

Incident ID	NAB1602127288
District RP	2RP-3504
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>&lt;50</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 checked="" type="checkbox"/> Yes <input 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.

Incident ID	NAB1602127288
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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: Dale Woodall Title: EHS Professional  
Signature: Dale Woodall Date: 1/4/2023  
email: dale.woodall@dvn.com Telephone: 575-748-1838

**OCD Only**

Received by: Jocelyn Harimon Date: 01/04/2023

Incident ID	NAB1602127288
District RP	2RP-3504
Facility ID	
Application ID	

## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Dale Woodall Title: EHS Professional  
Signature: Dale Woodall Date: 1/4/2023  
email: dale.woodall@dvn.com Telephone: 575-748-1838

**OCD Only**

Received by: Jocelyn Harimon Date: 01/04/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Brittany Hall Date: 1/4/2023  
Printed Name: Brittany Hall Title: Environmental Scientist



**Pima Environmental Services**  
**5614 N. Lovington Highway**  
**Hobbs, NM 88240**  
**575-964-7740**

January 3, 2023

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

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

**Re: Site Assessment, Remediation, and Closure Report**  
**Hackberry 19 Federal #001**  
**API No. 30-015-30092**  
**GPS: Latitude 32.6476822 Longitude -103.9106064**  
**ULSTR - F, 19, T19S, R31E**  
**Eddy County, NM**  
**NMOCD Ref. No. NAB1602127288**

Pima Environmental Services, LLC. (Pima) has been contracted by Devon Energy Production Company, LP (Devon) to perform a spill assessment, remediation activities, and submit this closure report for a crude oil release that occurred at the Hackberry 19 Federal #001 (Hackberry). The initial C-141 was submitted on January 20, 2016 (Appendix C). This incident was assigned Incident ID NAB1602127288 by the New Mexico Oil Conservation Division (NMOCD).

### Site Characterization

The Hackberry is located approximately twenty-four (24) miles northeast of Carlsbad, NM. This spill site is in Unit F, Section 19, Township 19S, Range 31E, Latitude 32.6476822 Longitude -103.9106064, Eddy County, NM. Figure 1 references a Location Map.

Per the New Mexico Bureau of Geology and Mineral Resources, the geology is made up of 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-Berino fine sands, 0 to 3 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 high potential for karst geology to be present around the Hackberry (Figure 3).

According to the New Mexico Office of the State Engineer, depth to the nearest groundwater in this area is 180 feet below grade surface (BGS). According to the United States Geological Survey (USGS), the nearest groundwater is 23 feet BGS. The closest waterway is Hackberry Lake located approximately 1.34 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' (High Karst)	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**

**NAB1602127288:** On January 19, 2016, two oil tanks had holes due to corrosion on bottom causing a 65 bbls of oil release. Vac truck was called to transfer 60 bbls oil to third oil tank to prevent further release. Tanks will be repaired when possible. 65 bbls oil was released on the East side of the facility. 60 bbls oil were recovered via vacuum truck. All fluid remained on the pad inside unlined containment. Environmental Agency will be called for remediation.

**Site Assessment and Soil Sampling Results**

On August 10, 2020, Pima Environmental personnel mobilized to the site to conduct an assessment and obtain soil samples with a hand auger. We sampled based on the grade of the battery and the description from the initial C-141 in a grid pattern. The laboratory results of this sampling event can be seen in the following data table.

8-10-20 Soil Sample Results

<b>NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is &lt;50')</b>								
<b>Devon Energy - Hackberry 19 Fed #1</b>								
<b>Date: 8/10/20</b>		<b>NM Approved Laboratory Results</b>						
<b>Sample ID</b>	<b>Depth (BGS)</b>	<b>BTEX mg/kg</b>	<b>Benzene mg/kg</b>	<b>GRO mg/kg</b>	<b>DRO mg/kg</b>	<b>MRO mg/kg</b>	<b>Total TPH mg/kg</b>	<b>Cl mg/kg</b>
BG-1	0	ND	ND	ND	ND	ND	ND	16
BG-2	0	ND	ND	ND	ND	ND	ND	ND
BG-3	0	ND	ND	ND	ND	ND	ND	16
S-1	0-6"	ND	ND	ND	ND	ND	ND	12000
S-2	0-6"	ND	ND	ND	6100	2070	8170	64
	1'	ND	ND	ND	468	173	641	48
S-3	0-6"	ND	ND	ND	1700	682	2382	208
	1'	ND	ND	ND	416	142	558	48
	2'	ND	ND	ND	17.4	25.8	43.2	48
	3'	ND	ND	ND	ND	ND	ND	48
S-4	0-6"	ND	ND	ND	241	133	374	144
	1'	ND	ND	ND	3990	1020	5010	48
	2'	ND	ND	ND	92.7	71.8	164.5	ND
	3'	ND	ND	ND	24	22.1	46.1	32
S-5	0-6"	ND	ND	ND	9360	3340	12700	16
	1'	ND	ND	ND	2440	856	3296	16
	2'	ND	ND	ND	219	92.7	311.7	ND
	3'	ND	ND	ND	139	46.5	185.5	16
S-6	0-6"	ND	ND	ND	3830	1660	5490	32
	1'	ND	ND	134	6690	1700	8524	16
	2'	ND	ND	ND	1650	662	2312	16
	3'	ND	ND	ND	834	428	1262	16

ND- Analyte Not Detected

**Remediation Activities**

On October 29, 2020, Pima personnel mobilized equipment to this site and began remediation activities. The entire spill area was excavated to various depths then sidewall and bottom composite samples were obtained to ensure that the horizontal and vertical extents of the contamination had been removed. Each composite sample was representative of no more than 200 square feet. The area around S1 which was contaminated with chlorides was hauled to an NMOCD-approved, lined landfill. The remaining contaminated soil was stockpiled on the pad and laid out in 6-8" staging areas. This material was chemically treated with SoilRX for hydrocarbons (Appendix F) by spraying it down and tilling it in. Each batch was treated and tilled 3 times to ensure proper bonding of the chemical to the soil. Once all the soil had been treated, it was stockpiled on the pad to be used for backfilling.

## 11-2-20 Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is <50')								
Devon Energy - Hackberry 19 Fed #1								
Date: 11/2/20		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
S1 1' Bottom	1'	ND	ND	ND	ND	ND	ND	--
S1 1' Wall	1'	ND	ND	ND	ND	ND	ND	--
S2 1' Bottom	1'	ND	ND	ND	ND	ND	ND	--
S2 1' Wall	1'	ND	ND	ND	ND	ND	ND	--
S3 1' Bottom	1'	ND	ND	ND	12.9	ND	12.9	--
S3 1' Wall	1'	ND	ND	ND	142	64.7	206.7	--
S4 1' Wall	1'	ND	ND	ND	ND	ND	0	--
S4 1' Bottom	1'	ND	ND	ND	65.7	27.9	93.6	--
S5 4' Wall	4'	ND	ND	ND	ND	ND	0	--
S5 4' Bottom	4'	ND	ND	ND	ND	ND	ND	--
S5 6' Bottom	6'	ND	ND	ND	ND	ND	0	--
S5 8' Bottom	8'	ND	ND	ND	24.8	ND	24.8	--
S6 4' Wall	4'	ND	ND	ND	3180	3170	6350	--
S6 4' Bottom	4'	ND	ND	ND	29.2	17	46.2	--
S6 6' Bottom	6'	ND	ND	42.6	80.3	25.3	148.2	--
S6 8' Bottom	8'	ND	ND	16.6	42.6	21.2	80.4	--
S7 4' Wall	4'	ND	ND	ND	ND	ND	0	--
S7 4' Bottom	4'	ND	ND	ND	ND	ND	0	--

ND – Analyte Not Detected

On November 6, 2020, Pima personnel returned to the site to further excavate and confirm the S3 and S6 sidewall areas. An additional 1' of material was removed from each sidewall area then composite samples were collected from each wall to confirm all the contamination was removed. This material was also treated with the SoilRX for hydrocarbons using the same method as previously stated. The results of this sampling event can be found in the following table.

## 11-6-20 Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is <50')								
Devon Energy - Hackberry 19 Fed #1								
Date: 11/6/20		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
S3 Comp 6" Last	6"	ND	ND	ND	ND	ND	0	--
S6 Comp 6" Last	6"	ND	ND	ND	ND	ND	0	--

ND – Analyte Not Detected

On December 15, 2022, after an NMOCD rejection of the previous closure report, Pima personnel returned to the site to definitively complete the delineation of the spill area and confirm that the previous remediation activities did in fact remove all contaminants from the spill areas. After sending a 48-hour notification via email, we collected vertical and horizontal samples from various depths. The laboratory results from this sampling event can be seen in the following data table. A Confirmation Sample Map can be found in Figure 5.

