



Pima Environmental Services, LLC  
1601 N. Turner Ste 500  
Hobbs, NM 88240  
575-964-7740

October 29<sup>th</sup>, 2021

NMOCD District 2  
811 S. First Street  
Artesia, NM 88210

Bureau of Land Management  
620 East Green Street  
Carlsbad, NM 88220

**Re: Remediation Plan**  
**Pearsall SWD Gathering Line**  
**API No. N/A**  
**GPS: Latitude 32.816418 Longitude -103.781059**  
**UL "I", Sec. 20, T17S, R32E**  
**Lea County, NM**  
**NMOCD Ref. No. NAPP2113148964**

Pima Environmental Services, LLC (Pima) has been contracted by Spur Energy Partners, LLC. (Spur) to perform a spill assessment and submit a work plan for approved remediation activities for a produced water release that occurred at the Pearsall SWD Gathering Line (Pearsall). The initial C-141 was submitted on May 11<sup>th</sup>, 2021 (Appendix C). This incident was assigned Incident ID NAPP2113148964, by the New Mexico Oil Conservation Division (NMOCD).

### Site Characterization

The Pearsall is located approximately four (4) miles south of Maljamar, NM. This spill site is in Unit I, Section 20, Township 17S, Range 32E, Latitude 32.816418, Longitude -103.781059, Lea County, NM. Figure 1 references a Location Map.

Per the New Mexico Bureau of Geology and Mineral Resources, the geology is in the Quaternary Formation-Eolian and piedmont deposits. Interlayered eolian sands and piedmont-slope deposits along the eastern flank of the Pecos River valley, primarily between Roswell and Carlsbad. Typically capped by thin eolian deposits. The soil in this area is made up of Kermit soils and Dune land, 0 to 12 percent slopes, according to the United States Department of Agriculture Natural Resources Conservation Service soil survey (Appendix B). The drainage courses in this area are excessively drained. There is a low potential for karst geology to be present around the Pearsall (Figure 3).

According to the New Mexico Office of the State Engineer, depth to the nearest groundwater in this area is 81' feet below grade surface (BGS). According to the United States Geological Survey (USGS), the nearest groundwater is 454' feet BGS. The closest waterway is a playa located approximately 18.29 miles to the southwest of this location. See Appendix A for referenced water surveys.

**Table 1 NMAC and Closure Criteria 19.15.29**

Depth to Groundwater (Appendix A)	Constituent & Limits				
	Chlorides	Total TPH	GRO+DRO	BTEX	Benzene
<50'	600 mg/kg	100 mg/kg		50 mg/kg	10 mg/kg
51-100'	10,000 mg/kg	2,500 mg/kg	1,000 mg/kg	50 mg/kg	10 mg/kg
>100'	20,000 mg/kg	2,500 mg/kg	1,000 mg/kg	50 mg/kg	10 mg/kg

Reference Figure 2 for a Topographic Map.

**Release Information**

**NAPP2113148964:** On April 30<sup>th</sup>, 2021, a poly flowline developed a split causing fluid to be released onto the ground. The release impacted the sides of the lease road and the adjacent pasture. The total volume of fluid released was calculated to be approximately 17 barrels (bbls) of produced water. A vacuum truck was able to recover approximately 5 bbls of total fluid.

**Site Assessment and Soil Sampling Results**

On May 6<sup>th</sup>, 2021, Pima Environmental mobilized personnel to the site to assess the area. We sampled the affected areas along the road and in the pasture. Laboratory results of this sampling event can be found in the following data table.

5-6-21 Soil Sample Results								
NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is 51-100')								
Spur Energy - Pearsall SWD Gathering Line								
Sample Date 5-6-21		NM Approved Laboratory Results						
Sample ID	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Cl mg/kg
S-1	Surface	ND	ND	ND	151	ND	151	16300
	1	ND	ND	ND	ND	ND	ND	57.8
S-2	Surface	ND	ND	ND	ND	ND	ND	15900
	1	ND	ND	ND	53.3	ND	53.3	35
S-3	Surface	ND	ND	ND	ND	ND	ND	10300
	1	ND	ND	ND	ND	ND	ND	250
S-4	Surface	ND	ND	ND	ND	ND	ND	10.2
	1	ND	ND	ND	ND	ND	ND	ND
S-5	Surface	ND	ND	ND	ND	ND	ND	8.64
	1	ND	ND	ND	ND	ND	ND	ND
S-6	Surface	ND	ND	ND	300	54.8	354.8	22000
	1	ND	ND	ND	52	ND	52	87.1
S-7	Surface	ND	ND	ND	ND	ND	ND	713
	1	ND	ND	ND	ND	ND	ND	142

ND- Analyte Not Detected

**Proposed Site Remediation**

Pima proposes that the contaminated areas from this release be remediated by the following method:

- We will bioremediate the road and pasture with our SA-1000 to treat the chloride levels. This treatment will consist of us treating at a 12-15% saturation rate of the soils, we will then till the soils to obtain a proper bond with the chemicals. This process will be repeated for a total of 3 treatments.
- We will return to site 30-, 45-, and 60-days post treatment to test the soils and monitor the progress. Upon reduced levels and once closure levels are obtained, we will proceed into closure.

Pima, on behalf of Spur, would like to respectfully request a variance from the sampling requirement and submit a proposed sampling plan for approval. Each 5-point composite sample will be taken from a depth of 6" bgs. This Proposed Sampling Plan Map can be found in Figure 5.

Should you have any questions or need additional information, please feel free to contact Tom Bynum at 575-964-7740 or tom@pimaoil.com.

