Date:                        | Expiration Date:                  |
| E-mail Address: Zlaird@rkixp.com   | Conditions of Approval:               | Attached <input type="checkbox"/> |
| Date: 09/17/15   | Phone: 405-987-2213                   |                                   |

\* Attach Additional Sheets If Necessary