## 12-15-2022 Confirmation Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is <50')								
Devon Energy - Hackberry 19 Fed #1								
Date: 12/15/22		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
SW-1	1'	ND	ND	ND	ND	ND	0	ND
SW-2	1'	ND	ND	ND	ND	ND	0	ND
SW-3	1'	ND	ND	ND	ND	ND	0	ND
SW-4	1'	ND	ND	ND	ND	ND	0	ND
SW-5	1'	ND	ND	ND	ND	ND	0	ND
SW-6	1'	ND	ND	ND	ND	ND	0	ND
SW-7	1'	ND	ND	ND	ND	ND	0	ND
SW-8	1'	ND	ND	ND	ND	ND	0	ND
SW-9	1'	ND	ND	ND	ND	ND	0	ND
SW-10	1'	ND	ND	ND	ND	ND	0	ND
SW-11	1'	ND	ND	ND	ND	ND	0	ND
CS1 1'	1'	ND	ND	ND	ND	ND	0	ND
CS1 2'	2'	ND	ND	ND	ND	ND	0	ND
CS1 4'	4'	ND	ND	ND	ND	ND	0	ND
CS2 1'	1'	ND	ND	ND	ND	ND	0	ND
CS2 2'	2'	ND	ND	ND	ND	ND	0	ND
CS2 4'	4'	ND	ND	ND	ND	ND	0	ND
CS3 1'	1'	0.3329	ND	ND	ND	ND	0	ND
CS3 2'	2'	ND	ND	ND	ND	ND	0	ND
CS3 4'	4'	ND	ND	ND	ND	ND	0	ND
CS4 1'	1'	ND	ND	ND	ND	ND	0	ND
CS4 2'	2'	ND	ND	ND	ND	ND	0	ND
CS4 4'	4'	ND	ND	ND	ND	ND	0	ND
CS5 1'	1'	ND	ND	ND	ND	ND	0	ND
CS5 4'	4'	ND	ND	ND	ND	ND	0	ND
CS5 8'	8'	ND	ND	ND	ND	ND	0	ND
CS6 1'	1'	ND	ND	ND	ND	ND	0	ND
CS6 4'	4'	ND	ND	ND	ND	ND	0	ND
CS6 8'	8'	ND	ND	ND	ND	ND	0	ND
CS7 1'	1'	ND	ND	ND	ND	ND	0	ND
CS7 2'	2'	ND	ND	ND	ND	ND	0	ND
CS7 4'	4'	ND	ND	ND	ND	ND	0	ND

ND – Analyte Not Detected

Complete laboratory reports can be found in Appendix E.

**Closure Request**

After careful review, Pima requests that this incident, NAB1602127288 be closed. Devon has complied with the applicable closure requirements set forth in rule 19.15.19.12 NMAC.

Should you have any questions or need additional information, please feel free to contact Gio Gomez at 806-782-1151 or [gio@pimaoil.com](mailto:gio@pimaoil.com).

**Attachments**

Figures:

- 1- Location Map
- 2- Topographic Map
- 3- Karst Map
- 4- Site Map
- 5- Confirmation Sample Map

Appendices:

- Appendix A – Referenced Water Surveys
- Appendix B – Soil Survey and Geological Data
- Appendix C – C-141 Form & 48-Hour Notification
- Appendix D – Photographic Documentation
- Appendix E – Laboratory Reports
- Appendix F – SoilRX Information & Protocols



Pima Environmental Services

**Figures:**

- 1 - Location Map
- 2 - Topographic Map
- 3 - Karst Map
- 4 - Site Map
- 5 - Confirmation Sample Map