Respectfully

*Tom Bynum*

Tom Bynum  
Environmental Project Manager  
Pima Environmental Services, LLC

**Attachments**

Figures:

- 1- Location Map
- 2- Topo Map
- 3- Karst Map
- 4- Site Map
- 5- Proposed Sampling Plan Map

Appendices:

- Appendix A – Referenced Water Surveys
- Appendix B – Soil Survey and Geological Data
- Appendix C – C-141's
- Appendix D – Photographic Documentation
- Appendix E – Laboratory Reports



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**Figures:**

1-Location Map

2-Topo Map

3-Karst Map

4-Site Map

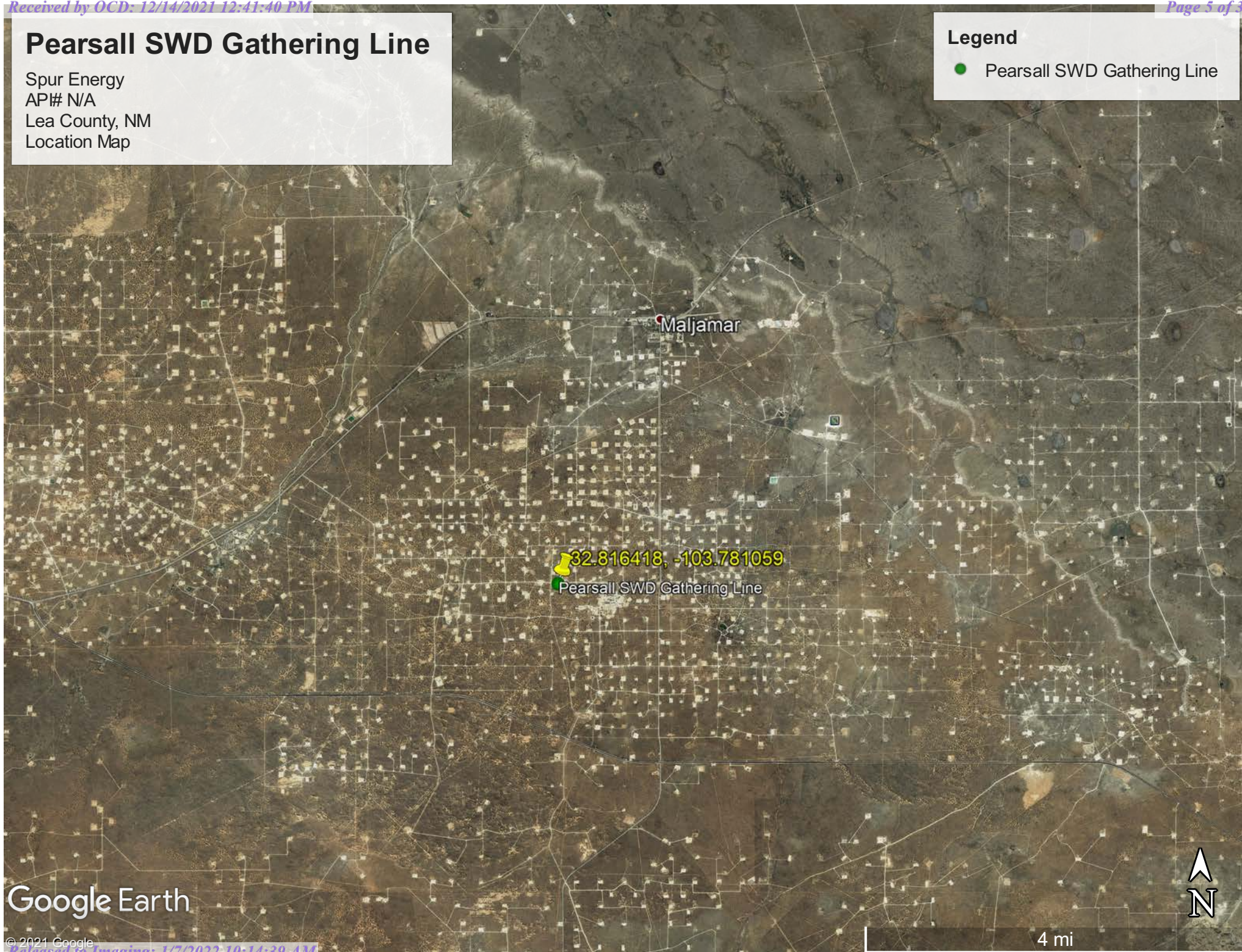
