Penroc Oil Corporation Langlie Jal Unit #039 Injector Well - Flowline Failure

Preliminary Delineation Report Case Number: 1R-4616

Section 04, T25S, R37E

Detailed coordinates in report.

Date of Incident 02/12/2017

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I Company Contacts

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II Background

Per the C-141, the failure of the injector well's buried flowline caused an unauthorized release of produced water. This caused the produced water to surface and created a pool of fluid near the failure point, with runoff in a southern direction. The spill stayed within the caliche pad and caliche road leading up to the location. Resident, Buddy Hill, discovered the release and contacted the proper field personnel. Field personnel responded immediately by shutting well #039 along with the well's injection flowline that branches off the field's main injection line. This stopped the release. The area impacted was approximately 1,115 square feet. The NMOCD was notified on 2/15/2017 and the C-141 was filed 2/16/2017. NMOCD assigned remediation case number 1R-4617 to this event. NMOCD correspondence up to this point have been with Ms. Olivia Yu in Hobbs, New Mexico. The purpose of this document is to provide preliminary delineation workplan of the release to the NMOCD and BLM and provide a basis for moving forward with remediation processes and an eventual closure of this case once the sample results have been received and reviewed and complete delineation has been established.

III Overview of Delineation Process

Field personnel assessed the horizontal extent of the spill and took the appropriate photos and measurements. This collected data was then used to create the scaled digital maps seen in the latter portion of this report. To assess the vertical extent of this release, sample points around and inside the spill line have been identified and these samples will be taken and undergo third-party lab testing via Cardinal Labs in Hobbs to determine delineation and the proper remediation actions moving forward. A subsequent delineation report will be submitted once sample results have been returned. Along with this data, research regarding depth to groundwater in the area of the release was conducted and can be found in a latter portion of this report.

IV Sampling Table

Sample ID	Lat (NAD83)	Long (NAD 83)	Depth	Chlorides	втех	ТРН
1	32.165558	-103.173123	3'	TBD	TBD	TBD
2	32.165599	-103.173152	2'	TBD	TBD	TBD

3	32.165579	-103.173073	2'	TBD	TBD	TBD
4	32.165443	-103.173095	2'	TBD	TBD	TBD
5	32.165376	-103.173069	2'	TBD	TBD	TBD
6	32.165548	-103.173182	2'	TBD	TBD	TBD

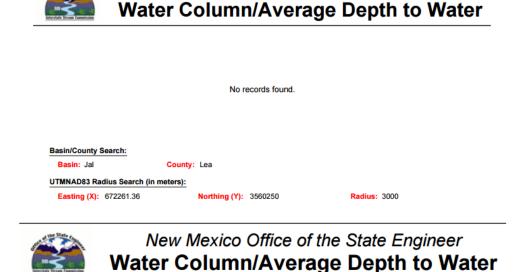
- TBD*: To be determined once we receive results from Cardinal Labs
- Sample depths may be taken deeper during field collection if it appears visually necessary during process.

This table will be completed in the subsequent delineation report, and will include chain of command/possession of the samples. Please see section VI for Sample ID mapping.

V Depth to Groundwater Research

Using the New Mexico state search for groundwater research, no results were found for this area. However, the Chevron-Texaco mapping does have an evaluation. Conservatively, groundwater is located at 59' at the location of this release. There are no surface water bodies in the area of this release.

New Mexico Office of the State Engineer



No records found

Basin/County Search:

Sasin: Jal County: Lea

UTMNAD83 Radius Search (in meters):

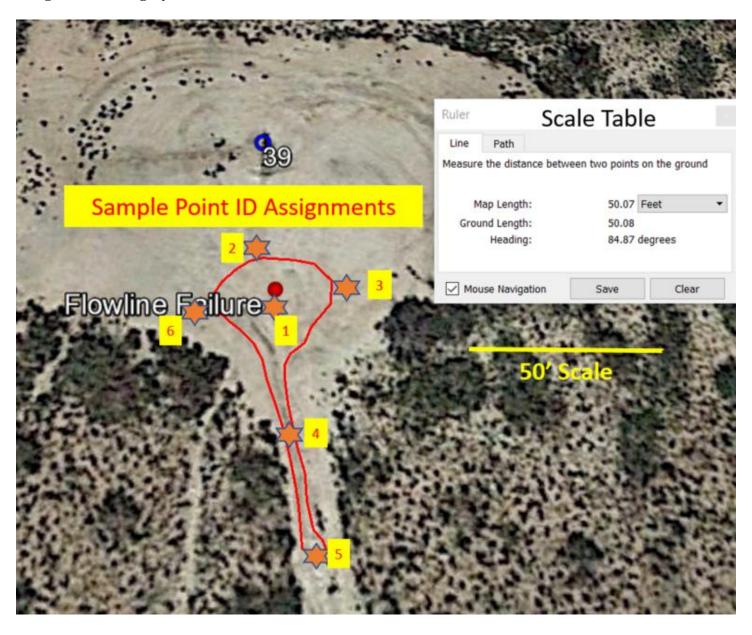
Easting (X): 672261.36 **Northing (Y):** 3560250 **Radius:** 5000