# Hackberry 19 Fed 1

Devon Energy  
API #30-015-30092  
Eddy County, NM  
Location Map

## Legend

● Hackberry 19 Fed 1



Google Earth

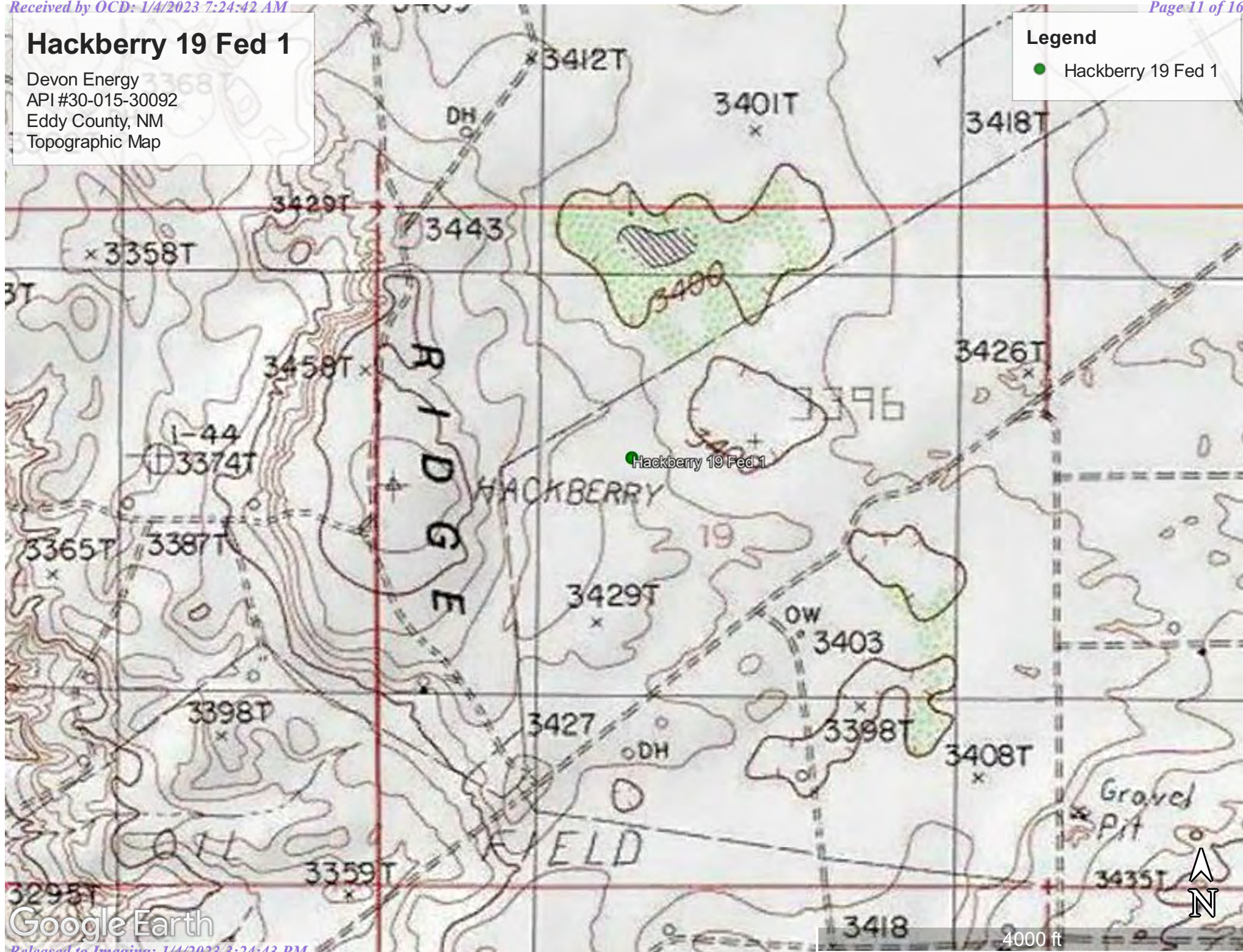


# Hackberry 19 Fed 1

Devon Energy  
API #30-015-30092  
Eddy County, NM  
Topographic Map

## Legend

● Hackberry 19 Fed 1





# Hackberry 19 Fed 1

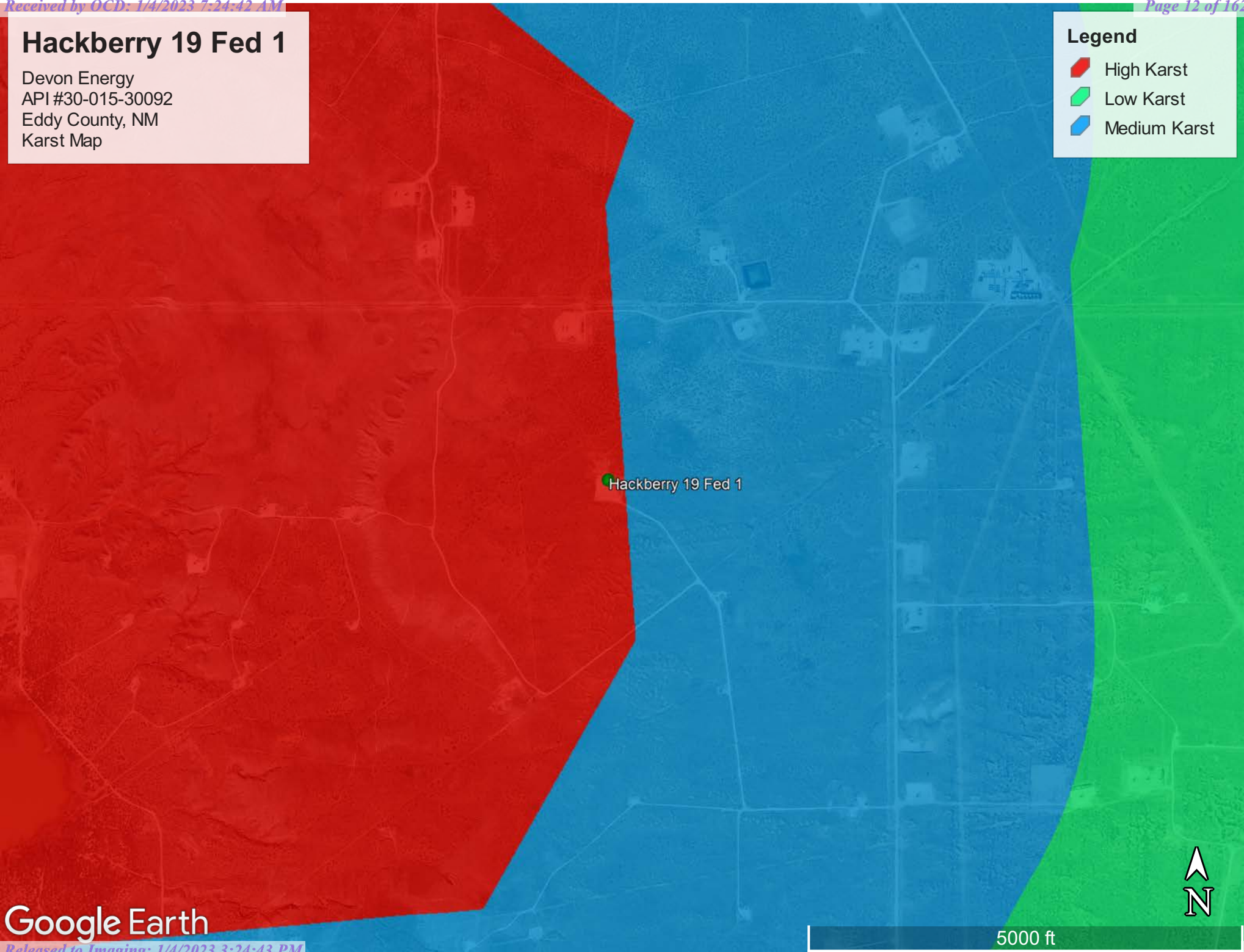
Devon Energy  
API #30-015-30092  
Eddy County, NM  
Karst Map

Legend

High Karst

Low Karst

Medium Karst





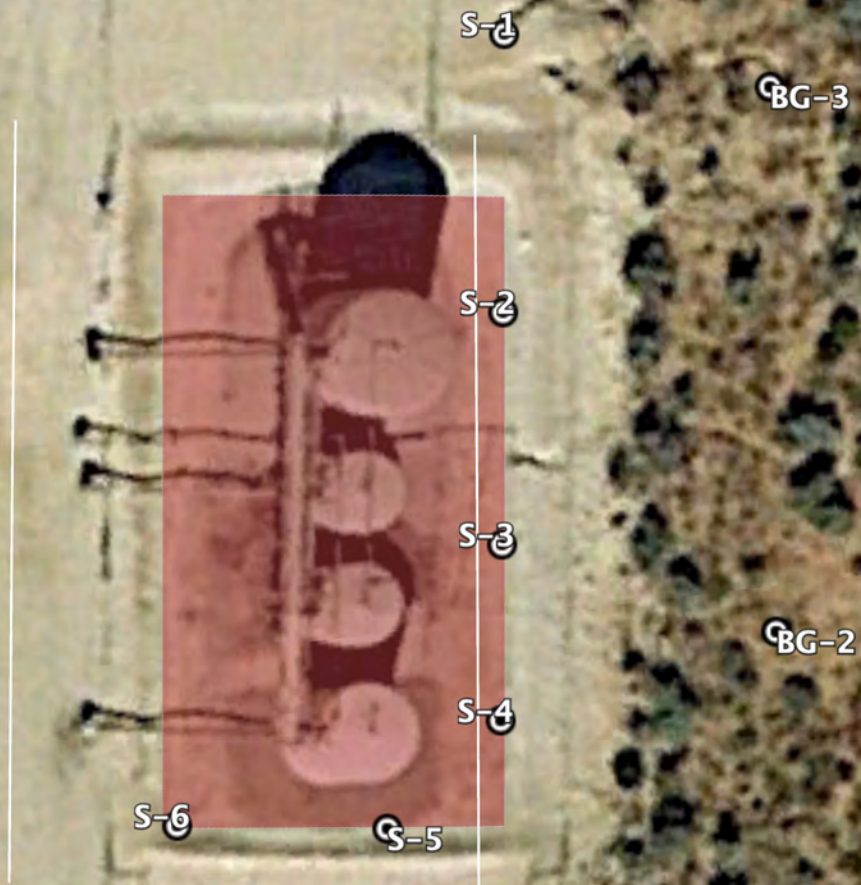


# Devon Energy

Hackberry 19 Fed #1  
API 30-015-30092  
Eddy County, NM  
Site Map

## Legend

-  28 meters
-  spill area








# Hackberry 19 Fed 1

Devon Energy  
API #30-015-30092  
Eddy County, NM  
Confirmation Sample Map

## Legend

-  Excavated Area
-  Horizontal Samples
-  Vertical Samples





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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	Tw	Rng	X	Y	Distance	Depth	Well	Depth	Water	Column
<a href="#">CP 00873 POD1</a>		CP	LE	1	1	19	19S	31E		601772	3613147*	561		340		180	160
<a href="#">CP 00357 POD1</a>		CP	ED	4	4	1	24	19S	30E	600667	3612631*	1510		630			
<a href="#">CP 00357 POD2</a>		CP	ED	4	3	1	24	19S	30E	600265	3612627*	1911		630			
<a href="#">CP 01907 POD1</a>		CP	ED	4	2	2	18	19S	31E	603017	3614737	2155					
<a href="#">CP 00722 POD2</a>		CP	ED	2	1	1	25	19S	30E	600276	3611620*	2209		350		65	285
Average Depth to Water:																122 feet	
Minimum Depth:																65 feet	
Maximum Depth:																180 feet	

**Record Count:** 5

### UTM NAD83 Radius Search (in meters):

**Easting (X):** 602172.61

**Northing (Y):** 3612753.5

**Radius:** 3000

\*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.

12/7/22 4:39 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



[USGS Home](#)  
[Contact USGS](#)  
[Search USGS](#)

## National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

- See the [Water Data for the Nation Blog](#) for the latest news and updates.

Groundwater levels for the Nation



Important: [Next Generation Monitoring Location Page](#)

## Search Results -- 1 sites found

site\_no list =

- 323810103554201

Minimum number of levels = 1

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

## USGS 323810103554201 19S.30E.25.12133

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°38'10", Longitude 103°55'42" NAD27

Land-surface elevation 3,248 feet above NAVD88

The depth of the well is 42 feet below land surface.

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

This well is completed in the Rustler Formation (312RSLR) local aquifer.

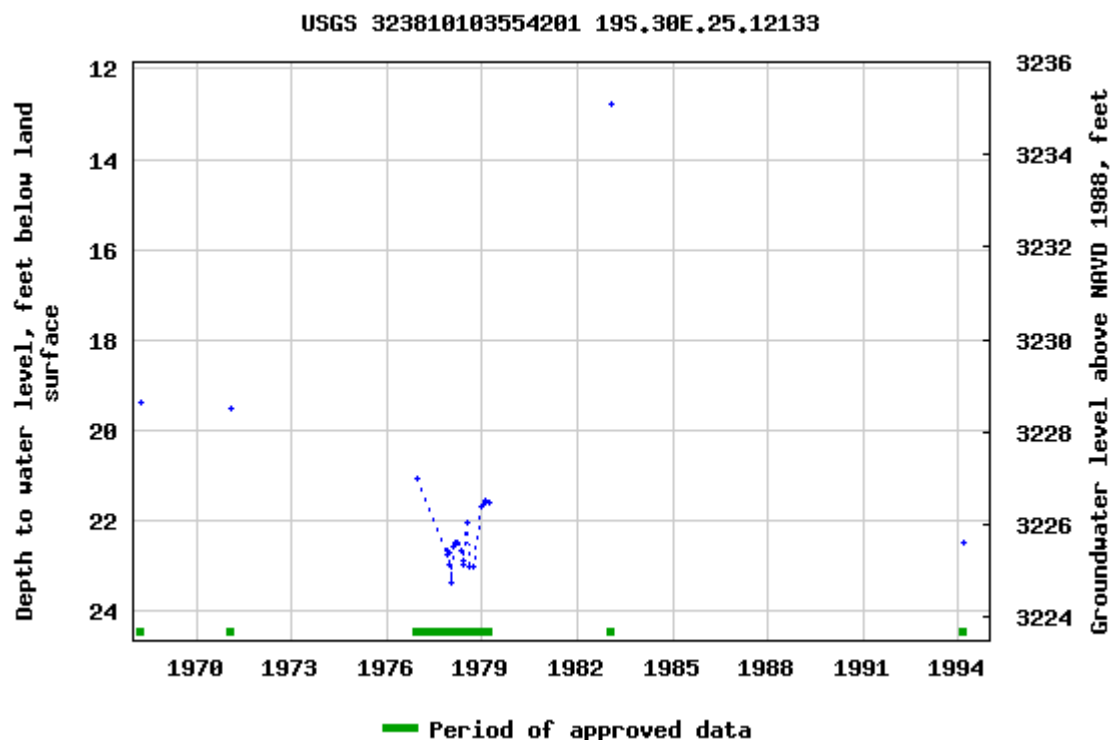
### Output formats

[Table of data](#)