5-Proposed Sampling Plan Map

# Pearsall SWD Gathering Line

Spur Energy  
API# N/A  
Lea County, NM  
Location Map

## Legend

● Pearsall SWD Gathering Line



Google Earth

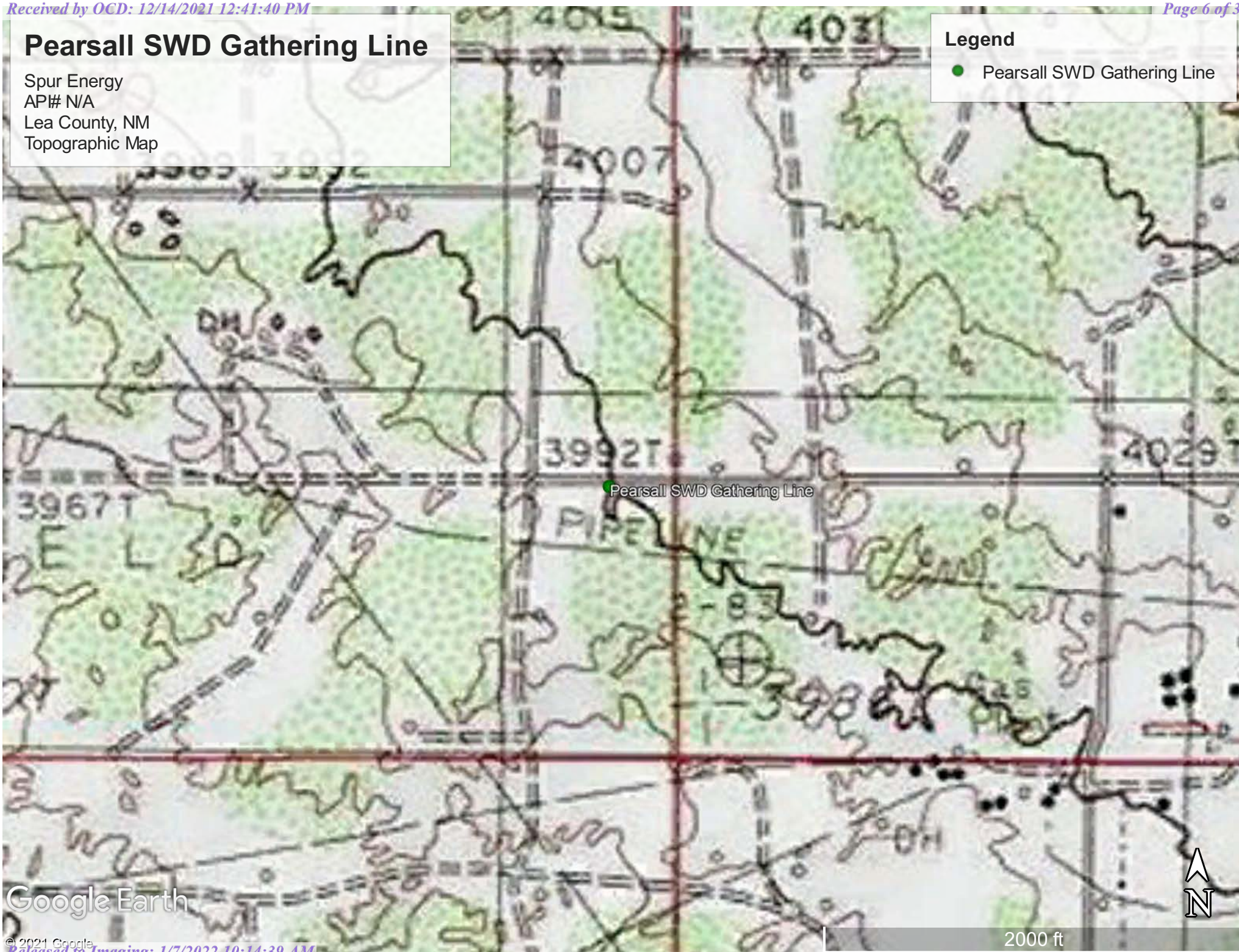
4 mi

## Pearsall SWD Gathering Line

Spur Energy  
AP# N/A  
Lea County, NM  
Topographic Map

### Legend

● Pearsall SWD Gathering Line



Google Earth

# Pearsall SWD Gathering Line

Spur Energy  
API# N/A  
Lea County, NM  
Karst Map

- Legend**
- High Karst
  - Low Karst
  - Medium Karst



Google Earth

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# Pearsall SWD Gathering Line