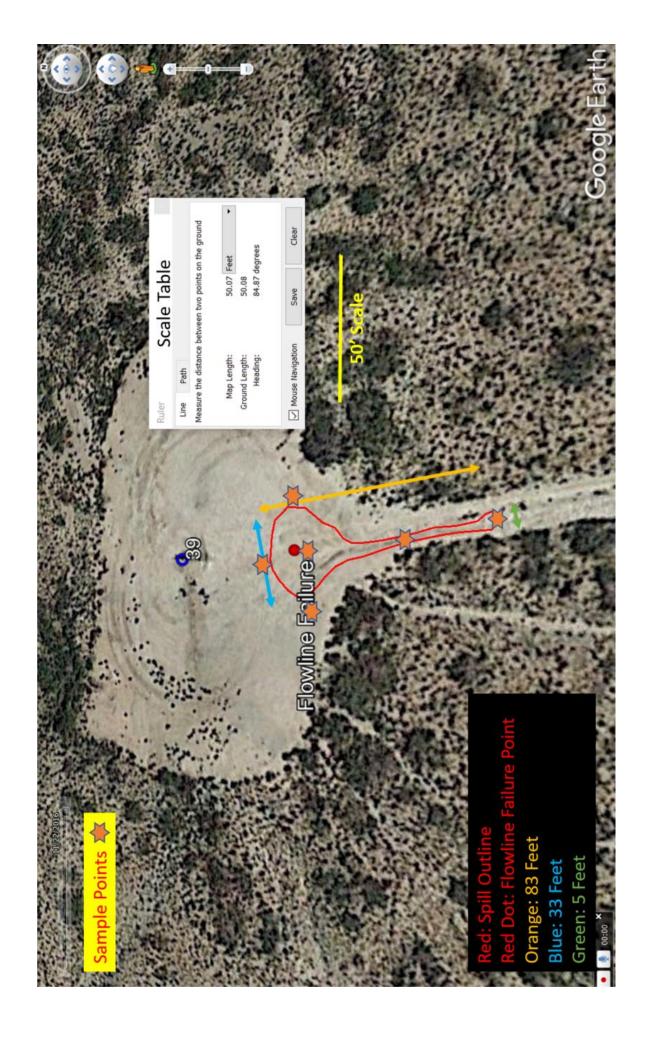
VI Digital Mapping/Coordinates of Release/Sample Point Locations

Location of Flowline Failure:

Latitude: 32.165570 **Longitude:** -103.173116

Google Earth Imagery Date: 11/22/2016





VII Conclusion

Based on the C-141 documentation along with the preliminary delineation work provided above, Penroc Oil Corporation will provide a subsequent delineation report along with a proposed remediation workplan once sampling analyses has been completed. The operator respectfully request the NMOCD's to review the data provided to date and provide insight on remediation plans once the subsequent sampling report is submitted.

VIII Initially Reviewed C-141

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Langlie Jal Unit #039 C-141 Attachment:

API 30-025-11442

Penroc Oil Corporation

2/12/2017

Describe the cause of the problem and remedial action taken:

• Langlie Jal Unit #039 has a steel flowline that is buried from the edge of the well pad to the wellhead where it resurfaces. Approximately thirty feet from the well head, a buried portion of this flowline ruptured causing a release of produced water. The produced water from this release created a typical crater seen with other buried flowline failures and fluid began to spread across the immediate area of the rupture until discovery and isolation occurred. There were no signs of valve-position misplacement along the flow path, so it appears the flowline was weathered from long-term use, resulting in this failure. To remediate future failures of this nature, field personnel will be continually urged to inspect the condition of flowlines visible on the surface and routinely pressure test lines that appear overly weathered or aged in anyway. The well will remain shut in to prevent any further releases until the needed repairs are completed, contaminated soil is removed and trucked to disposal site (Sundance), soil tested per NMOCD requirements, and clean soil is brought in to replace.

Describe the area affected and cleanup action taken:

• The area affected was the caliche well-pad and the caliche road due south of the well pad. The produced water ran down the caliche road until it settled at the entrance of the caliche road. Clean up actions that need to be taken are to remove the contaminated caliche on the well pad where the crater occurred. The remaining appears to be hard-rock surface staining and can be properly remediated with backhoe scraping. All contaminated caliche will be taken to an approved disposal site (Sundance). After clean up, clean caliche will replace what has been removed at the well-pad.

IX Appendix

The following are photos taken immediately after the unauthorized release occurred and the wells in the area were shut in to prevent any further release of produced water.