[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: 2022-12-07 18:41:08 EST

0.63 0.5 nadww02







# Hackberry 19 Fed 1

Devon Energy  
API #30-015-30092  
Eddy County, NM  
Surface Water Map

## Legend

-  1.34 Miles
-  Hackberry Lake



Google Earth





Pima Environmental Services

**Appendix B**

Soil Survey & Geological Data

FEMA Flood Map



Map Unit Description: Kermit-Berino fine sands, 0 to 3 percent slopes---Eddy Area, New Mexico

---

## Eddy Area, New Mexico

### KM—Kermit-Berino fine sands, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1w4q

*Elevation:* 3,100 to 4,200 feet

*Mean annual precipitation:* 10 to 14 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 190 to 230 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Kermit and similar soils:* 50 percent

*Berino and similar soils:* 35 percent

*Minor components:* 15 percent

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

#### Description of Kermit

##### Setting

*Landform:* Plains, alluvial fans

*Landform position (three-dimensional):* Talf, rise

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear

*Parent material:* Mixed alluvium and/or eolian sands

##### Typical profile

*H1 - 0 to 7 inches:* fine sand

*H2 - 7 to 60 inches:* fine sand

##### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Excessively drained

*Runoff class:* Negligible

*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

*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 1.0

*Available water supply, 0 to 60 inches:* Low (about 3.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* A

*Ecological site:* R070BD005NM - Deep Sand

*Hydric soil rating:* No

Map Unit Description: Kermit-Berino fine sands, 0 to 3 percent slopes---Eddy Area, New Mexico

---

## Description of Berino

### Setting

*Landform:* Plains, fan piedmonts  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Mixed alluvium and/or eolian sands

### Typical profile

*H1 - 0 to 17 inches:* fine sand  
*H2 - 17 to 50 inches:* fine sandy loam  
*H3 - 50 to 58 inches:* loamy sand

### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 40 percent  
*Maximum salinity:* Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water supply, 0 to 60 inches:* Moderate (about 7.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* B  
*Ecological site:* R070BD003NM - Loamy Sand  
*Hydric soil rating:* No

## Minor Components

### Active dune land

*Percent of map unit:* 15 percent  
*Hydric soil rating:* No

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico  
Survey Area Data: Version 18, Sep 8, 2022

# National Flood Hazard Layer FIRMMette



103°54'57"W 32°39'6"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 Cross Sections with 1% Annual Chance Water Surface Elevation
		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



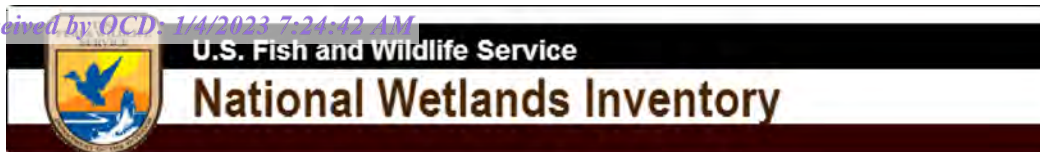
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

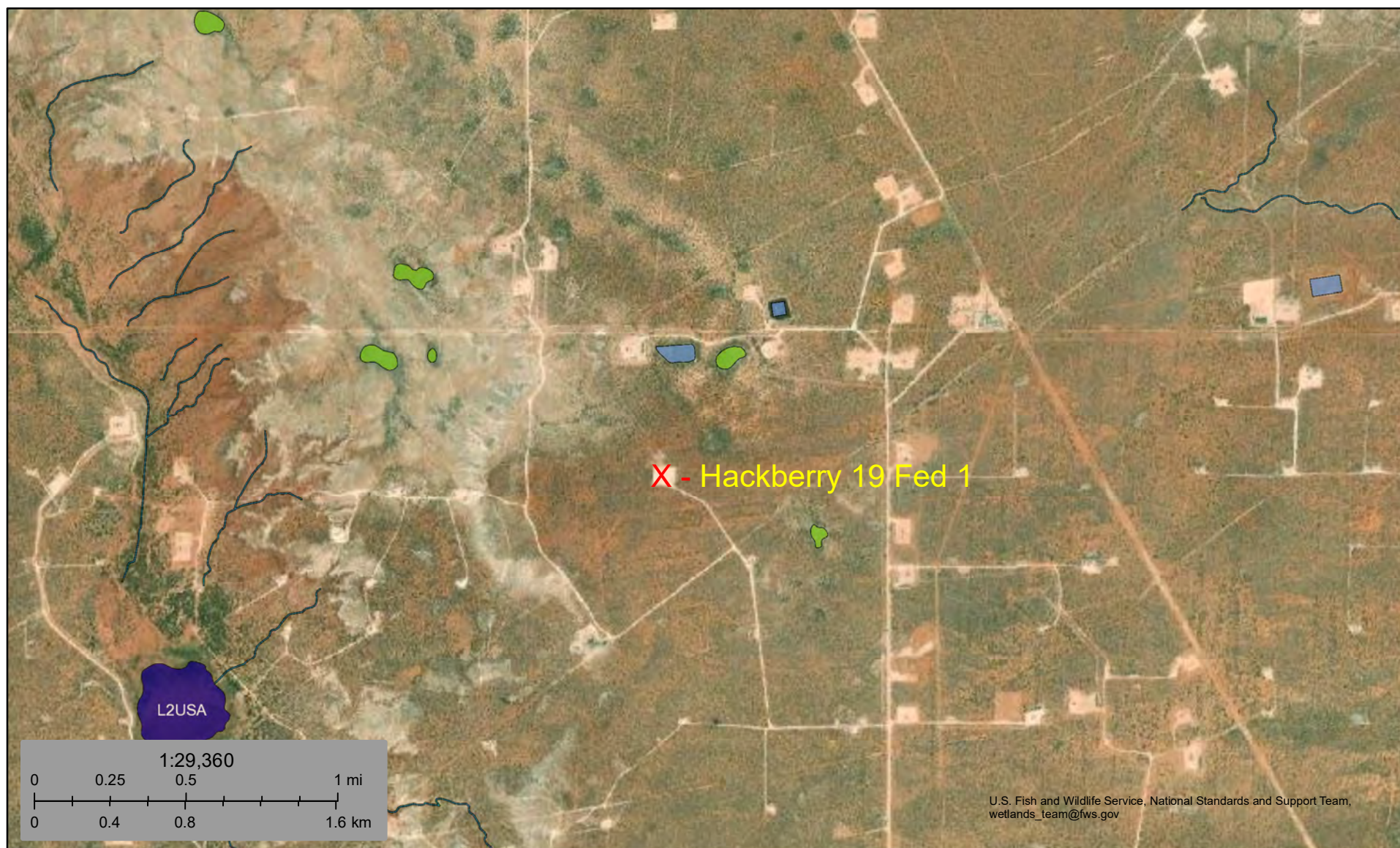
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/7/2022 at 6:44 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by 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.