Spur Energy  
API# N/A  
Lea County, NM  
Site Map

## Legend

- GC Federal #47
- ⊙ Samples
- Spill Area



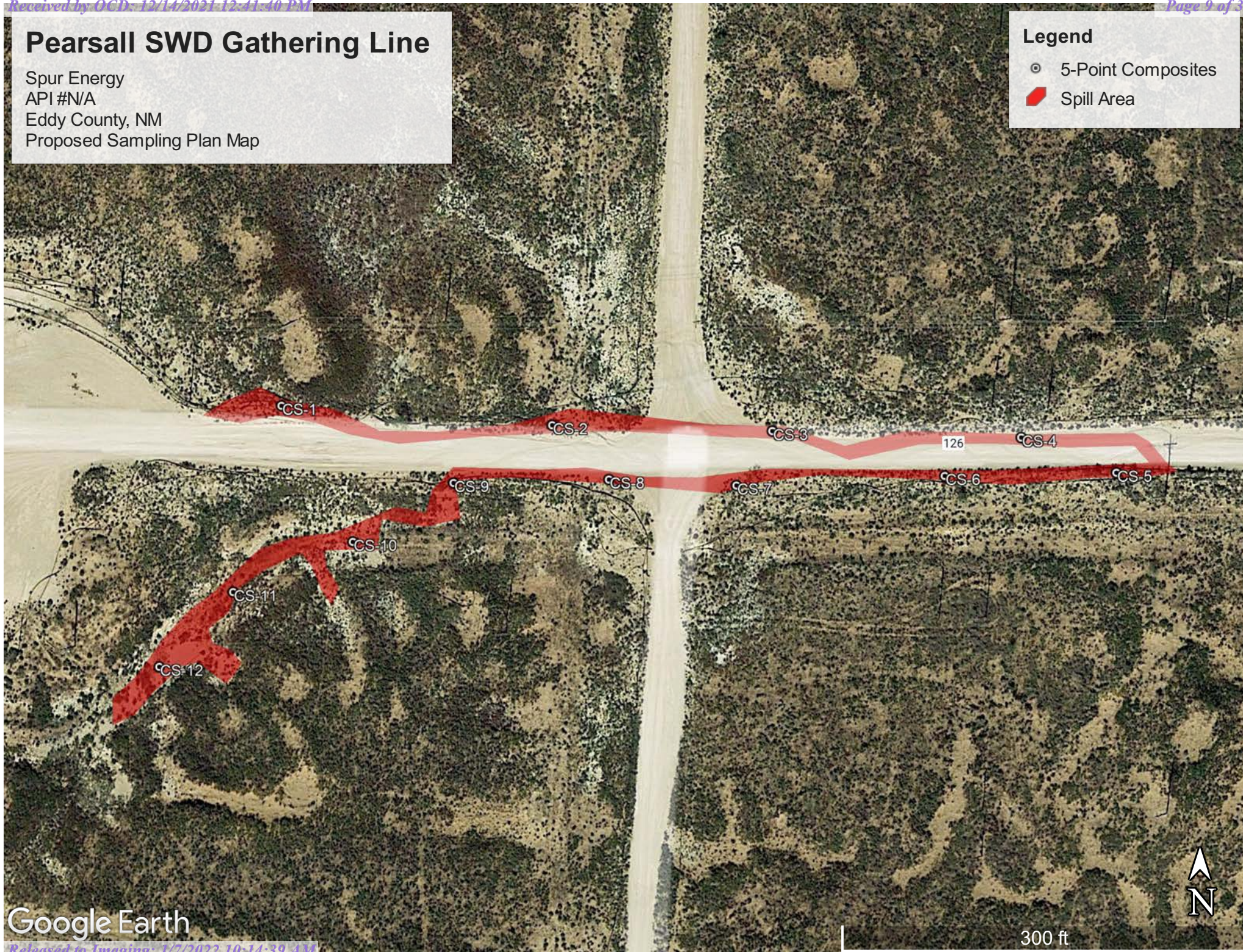
Google Earth

# Pearsall SWD Gathering Line

Spur Energy  
API #N/A  
Eddy County, NM  
Proposed Sampling Plan Map

## Legend

- 5-Point Composites
- Spill Area



Google Earth



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## **Appendix A**

Water Surveys:

OSE

USGS

Surface Water Map



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">RA 12042 POD1</a>		RA	LE	2	2	1	28	17S	32E	614891	3631181	884	400		
<a href="#">RA 10175</a>		RA	LE		2	1	28	17S	32E	614814	3631005*	918	158		
<a href="#">RA 12522 POD1</a>		RA	LE	3	3	4	21	17S	32E	614941	3631122	956	100		
<a href="#">RA 12020 POD1</a>		RA	LE	2	2	1	28	17S	32E	614828	3630954	961	120	81	39
<a href="#">RA 12522 POD2</a>		RA	LE	2	2	1	28	17S	32E	614949	3631098	975	100		
<a href="#">RA 12522 POD3</a>		RA	LE	4	4	3	28	17S	32E	614980	3631093	1005	100		
<a href="#">RA 12521 POD1</a>		RA	LE	3	3	4	21	17S	32E	615127	3631271	1068	105	92	13
<a href="#">RA 12020 POD3</a>		RA	LE	2	1	2	28	17S	32E	615152	3631019	1190	112	83	29
<a href="#">RA 12721 POD2</a>		RA	LE	1	1	4	28	17S	32E	615055	3630407	1517	124	75	49
<a href="#">RA 12721 POD1</a>		RA	LE	3	2	3	28	17S	32E	614645	3630141	1546	125		
<a href="#">RA 12721 POD3</a>		RA	LE	2	3	4	28	17S	32E	615417	3629979	2077	115		
<a href="#">RA 12721 POD8</a>		RA	LE	1	2	1	33	17S	32E	614640	3629463	2194	130	108	22
<a href="#">RA 12721 POD4</a>		RA	LE	1	1	2	33	17S	32E	615055	3629589	2215	140		
<a href="#">RA 12721 POD5</a>		RA	LE	2	4	4	28	17S	32E	615650	3629961	2244	130	124	6
<a href="#">RA 12721 POD7</a>		RA	LE	1	3	2	33	17S	32E	615064	3629198	2578	130		
<a href="#">RA 12721 POD6</a>		RA	LE	1	2	2	33	17S	32E	615530	3629431	2587	130		

Average Depth to Water: **93 feet**

Minimum Depth: **75 feet**

Maximum Depth: **124 feet**

**Record Count:** 16

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 614108

**Northing (Y):** 3631592.6

**Radius:** 4000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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WATER COLUMN/ AVERAGE DEPTH TO WATER



# New Mexico Office of the State Engineer

## Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)  
 (quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
RA 12042	POD1	2	2	1	28	17S	32E	614891	3631181

**Driller License:** 1261 **Driller Company:** DARRELL CRASS DRILLING CO., INC  
**Driller Name:** CRASS, DARRELL (LD)  
**Drill Start Date:** 11/13/2013 **Drill Finish Date:** 11/22/2013 **Plug Date:**  
**Log File Date:** 12/12/2013 **PCW Rev Date:** **Source:**  
**Pump Type:** **Pipe Discharge Size:** **Estimated Yield:**  
**Casing Size:** 10.00 **Depth Well:** 400 feet **Depth Water:**

Water Bearing Stratifications:	Top	Bottom	Description
	10	30	Sandstone/Gravel/Conglomerate

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POINT OF DIVERSION SUMMARY




# New Mexico Office of the State Engineer

## Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

<b>Well Tag</b>	<b>POD Number</b>	<b>Q64 Q16 Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
RA 10175		2 1 28	17S	32E	614814	3631005*	

x

<b>Driller License:</b> 1044	<b>Driller Company:</b> EADES WELL DRILLING & PUMP SERVICE
------------------------------	--