## Wetlands Map



December 7, 2022

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Pima Environmental Services

**Appendix C**

C-141 Form

48-Hour Notification

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

## NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141  
Revised August 8, 2011

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

JAN 20 2016

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

RECEIVED

## Release Notification and Corrective Action

NAB1602127288

6/137 OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Devon Energy Production Company	Contact	Rudy Zuniga Production Foreman
Address	6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No.	575-390-5435
Facility Name	Hackberry 19 Fed 1	Facility Type	oil

Surface Owner	Federal	Mineral Owner	Federal	API No	30-015-30092
---------------	---------	---------------	---------	--------	--------------

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	19	19S	31E	1980	North	1980	West	Eddy

Latitude: N 32°64'73.01"

Longitude: W 103°91'00.24"

## NATURE OF RELEASE

Type of Release Spill	Oil	Volume of Release	65 bbls oil	Volume Recovered	60 bbls oil
Source of Release	Hole in bottom of tank	Date and Hour of Occurrence	1.19.16 @ 1:15 pm	Date and Hour of Discovery	1.19.16 @ 1:15 pm
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Dara Glass @ BLM Heather Patterson @ OCD		
By Whom?	Jesse Armendariz Assistant Production Foreman	Date and Hour	1.19.16 @ 3:30 pm 1.19.16 @ 3:40 pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	N/A		

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

## Describe Cause of Problem and Remedial Action Taken.\*

Two oil tanks had holes due to corrosion on bottom causing a 65 bbls oil release. Vac truck was called to transfer 60 bbls oil to third oil tank to prevent further release. Tanks will be repaired when possible.

## Describe Area Affected and Cleanup Action Taken.\*

65 bbls oil was released on the East side of the facility. 60 bbls oil were recovered via vacuum truck. All fluid remained on the pad inside unlined containment. Environmental Agency will be called for remediation.

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: <u>Corina Moya</u>	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Corina Moya	Approved by Environmental Specialist: <u>[Signature]</u>	
Title: Field Admin Support	Approval Date: <u>1/21/16</u>	Expiration Date: <u>N/A</u>
E-mail Address: <u>corina.moya@dvn.com</u>	Conditions of Approval: <b>Remediation per O.C.D. Rules &amp; Guidelines</b> <b>SUBMIT REMEDIATION PROPOSAL NO</b> Attached <input type="checkbox"/>	
Date: <u>1.20.2016</u> Phone: <u>575.746.5559</u>	<b>LATER THAN: <u>2/22/16</u></b>	

\* Attach Additional Sheets If Necessary

2RP-3504



Incident ID	NAB1602127288
District RP	2RP-3504
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>&lt;50</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 checked="" type="checkbox"/> Yes <input 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 1/2-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.

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	NAB1602127288
District RP	2RP-3504
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: Dale Woodall Title: EHS Professional  
Signature: Dale Woodall Date: 1/4/2023  
email: dale.woodall@dvn.com Telephone: 575-748-1838

**OCD Only**

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



Incident ID	NAB1602127288
District RP	2RP-3504
Facility ID	
Application ID	

## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Dale Woodall Title: EHS Professional  
Signature: Dale Woodall Date: 1/4/2023  
email: dale.woodall@dvn.com Telephone: 575-748-1838

**OCD Only**

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

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

**From:** [tom@pimaoil.com](mailto:tom@pimaoil.com)  
**To:** [OCDOnline@state.nm.us](mailto:OCDOnline@state.nm.us)  
**Cc:** "Gio PimaOil"; [sebastian@pimaoil.com](mailto:sebastian@pimaoil.com)  
**Subject:** 48-Hour Notification - NAB1602127288  
**Date:** Tuesday, December 13, 2022 2:27:50 PM

---

Good afternoon,

On behalf of Devon Energy, Pima Environmental would like to notify you that we will be collecting confirmation samples at the Hackberry 19 Federal #1 for incident ID NAB1602127288. Pima personnel are scheduled to be on site for this sampling event at approximately 10:00 a.m. On Thursday, December 15, 2022. If you have any questions or concerns, please let me know.

**THANK YOU,**

*Tom Bynum*

Cell – 580-748-1613

Office – 575-964-7740



**Pima Environmental Services, LLC.**

**5614 N Lovington Hwy.**

**Hobbs, NM, 88240**



Pima Environmental Services

## **Appendix D**

Photographic Documentation

## Excavation



## Chemical Treatment of Excavated Material





## Backfill





Pima Environmental Services

## **Appendix E**

Laboratory Reports



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

August 13, 2020

CHRIS JONES

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: HACKBERRY 19 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 08/11/20 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BG 1 (H002086-01)**

BTX 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	08/13/2020	ND	1.92	95.9	2.00	3.29	
Toluene*	<0.050	0.050	08/13/2020	ND	1.94	97.1	2.00	4.01	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.92	96.0	2.00	4.02	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.93	98.9	6.00	4.16	
Total BTX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/12/2020	ND	400	100	400	3.92		

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	<10.0	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	<10.0	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 84.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 87.2 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BG 2 (H002086-02)**

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	08/13/2020	ND	1.92	95.9	2.00	3.29	
Toluene*	<0.050	0.050	08/13/2020	ND	1.94	97.1	2.00	4.01	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.92	96.0	2.00	4.02	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.93	98.9	6.00	4.16	
Total BTEx	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/12/2020	ND	400	100	400	3.92		

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	<10.0	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	<10.0	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 90.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.7 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BG 3 (H002086-03)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/12/2020	ND	400	100	400	3.92	

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	<10.0	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	<10.0	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 87.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.0 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 1 - 0-6" (H002086-04)**

BTX 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	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12000	16.0	08/12/2020	ND	400	100	400	3.92	

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	<10.0	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	<10.0	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 85.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 92.5 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 2- 0-6" (H002086-05)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	08/12/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	6100	50.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	2070	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 85.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 308 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 2- 1' (H002086-06)**

BTX 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	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/12/2020	ND	400	100	400	3.92	

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	468	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	173	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 79.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 92.6 % 42.2-156

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**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 3 - 0-6" (H002086-07)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	08/12/2020	ND	400	100	400	3.92		

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	1700	50.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	682	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 71.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 132 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 3 - 1' (H002086-08)**

BTX 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	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/12/2020	ND	400	100	400	3.92	

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	416	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	142	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 82.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.6 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 3 - 2' (H002086-09)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTEx	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/12/2020	ND	400	100	400	3.92	

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	17.4	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	25.8	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 88.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 92.3 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 3 - 3' (H002086-10)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	08/12/2020	ND	400	100	400	3.92		

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	<10.0	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	<10.0	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 88.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 93.5 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 4 - 0-6" (H002086-11)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/12/2020	ND	400	100	400	3.92	

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	241	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	133	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 90.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 107 % 42.2-156

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**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 4 - 1' (H002086-12)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 219 % 73.3-129

Chloride, SM4500CI-B			mg/kg					Analyzed By: GM	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/12/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	3990	50.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	1020	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 93.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 204 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 4 - 2' (H002086-13)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/12/2020	ND	416	104	400	3.92		

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	92.7	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	71.8	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 87.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 99.0 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 4 - 3' (H002086-14)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/12/2020	ND	416	104	400	3.92	

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	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	24.0	10.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	22.1	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 82.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 89.7 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 5 - 0-6" (H002086-15)**

BTX 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	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/12/2020	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/12/2020	ND	178	89.0	200	12.5	
DRO >C10-C28*	9360	50.0	08/12/2020	ND	179	89.5	200	7.86	
EXT DRO >C28-C36	3340	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 87.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 468 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 5 - 1' (H002086-16)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTEX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/12/2020	ND	416	104	400	3.92		
TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<50.0	50.0	08/12/2020	ND	193	96.3	200	11.1		
DRO >C10-C28*	2440	50.0	08/12/2020	ND	201	100	200	7.70	QM-07, QR-03	
EXT DRO >C28-C36	856	50.0	08/12/2020	ND						

Surrogate: 1-Chlorooctane 82.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 173 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 5 - 2' (H002086-17)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/12/2020	ND	416	104	400	3.92	

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	08/12/2020	ND	193	96.3	200	11.1	
DRO >C10-C28*	219	10.0	08/12/2020	ND	201	100	200	7.70	
EXT DRO >C28-C36	92.7	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 91.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 104 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 5 - 3' (H002086-18)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/12/2020	ND	416	104	400	3.92	

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	08/12/2020	ND	193	96.3	200	11.1	
DRO >C10-C28*	139	10.0	08/12/2020	ND	201	100	200	7.70	
EXT DRO >C28-C36	46.5	10.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 89.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 99.2 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 6 - 0-6" (H002086-19)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/12/2020	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	08/12/2020	ND	193	96.3	200	11.1	
DRO >C10-C28*	3830	50.0	08/12/2020	ND	201	100	200	7.70	
EXT DRO >C28-C36	1660	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 92.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 166 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 6 - 1' (H002086-20)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/13/2020	ND	1.98	99.2	2.00	2.86	
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93	
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79	
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90	
Total BTX	<0.300	0.300	08/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 341 % 73.3-129

Chloride, SM4500CI-B			mg/kg					Analyzed By: GM	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/12/2020	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	134	50.0	08/12/2020	ND	193	96.3	200	11.1	
DRO >C10-C28*	6690	50.0	08/12/2020	ND	201	100	200	7.70	
EXT DRO >C28-C36	1700	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 96.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 318 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 6 - 2' (H002086-21)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 120 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/12/2020	ND	416	104	400	3.92	

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	08/12/2020	ND	193	96.3	200	11.1	
DRO >C10-C28*	1650	50.0	08/12/2020	ND	201	100	200	7.70	
EXT DRO >C28-C36	662	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 89.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 143 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
CHRIS JONES  
1601 N TURNER STE. 500  
HOBBS NM, 88240  
Fax To:

Received: 08/11/2020  
Reported: 08/13/2020  
Project Name: HACKBERRY 19 FED #1  
Project Number: 41  
Project Location: DEVON - EDDY COUNTY

Sampling Date: 08/10/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S 6 - 3' (H002086-22)**

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	08/13/2020	ND	1.98	99.2	2.00	2.86		
Toluene*	<0.050	0.050	08/13/2020	ND	1.97	98.6	2.00	2.93		
Ethylbenzene*	<0.050	0.050	08/13/2020	ND	1.95	97.3	2.00	2.79		
Total Xylenes*	<0.150	0.150	08/13/2020	ND	5.66	94.4	6.00	2.90		
Total BTEx	<0.300	0.300	08/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/12/2020	ND	416	104	400	3.92	

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	08/12/2020	ND	193	96.3	200	11.1	
DRO >C10-C28*	834	50.0	08/12/2020	ND	201	100	200	7.70	
EXT DRO >C28-C36	428	50.0	08/12/2020	ND					

Surrogate: 1-Chlorooctane 83.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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### 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-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

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Celey D. Keene, Lab Director/Quality Manager






# CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Pima Environmental</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: <u>Chris Jones</u>				P.O. #: <u>20808989</u>				<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH-EXT</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">chloride</div> </div>											
Address: <u>1601 N. Turner Ste 500</u>				Company: <u>Devon</u>															
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>				Attn: <u>Tom Bynum</u>															
Phone #: <u>575-631-6977</u> Fax #:				Address:															
Project #: <u>41</u> Project Owner: <u>Devon</u>				City:															
Project Name: <u>Hackberry 19 Fed #1</u>				State: Zip:															
Project Location: <u>EDDY, NM</u>				Phone #:															
Sampler Name: <u>MARK NEWCOMB</u>				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING					
								GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:				ACID/BASE: ICE / COOL OTHER:		DATE		TIME			
<u>H002086</u>				<u>C</u>															
<u>1 B61</u>				<u>1</u>															
<u>2 B62</u>				<u>1</u>															
<u>3 B63</u>				<u>1</u>															
<u>4 51-0-6"</u>				<u>1</u>															
<u>5 52-0-6"</u>				<u>1</u>															
<u>6 52-1'</u>				<u>1</u>															
<u>7 53-0-6"</u>				<u>1</u>															
<u>8 53-1'</u>				<u>1</u>															
<u>9 53-2'</u>				<u>1</u>															
<u>10 53-3'</u>				<u>1</u>															

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Relinquished By:		Date: <u>8-11-20</u>	Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
		Time: <u>1540</u>			All Results are emailed. Please provide Email address:	
Relinquished By:		Date:			REMARKS:	
		Time:			<u>Bill to Devon</u>	
Delivered By: (Circle One)		Observed Temp. °C <u>5.9</u>	Sample Condition		Turnaround Time: <input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush	
Sampler - UPS - Bus - Other:		Corrected Temp. °C	<input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Bacteria (only) <input type="checkbox"/> Sample Condition <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No		Thermometer ID #113 Correction Factor None	
			CHECKED BY: (Initials) <u>TO.</u>		Observed Temp. °C	
					Corrected Temp. °C	

FORM-006 R 3.1 06/04/20

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(575) 393-2326 FAX (575) 393-2476

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Pima Environmental</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																		
Project Manager: <u>Chris Jones</u>				P.O. #: <u>20808989</u>				<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH EXT</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">chloride</div> </div>																		
Address: <u>1601 N. Turner St #500</u>				Company: <u>Devon</u>																						
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>				Attn: <u>Tom Bynum</u>																						
Phone #: <u>575-631-6977</u> Fax #:				Address:																						
Project #: <u>41</u> Project Owner: <u>Devon</u>				City:																						
Project Name: <u>Hackberry 19 FDI</u>				State: Zip:																						
Project Location: <u>EDdy, NM</u>				Phone #:																						
Sampler Name: <u>Mark Newcomb</u>				Fax #:																						
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																		
Lab I.D.	Sample I.D.	(G) RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME												
<u>H002086</u>																										
<u>11</u>	<u>54-0-6"</u>	<u>1</u>																								
<u>12</u>	<u>54-1'</u>																									
<u>13</u>	<u>54-2'</u>																									
<u>14</u>	<u>54-3'</u>																									
<u>15</u>	<u>55-0-6"</u>																									
<u>16</u>	<u>55-1'</u>																									
<u>17</u>	<u>55-2'</u>																									
<u>18</u>	<u>55-3'</u>																									
<u>19</u>	<u>56-0-6"</u>																									
<u>20</u>	<u>56-1'</u>																									

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Relinquished By:		Date: <u>8-11-20</u>	Received By: <u>Tamara Aldridge</u>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
		Time: <u>1540</u>			All Results are emailed. Please provide Email address:	
Relinquished By:		Date:	Received By:		REMARKS:	
		Time:			<u>Bill to Devon</u>	
Delivered By: (Circle One)	Observed Temp. °C <u>5.9</u>	Sample Condition	CHECKED BY: (Initials)	Turnaround Time:	Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<u>TO.</u>	Thermometer ID #113		Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
				Correction Factor None		Observed Temp. °C Corrected Temp. °C

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Pima Environmental</u>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																					
Project Manager: <u>Chris Jones</u>				P.O. #: <u>20808989</u>																									
Address: <u>1601 N. Turner Ste 500</u>				Company: <u>Devon</u>																									
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>				Attn: <u>Tom Bynum</u>																									
Phone #: <u>575-631-6977</u> Fax #:				Address:																									
Project #: <u>41</u> Project Owner: <u>Devon</u>				City:																									
Project Name: <u>Hackberry 19 FED 1</u>				State: Zip:																									
Project Location: <u>EDDY, NM</u>				Phone #:																									
Sampler Name: <u>MARC NEWCOMB</u>				Fax #:																									
FOR LAB USE ONLY		Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING													
										GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:				ACID/BASE: ICE / COOL OTHER:		DATE TIME													
		<u>H002086</u>		<u>56-2'</u>		<u>1</u>								<u>1</u>				<u>TPH EXT</u> <u>BTEX</u> <u>chloride</u>											
		<u>21</u>		<u>56-2'</u>																									
		<u>22</u>		<u>56-3'</u>																									

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Relinquished By:		Date: <u>8-11-20</u>	Received By: <u>Tamara Aldridge</u>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
		Time: <u>1540</u>			All Results are emailed. Please provide Email address:	
Relinquished By:		Date:	Received By:		REMARKS:	
		Time:			<u>Bill to Devon</u>	
Delivered By: (Circle One)		Observed Temp. °C <u>5.9</u>	Sample Condition Cool Intact		Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	
Sampler - UPS - Bus - Other:		Corrected Temp. °C	<input type="checkbox"/> Yes <input type="checkbox"/> No		Bacteria (only) Sample Condition Cool Intact Observed Temp. °C	
			<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
			<input type="checkbox"/> No <input type="checkbox"/> No		<input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C	
			CHECKED BY: (Initials) <u>TO</u>		Thermometer ID #113 Correction Factor None	

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---

November 30, 2020

CHRIS JONES

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: HACKBERRY 19 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 11/03/20 9:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HACKBERRY 19 FED 1 BATT. S-1 1'	H002897-01	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-1 1'	H002897-02	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-2 1'	H002897-03	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-2 1'	H002897-04	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-3 1'	H002897-05	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-3 1'	H002897-06	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-4 1'	H002897-07	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-4 1'	H002897-08	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-5 4'	H002897-09	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-5 4'	H002897-10	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-5 6'	H002897-11	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-5 8'	H002897-12	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-6 4'	H002897-13	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-6 4'	H002897-14	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-6 6'	H002897-15	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-6 8'	H002897-16	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-7 4'	H002897-17	Soil	02-Nov-20 00:00	03-Nov-20 09:45
HACKBERRY 19 FED 1 BATT. S-7 4'	H002897-18	Soil	02-Nov-20 00:00	03-Nov-20 09:45