<b>Driller Name:</b> EADES, ALAN
----------------------------------

<b>Drill Start Date:</b> 02/04/2002	<b>Drill Finish Date:</b> 02/04/2002	<b>Plug Date:</b>
<b>Log File Date:</b> 03/06/2002	<b>PCW Rev Date:</b>	<b>Source:</b> Shallow
<b>Pump Type:</b>	<b>Pipe Discharge Size:</b>	<b>Estimated Yield:</b>
<b>Casing Size:</b> 5.75	<b>Depth Well:</b> 158 feet	<b>Depth Water:</b>

x

<b>Water Bearing Stratifications:</b>	<b>Top</b>	<b>Bottom</b>	<b>Description</b>
	87	89	Shallow Alluvium/Basin Fill
	89	116	Shallow Alluvium/Basin Fill
	116	124	Shallow Alluvium/Basin Fill

x

<b>Casing Perforations:</b>	<b>Top</b>	<b>Bottom</b>
	118	158

x

<b>Meter Number:</b> 5380	<b>Meter Make:</b> SENSUS
<b>Meter Serial Number:</b> 560656282	<b>Meter Multiplier:</b> 10.0000
<b>Number of Dials:</b> 6	<b>Meter Type:</b> Diversion
<b>Unit of Measure:</b> Gallons	<b>Return Flow Percent:</b>
<b>Usage Multiplier:</b>	<b>Reading Frequency:</b>

x

### Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount Online
03/20/2002	2002	0	A	RPT		0
05/06/2002	2002	170	A	RPT		0.005
02/13/2003	2002	2410	A	PRT		0.069
02/01/2005	2004	3420	A	ch		0.031

<b>**YTD Meter Amounts:</b>	<b>Year</b>	<b>Amount</b>
	2002	0.074
	2004	0.031

x

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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POINT OF DIVERSION SUMMARY



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## National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

GO

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- [Full News](#) 

Groundwater levels for the Nation

\* IMPORTANT: [Next Generation Station Page](#)

### Search Results -- 1 sites found

site\_no list =

- 324600103484601

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 324600103484601 18S.31E.01.44432

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°46'00", Longitude 103°48'46" NAD27

Land-surface elevation 3,790 feet above NAVD88

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

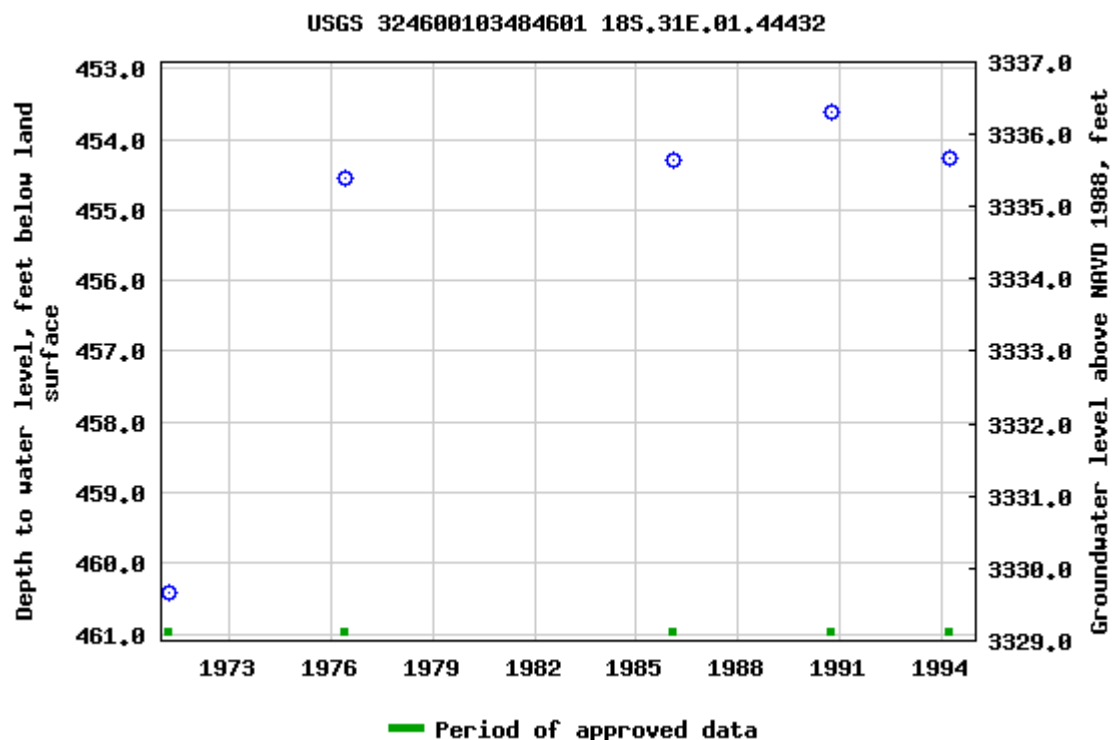
#### Output formats

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[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



Breaks in the plot represent a gap of at least one year between field measurements.

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2021-07-28 16:14:21 EDT

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## National Water Information System: Web Interface

USGS Water Resources

Data Category:


Groundwater

Geographic Area:

United States

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## Search Results -- 1 sites found

site\_no list =

- 324539103490501

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

## USGS 324539103490501 18S.31E.12.23144

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°45'39", Longitude 103°49'05" NAD27

Land-surface elevation 3,775 feet above NAVD88

The depth of the well is 600 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