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-1 1' BOTTOM**  
**H002897-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctane			97.6 %		44.3-144	0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			106 %		42.2-156	0110305	MS	03-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-1 1' WALL****H002897-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctane			96.8 %	44.3-144		0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			105 %	42.2-156		0110305	MS	03-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
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**HACKBERRY 19 FED 1 BATT. S-2 1' BOTTOM****H002897-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctane			90.1 %	44.3-144		0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			98.3 %	42.2-156		0110305	MS	03-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
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**HACKBERRY 19 FED 1 BATT. S-2 1' WALL****H002897-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctane			85.3 %	44.3-144		0110305	MS	03-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			92.9 %	42.2-156		0110305	MS	03-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
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**HACKBERRY 19 FED 1 BATT. S-3 1' BOTTOM****H002897-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>12.9</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			99.2 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			108 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-3 1' WALL****H002897-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>142</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>64.7</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			103 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			126 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-4 1' WALL****H002897-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			87.5 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			94.9 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-4 1' BOTTOM****H002897-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>65.7</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>27.9</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			89.3 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			102 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
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Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-5 4' WALL****H002897-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			87.6 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			95.5 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
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**HACKBERRY 19 FED 1 BATT. S-5 4' BOTTOM****H002897-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			86.7 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			94.1 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
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**HACKBERRY 19 FED 1 BATT. S-5 6' BOTTOM****H002897-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			95.9 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			104 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
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**HACKBERRY 19 FED 1 BATT. S-5 8' BOTTOM****H002897-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>24.8</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			96.7 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			105 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-6 4' WALL****H002897-13 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID****S-04**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>3180</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>3170</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			85.8 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			179 %	42.2-156		0110402	MS	04-Nov-20	8015B	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-6 4' BOTTOM****H002897-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>29.2</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>17.0</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			92.2 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			101 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-6 6' BOTTOM****H002897-15 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

<b>GRO C6-C10*</b>	<b>42.6</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>80.3</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>25.3</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<i>Surrogate: 1-Chlorooctane</i>			106 %	44.3-144		0110402	MS	04-Nov-20	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			115 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-6 8' BOTTOM****H002897-16 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

<b>GRO C6-C10*</b>	<b>16.6</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>DRO &gt;C10-C28*</b>	<b>42.6</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>21.2</b>		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
<i>Surrogate: 1-Chlorooctane</i>			108 %	44.3-144		0110402	MS	04-Nov-20	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			118 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-7 4' WALL****H002897-17 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			111 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			122 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**HACKBERRY 19 FED 1 BATT. S-7 4' BOTTOM****H002897-18 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctane			105 %	44.3-144		0110402	MS	04-Nov-20	8015B	
Surrogate: 1-Chlorooctadecane			114 %	42.2-156		0110402	MS	04-Nov-20	8015B	

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 0110305 - General Prep - Organics****Blank (0110305-BLK1)**

Prepared &amp; Analyzed: 03-Nov-20

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.5		mg/kg	50.0		95.0	44.3-144			
Surrogate: 1-Chlorooctadecane	51.2		mg/kg	50.0		102	42.2-156			

**LCS (0110305-BS1)**

Prepared &amp; Analyzed: 03-Nov-20

GRO C6-C10	208	10.0	mg/kg	200		104	78.8-127			
DRO >C10-C28	210	10.0	mg/kg	200		105	80-132			
Total TPH C6-C28	418	10.0	mg/kg	400		104	81.3-128			
Surrogate: 1-Chlorooctane	50.2		mg/kg	50.0		100	44.3-144			
Surrogate: 1-Chlorooctadecane	53.9		mg/kg	50.0		108	42.2-156			

**LCS Dup (0110305-BS1)**

Prepared &amp; Analyzed: 03-Nov-20

GRO C6-C10	210	10.0	mg/kg	200		105	78.8-127	0.804	15.1	
DRO >C10-C28	212	10.0	mg/kg	200		106	80-132	1.06	17.1	
Total TPH C6-C28	422	10.0	mg/kg	400		105	81.3-128	0.932	15	
Surrogate: 1-Chlorooctane	52.0		mg/kg	50.0		104	44.3-144			
Surrogate: 1-Chlorooctadecane	56.7		mg/kg	50.0		113	42.2-156			

**Batch 0110402 - General Prep - Organics****Blank (0110402-BLK1)**

Prepared &amp; Analyzed: 04-Nov-20

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.9		mg/kg	50.0		95.7	44.3-144			
Surrogate: 1-Chlorooctadecane	52.4		mg/kg	50.0		105	42.2-156			

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**Analytical Results For:**

PIMA ENVIROMENTAL  
1601 N TURNER STE. 500  
HOBBS NM, 88240

Project: HACKBERRY 19 FED #1  
Project Number: 41  
Project Manager: CHRIS JONES  
Fax To:

Reported:  
30-Nov-20 10:34

**Petroleum Hydrocarbons by GC FID - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 0110402 - General Prep - Organics****LCS (0110402-BS1)**

Prepared &amp; Analyzed: 04-Nov-20

GRO C6-C10	210	10.0	mg/kg	200		105	78.8-127			
DRO >C10-C28	209	10.0	mg/kg	200		104	80-132			
Total TPH C6-C28	419	10.0	mg/kg	400		105	81.3-128			
Surrogate: 1-Chlorooctane	51.0		mg/kg	50.0		102	44.3-144			
Surrogate: 1-Chlorooctadecane	54.6		mg/kg	50.0		109	42.2-156			

**LCS Dup (0110402-BSD1)**

Prepared &amp; Analyzed: 04-Nov-20

GRO C6-C10	207	10.0	mg/kg	200		103	78.8-127	1.68	15.1	
DRO >C10-C28	212	10.0	mg/kg	200		106	80-132	1.77	17.1	
Total TPH C6-C28	419	10.0	mg/kg	400		105	81.3-128	0.0554	15	
Surrogate: 1-Chlorooctane	51.2		mg/kg	50.0		102	44.3-144			
Surrogate: 1-Chlorooctadecane	56.2		mg/kg	50.0		112	42.2-156			

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### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: <b>PIMA ENVIRONMENTAL</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																																			
Project Manager: <b>Chris Jones</b>		P.O. #: <b>20808989</b>																																					
Address: <b>1601 N. Turner Ste. 500</b>		Company: <b>Devon</b>																																					
City: <b>Hobbs</b> State: <b>NM</b> Zip: <b>88240</b>		Attn: <b>TOM BYNUM</b>																																					
Phone #: <b>964-7740</b> Fax #:		Address:																																					
Project #: <b>41</b> Project Owner: <b>Devon</b>		City:																																					
Project Name: <b>Hackberry A Fed 1 Batt</b>		State: Zip:																																					
Project Location: <b>Eddy Co.</b>		Phone #:																																					
Sampler Name: <b>Travis Collins</b>		Fax #:																																					
FOR LAB USE ONLY																																							
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING																											
								GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME											
<b>H002897</b>																																							
<b>1</b>		<b>Hackberry 19 Fed 1 Batt. S-1 1' Bot</b>		<b>C</b>																																			
<b>2</b>		<b>" " S-1 1' Wall</b>		<b>C</b>																																			
<b>3</b>		<b>" " S-2 1' Bottom</b>		<b>C</b>																																			
<b>4</b>		<b>" " S-2 1' Wall</b>		<b>C</b>																																			
<b>5</b>		<b>" " S-3 1' Bottom</b>		<b>C</b>																																			
<b>6</b>		<b>" " S-3 1' Wall</b>		<b>C</b>																																			
<b>7</b>		<b>" " S-4 1' Wall</b>		<b>C</b>																																			
<b>8</b>		<b>" " S-4 1' Bottom</b>		<b>C</b>																																			
<b>9</b>		<b>" " S-5 4' Wall</b>		<b>C</b>																																			
<b>10</b>		<b>" " S-5 4' Bottom</b>		<b>C</b>																																			

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Relinquished By: <b>Travis Collins</b>		Date: <b>11-3-20</b>		Received By: <b>Jodi Benson</b>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Time: <b>09:45</b>		Time:		Time:		All Results are emailed. Please provide Email address:	
Relinquished By:		Date:		Received By:		REMARKS:	
Time:		Time:		Time:		Turnaround Time: <b>Standard</b> <input checked="" type="checkbox"/> <b>Rush</b> <input type="checkbox"/>	
Delivered By: (Circle One)		Observed Temp. °C <b>16.7</b>		Sample Condition		Bacteria (only) Sample Condition	
Sampler - UPS - Bus - Other:		Corrected Temp. °C		Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No		Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	
CHECKED BY: <b>JH</b>		Thermometer ID #113		Correction Factor None		Observed Temp. °C	
						Corrected Temp. °C	

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com





101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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Relinquished By:		Date:	Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
<i>James Collins</i>		11.3.20	<i>Jodi Benson</i>		All Results are emailed. Please provide Email address:	
Relinquished By:		Time:	Received By:		REMARKS:	
		09:45				
		Date:				
		Time:				
Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY:	Turnaround Time:	Standard <input checked="" type="checkbox"/>	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool Intact	(Initials)	Rush <input type="checkbox"/>	<input type="checkbox"/>	Cool Intact Observed Temp. °C
		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes	<i>[Signature]</i>	Thermometer ID #113		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes
		<input checked="" type="checkbox"/> No <input type="checkbox"/> No		Correction Factor None		<input type="checkbox"/> No <input checked="" type="checkbox"/> No Corrected Temp. °C