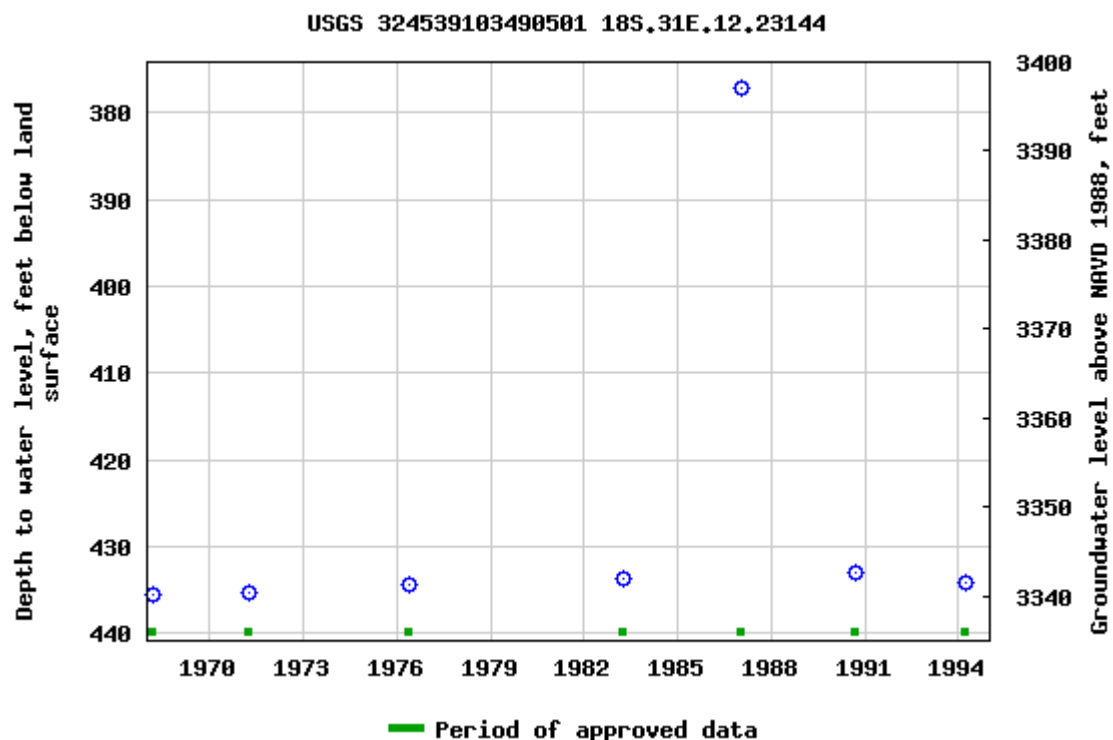
### Output formats

[Table of data](#)

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**

Page Contact Information: [USGS Water Data Support Team](#)

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0.68 0.54 nadww01



# Pearsall SWD Gathering Line

Spur Energy  
API# N/A  
Lea County, NM  
Surface Water Map

## Legend

-  18.29 Miles
-  Playa

Loco Hills

Maljamar

Pearsall SWD Gathering Line

Playa

Google Earth

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10 mi





Pima Environmental Services

**Appendix B**

Soil Survey & Geological Data

FEMA Flood Map

Map Unit Description: Kermit soils and Dune land, 0 to 12 percent slopes---Lea County, New Mexico

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## Lea County, New Mexico

### KM—Kermit soils and Dune land, 0 to 12 percent slopes

#### Map Unit Setting

*National map unit symbol:* dmpx

*Elevation:* 3,000 to 4,400 feet

*Mean annual precipitation:* 10 to 15 inches

*Mean annual air temperature:* 60 to 62 degrees F

*Frost-free period:* 190 to 205 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Kermit and similar soils:* 46 percent

*Dune land:* 44 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Kermit

##### Setting

*Landform:* Dunes

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex, linear, concave

*Across-slope shape:* Convex

*Parent material:* Calcareous sandy eolian deposits derived from sedimentary rock

##### Typical profile

*A - 0 to 8 inches:* fine sand

*C - 8 to 60 inches:* fine sand

##### Properties and qualities

*Slope:* 5 to 12 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Excessively drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Very high (20.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 3 percent

*Gypsum, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 2.0

*Available water capacity:* Low (about 3.1 inches)

Map Unit Description: Kermit soils and Dune land, 0 to 12 percent slopes---Lea County, New Mexico

---

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* A

*Ecological site:* R042XC022NM - Sandhills

*Hydric soil rating:* No

**Description of Dune Land****Setting**

*Landform:* Dunes

*Landform position (two-dimensional):* Shoulder, backslope, footslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex, linear, concave

*Across-slope shape:* Convex

**Typical profile**

*A - 0 to 6 inches:* fine sand

*C - 6 to 60 inches:* fine sand

**Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8e

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

**Minor Components****Palomas**

*Percent of map unit:* 3 percent

*Ecological site:* R042XC003NM - Loamy Sand

*Hydric soil rating:* No

**Pyote**

*Percent of map unit:* 3 percent

*Ecological site:* R042XC003NM - Loamy Sand

*Hydric soil rating:* No

**Wink**

*Percent of map unit:* 2 percent

*Ecological site:* R042XC003NM - Loamy Sand

*Hydric soil rating:* No

**Maljamar**

*Percent of map unit:* 2 percent

*Ecological site:* R042XC003NM - Loamy Sand

*Hydric soil rating:* No

**Data Source Information**

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 17, Jun 8, 2020

## National Flood Hazard Layer FIRMette



103°47'10"W 32°49'14"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/28/2021 at 5:07 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1000 1,500 2,000 Feet 1:6,000

103°46'33"W 32°48'44"N



Pima Environmental Services

**Appendix C**

C-141 Form

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 Department  
  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

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

Incident ID	NAPP2113148964
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

### Location of Release Source

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

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


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

Incident ID	NAPP2113148964
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

### Initial Response

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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: _____	Title: _____
Signature:  _____	Date: _____
email: _____	Telephone: _____
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>5/16/2021</u>

Incident ID	NAPP2113148964
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>81</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

### **Characterization Report Checklist:** *Each of the following items must be included in the report.*

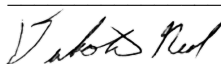
- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

## Oil Conservation Division

Incident ID	NAPP2113148964
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Dakota NeelTitle: HSE CoordinatorSignature: Date: 7/29/2021email: dneel@spurepllc.comTelephone: 832-849-7837**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Incident ID	NAPP2113148964
District RP	
Facility ID	
Application ID	

## Remediation Plan


**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Dakota Neel Title: HSE Coordinator  
Signature:  Date: 10/29/2021  
email: dneel@spurepllc.com Telephone: 832-849-7837

**OCD Only**

Received by: Chad Hensley Date: 01/07/2022

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature:  Date: 01/07/2022



Pima Environmental Services

## **Appendix D**

Photographic Documentation







Pima Environmental Services

## **Appendix E**

Laboratory Reports



Environment Testing  
America

## ANALYTICAL REPORT

Job Number: 890-643-1

Job Description: GC Fed 47

For:  
EOR/Ridgeway Arizona Oil Corp  
575 N Dairy Ashford  
Suite 210  
Houston, TX 77079  
Attention: Chris Jones

A handwritten signature in black ink that reads "Holly Taylor".

Approved for release.  
Holly Taylor  
Project Manager  
5/12/2021 1:04 PM

---

Holly Taylor, Project Manager  
6701 Aberdeen Ave., Lubbock, TX, 79424  
holly.taylor@eurofinset.com  
05/12/2021

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

**Eurofins Xenco, Carlsbad**

1089 N Canal St., Carlsbad, NM 88220

Tel (575) 988-3199 Fax (575) 988-3199 [www.EurofinsUS.com](http://www.EurofinsUS.com)



## Client Sample Result Summary

Client: EOR/Ridgeway Arizona Oil Corp  
Project/Site: GC Fed 47

Job ID: 890-643-1

<b>Lab Sample ID:</b> 890-643-1	890-643-2	890-643-3	890-643-4	890-643-5
<b>Client Sample ID:</b> S1-Surface	S1-1'	S2-Surface	S2-1'	S3-Surface
<b>Depth:</b> 0	1	0	1	0
<b>Matrix:</b> Solid	Solid	Solid	Solid	Solid
<b>Date Collected:</b> 05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00

## Method: 8021B - Volatile Organic Compounds (GC)

<b>Prepared:</b> 05/07/2021 15:20	05/07/2021 15:20	05/07/2021 15:20	05/07/2021 15:20	05/08/2021 11:39
<b>Analyzed:</b> 05/07/2021 19:27	05/07/2021 18:36	05/07/2021 19:53	05/07/2021 19:01	05/08/2021 15:40
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL	mg/Kg RL
Benzene	<0.00198 U 0.00198	<0.00200 U 0.00200	<0.00200 U 0.00200	<0.00199 U 0.00199
Toluene	<0.00198 U 0.00198	<0.00200 U 0.00200	<0.00200 U 0.00200	<0.00199 U 0.00199
Ethylbenzene	<0.00198 U 0.00198	<0.00200 U 0.00200	<0.00200 U 0.00200	<0.00199 U 0.00199
m-Xylene & p-Xylene	<0.00396 U 0.00396	<0.00399 U 0.00399	<0.00401 U 0.00401	<0.00398 U 0.00398
o-Xylene	<0.00198 U 0.00198	<0.00200 U 0.00200	<0.00200 U 0.00200	<0.00199 U 0.00199
Xylenes, Total	<0.00396 U 0.00396	<0.00399 U 0.00399	<0.00401 U 0.00401	<0.00398 U 0.00398
Total BTEX	<0.00396 U 0.00396	<0.00399 U 0.00399	<0.00401 U 0.00401	<0.00398 U 0.00398

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

<b>Prepared:</b> 05/07/2021 14:20	05/07/2021 14:20	05/07/2021 14:20	05/07/2021 14:20	05/07/2021 14:20
<b>Analyzed:</b> 05/08/2021 01:29	05/08/2021 02:10	05/08/2021 02:31	05/08/2021 02:51	05/08/2021 03:12
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL	mg/Kg RL
Gasoline Range Organics (GRO)-C6-C10	<50.0 U 50.0	<49.9 U 49.9	<49.9 U 49.9	<49.8 U 49.8
Diesel Range Organics (Over C10-C28)	151 50.0	<49.9 U 49.9	<49.9 U 49.9	53.3 49.8
Oil Range Organics (Over C28-C36)	<50.0 U 50.0	<49.9 U 49.9	<49.9 U 49.9	<49.8 U 49.8
Total TPH	151 50.0	<49.9 U 49.9	<49.9 U 49.9	53.3 49.8

## Method: 300.0 - Anions, Ion Chromatography - Soluble

<b>Prepared:</b>				
<b>Analyzed:</b> 05/10/2021 14:27	05/10/2021 14:33	05/10/2021 14:38	05/10/2021 17:14	05/10/2021 17:20
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL	mg/Kg RL
Chloride	16300 252	57.8 5.01	15900 253	35.0 5.04
			35.0 5.04	10300 50.4

## Client Sample Result Summary

Client: EOR/Ridgeway Arizona Oil Corp  
Project/Site: GC Fed 47

Job ID: 890-643-1

<b>Lab Sample ID:</b> 890-643-6	890-643-7	890-643-8	890-643-9	890-643-10
<b>Client Sample ID:</b> S3-1'	S4-Surface	S4-1'	S5-Surface	S5-1'
<b>Depth:</b> 1	0	1	0	1
<b>Matrix:</b> Solid	Solid	Solid	Solid	Solid
<b>Date Collected:</b> 05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00

## Method: 8021B - Volatile Organic Compounds (GC)

<b>Prepared:</b> 05/08/2021 11:39	05/08/2021 11:39	05/08/2021 11:39	05/08/2021 11:39	05/08/2021 11:39
<b>Analyzed:</b> 05/08/2021 16:00	05/08/2021 16:20	05/08/2021 16:41	05/08/2021 17:01	05/08/2021 17:22
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL	mg/Kg RL
Benzene	<0.00199 U 0.00199	<0.00200 U 0.00200	<0.00198 U 0.00198	<0.00200 U 0.00200
Toluene	<0.00199 U 0.00199	<0.00200 U 0.00200	<0.00198 U 0.00198	<0.00200 U 0.00200
Ethylbenzene	<0.00199 U 0.00199	<0.00200 U 0.00200	<0.00198 U 0.00198	<0.00200 U 0.00200
m-Xylene & p-Xylene	<0.00398 U 0.00398	<0.00400 U 0.00400	<0.00397 U 0.00397	<0.00401 U 0.00401
o-Xylene	<0.00199 U 0.00199	<0.00200 U 0.00200	<0.00198 U 0.00198	<0.00200 U 0.00200
Xylenes, Total	<0.00398 U 0.00398	<0.00400 U 0.00400	<0.00397 U 0.00397	<0.00401 U 0.00401
Total BTEX	<0.00398 U 0.00398	<0.00400 U 0.00400	<0.00397 U 0.00397	<0.00401 U 0.00401

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

<b>Prepared:</b> 05/07/2021 14:20	05/07/2021 14:20	05/07/2021 14:20	05/07/2021 14:20	05/07/2021 14:20
<b>Analyzed:</b> 05/08/2021 03:32	05/08/2021 03:53	05/08/2021 04:14	05/08/2021 04:34	05/08/2021 04:55
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL	mg/Kg RL
Gasoline Range Organics (GRO)-C6-C10	<49.8 U 49.8	<50.0 U 50.0	<50.0 U 50.0	<49.9 U 49.9
Diesel Range Organics (Over C10-C28)	<49.8 U 49.8	<50.0 U 50.0	<50.0 U 50.0	<49.9 U 49.9
Oil Range Organics (Over C28-C36)	<49.8 U 49.8	<50.0 U 50.0	<50.0 U 50.0	<49.9 U 49.9
Total TPH	<49.8 U 49.8	<50.0 U 50.0	<50.0 U 50.0	<49.9 U 49.9

## Method: 300.0 - Anions, Ion Chromatography - Soluble

<b>Prepared:</b>				
<b>Analyzed:</b> 05/10/2021 17:25	05/10/2021 15:21	05/10/2021 15:37	05/10/2021 15:43	05/10/2021 15:48
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL	mg/Kg RL
Chloride	250 4.97	10.2 F1 5.05	<5.02 U 5.02	8.64 5.03

## Client Sample Result Summary

Client: EOR/Ridgeway Arizona Oil Corp  
Project/Site: GC Fed 47

Job ID: 890-643-1

<b>Lab Sample ID:</b> 890-643-11	890-643-12	890-643-13	890-643-14
<b>Client Sample ID:</b> S6-Surface	S6-1'	S7-Surface	S7-1'
<b>Depth:</b> 0	1	0	1
<b>Matrix:</b> Solid	Solid	Solid	Solid
<b>Date Collected:</b> 05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00	05/06/2021 00:00

## Method: 8021B - Volatile Organic Compounds (GC)

<b>Prepared:</b> 05/08/2021 11:39	05/08/2021 11:39	05/08/2021 11:39	05/08/2021 11:39
<b>Analyzed:</b> 05/08/2021 17:42	05/08/2021 18:02	05/08/2021 18:23	05/08/2021 18:43
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL
Benzene	<0.00201 U 0.00201	<0.00200 U 0.00200	<0.00202 U 0.00202
Toluene	<0.00201 U 0.00201	<0.00200 U 0.00200	<0.00202 U 0.00202
Ethylbenzene	<b>0.00273</b> 0.00201	<0.00200 U 0.00200	<0.00202 U 0.00202
m-Xylene & p-Xylene	<0.00402 U 0.00402	<0.00401 U 0.00401	<0.00404 U 0.00404
o-Xylene	<0.00201 U 0.00201	<0.00200 U 0.00200	<0.00202 U 0.00202
Xylenes, Total	<0.00402 U 0.00402	<0.00401 U 0.00401	<0.00404 U 0.00404
Total BTEX	<0.00402 U 0.00402	<0.00401 U 0.00401	<0.00404 U 0.00404

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

<b>Prepared:</b> 05/07/2021 14:20	05/07/2021 14:52	05/07/2021 14:52	05/07/2021 14:52
<b>Analyzed:</b> 05/08/2021 05:16	05/07/2021 17:10	05/07/2021 17:30	05/07/2021 17:51
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL
Gasoline Range Organics (GRO)-C6-C10	<50.0 U 50.0	<50.0 U 50.0	<49.9 U 49.9
Diesel Range Organics (Over C10-C28)	<b>300</b> 50.0	<b>52.0</b> 50.0	<49.9 U 49.9
Oil Range Organics (Over C28-C36)	<b>54.8</b> 50.0	<50.0 U 50.0	<49.9 U 49.9
Total TPH	<b>355</b> 50.0	<b>52.0</b> 50.0	<49.9 U 49.9

## Method: 300.0 - Anions, Ion Chromatography - Soluble

<b>Prepared:</b>			
<b>Analyzed:</b> 05/10/2021 15:54	05/10/2021 16:10	05/10/2021 17:41	05/10/2021 16:20
<b>Analyte</b>	<b>Unit/RL:</b> mg/Kg RL	mg/Kg RL	mg/Kg RL
Chloride	<b>22000</b> 250	<b>87.1</b> 4.99	<b>713</b> 4.96

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 66944

**CONDITIONS**

Operator: Pima Environmental Services, LLC 5614 N Lovington Hwy Hobbs, NM 88240	OGRID: 329999
	Action Number: 66944
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
chensley	SA-1000 application approved for sample points S-1,2,3, and S-7. The OCD request S-6 be remediated with alternative method.	1/7/2022