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

November 16, 2020

Chris Jones

Pima Environmental Services LLC

1601 N. Turner Ste 500

Hobbs, NM 88240

TEL: (575) 631-6977

FAX:

RE: Hackberry 19

OrderNo.: 2011594

Dear Chris Jones:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/11/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 2011594

Date Reported: 11/16/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S-3 Comp 6" last

Project: Hackberry 19

Collection Date: 11/6/2020 8:05:00 AM

Lab ID: 2011594-002

Matrix: SOIL

Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2020 10:28:23 PM	56378
Surr: BFB	101	70-130		%Rec	1	11/12/2020 10:28:23 PM	56378
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/12/2020 11:05:32 PM	56379
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/12/2020 11:05:32 PM	56379
Surr: DNOP	119	30.4-154		%Rec	1	11/12/2020 11:05:32 PM	56379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 1 of 4



## Analytical Report

Lab Order 2011594

Date Reported: 11/16/2020

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S-6 Comp 6" last

Project: Hackberry 19

Collection Date: 11/6/2020 8:10:00 AM

Lab ID: 2011594-003

Matrix: SOIL

Received Date: 11/11/2020 8:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/12/2020 10:55:36 PM	56378
Surr: BFB	99.3	70-130		%Rec	1	11/12/2020 10:55:36 PM	56378
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	11/12/2020 11:28:50 PM	56379
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/12/2020 11:28:50 PM	56379
Surr: DNOP	110	30.4-154		%Rec	1	11/12/2020 11:28:50 PM	56379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Page 2 of 4

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2011594

24-Nov-20

**Client:** Pima Environmental Services LLC**Project:** Hackberry 19

Sample ID: <b>MB-56379</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>56379</b>	RunNo: <b>73311</b>								
Prep Date: <b>11/11/2020</b>	Analysis Date: <b>11/12/2020</b>	SeqNo: <b>2580174</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		125	30.4	154			

Sample ID: <b>LCS-56379</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>56379</b>	RunNo: <b>73311</b>								
Prep Date: <b>11/11/2020</b>	Analysis Date: <b>11/12/2020</b>	SeqNo: <b>2580184</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.3	70	130			
Surr: DNOP	5.3		5.000		106	30.4	154			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

Page 3 of 4

**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 2011594

24-Nov-20

**Client:** Pima Environmental Services LLC**Project:** Hackberry 19

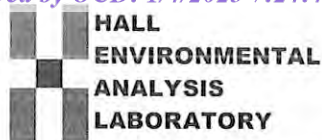
Sample ID: <b>mb-56378</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>56378</b>		RunNo: <b>73322</b>							
Prep Date: <b>11/11/2020</b>	Analysis Date: <b>11/12/2020</b>		SeqNo: <b>2580707</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		101	70	130			

Sample ID: <b>lcs-56378</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>56378</b>		RunNo: <b>73322</b>							
Prep Date: <b>11/11/2020</b>	Analysis Date: <b>11/12/2020</b>		SeqNo: <b>2580722</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	81.4	70	130			
Surr: BFB	500		500.0		100	70	130			

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: clients.hallenvironmental.com

## Sample Log-In Check List

Client Name: Pima Environmental Servi

Work Order Number: 2011594

RcptNo: 1

Received By: Juan Rojas

11/11/2020 8:50:00 AM

Completed By: Isaiah Ortiz

11/11/2020 10:08:31 AM

Reviewed By: DAD 11/11/20

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace  $<1/4"$  for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(&lt;2 or &gt;12 unless noted)

Adjusted?

Checked by: JR 11/11/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Skip

Date: 11/11/20

By Whom:

Isaiah / Emily

Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person

Regarding:

Missing names on COC, missing times on jars

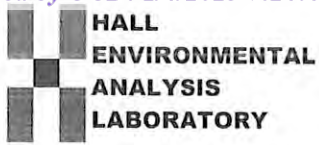
Client Instructions:

Use sample names, disregard times on COC to log in

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Not Present			
2	2.3	Good	Not Present			
3	3.6	Good	Not Present			
4	1.3	Good	Not Present			



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## Sample Log-In Check List

Client Name: Pima Environmental Servi

Work Order Number: 2011594

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
5	3.7	Good	Not Present			





Report to:  
Tom Bynum



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Pima Environmental Services-Carlsbad

Project Name: Hackberry 19 Fed 1

Work Order: E212099

Job Number: 01058-0007

Received: 12/16/2022

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/22/22

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.  
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 12/22/22



Tom Bynum  
PO Box 247  
Plains, TX 79355-0247

Project Name: Hackberry 19 Fed 1  
Workorder: E212099  
Date Received: 12/16/2022 10:30:00AM

Tom Bynum,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/16/2022 10:30:00AM, under the Project Name: Hackberry 19 Fed 1.

The analytical test results summarized in this report with the Project Name: Hackberry 19 Fed 1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
[rainaschwanz@envirotech-inc.com](mailto:rainaschwanz@envirotech-inc.com)

**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

Field Offices:

**Southern New Mexico Area**  
**Lynn Jarboe**  
Technical Representative/Client Services  
Office: 505-421-LABS(5227)  
Cell: 505-320-4759  
[ljjarboe@envirotech-inc.com](mailto:ljjarboe@envirotech-inc.com)

**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)

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## Sample Summary

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	Reported:
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/22 09:59

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
SW-1	E212099-01A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-2	E212099-02A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-3	E212099-03A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-4	E212099-04A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-5	E212099-05A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-6	E212099-06A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-7	E212099-07A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-8	E212099-08A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-9	E212099-09A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-10	E212099-10A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
SW-11	E212099-11A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS1 1'	E212099-12A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS1 2'	E212099-13A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS1 4'	E212099-14A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS2 1'	E212099-15A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS2 2'	E212099-16A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS2 4'	E212099-17A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS3 1'	E212099-18A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS3 2'	E212099-19A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS3 4'	E212099-20A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-1

## E212099-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2251084	
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.0 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: SL		Batch: 2251084	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.6 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: JL		Batch: 2252009	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2251091	
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-2

## E212099-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
Surrogate: 4-Bromochlorobenzene-PID	98.4 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID	92.8 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
Surrogate: n-Nonane	102 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-3

## E212099-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.9 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.7 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-4

## E212099-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.8 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.7 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	





## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-5

## E212099-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.3 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.4 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-6

## E212099-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.8 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.7 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	104 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-7

## E212099-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.6 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.9 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-8

## E212099-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
Surrogate: 4-Bromochlorobenzene-PID	96.5 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID	94.0 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
Surrogate: n-Nonane	102 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-9

## E212099-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.3 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	95.1 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	





## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-10

## E212099-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
Surrogate: 4-Bromochlorobenzene-PID	99.3 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID	89.9 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
Surrogate: n-Nonane	100 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## SW-11

## E212099-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.2 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.6 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS1 1'

## E212099-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	97.8 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.5 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	105 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS1 2'

## E212099-13

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.0 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.3 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	102 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS1 4'

## E212099-14

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	98.5 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	96.9 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	





## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS2 1'

## E212099-15

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
Surrogate: 4-Bromochlorobenzene-PID		100 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		95.2 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
Surrogate: n-Nonane		108 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS2 2'

## E212099-16

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.5 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	93.5 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	106 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS2 4'

## E212099-17

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		92.2 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		102 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS3 1'

## E212099-18

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2251084	
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	<b>0.0645</b>	0.0250	1	12/16/22	12/20/22	
Toluene	<b>0.185</b>	0.0250	1	12/16/22	12/20/22	
o-Xylene	<b>0.0834</b>	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	<b>0.0834</b>	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	87.9 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>	mg/kg	mg/kg	Analyst: SL		Batch: 2251084	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	99.2 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>	mg/kg	mg/kg	Analyst: JL		Batch: 2252009	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/21/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/21/22	
<i>Surrogate: n-Nonane</i>	108 %	50-200		12/19/22	12/21/22	
<b>Anions by EPA 300.0/9056A</b>	mg/kg	mg/kg	Analyst: RAS		Batch: 2251091	
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

## CS3 2'

## E212099-19

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		86.5 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/21/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/21/22	
<i>Surrogate: n-Nonane</i>						
		105 %	50-200	12/19/22	12/21/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	





## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 9:59:50AM

CS3 4'

E212099-20

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
Surrogate: 4-Bromochlorobenzene-PID	99.4 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: SL		Batch: 2251084
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID	95.0 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252009
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/21/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/21/22	
Surrogate: n-Nonane	102 %	50-200		12/19/22	12/21/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251091
Chloride	ND	20.0	1	12/16/22	12/19/22	



## QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	Reported:
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/2022 9:59:50AM

## Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2251084-BLK1)

Prepared: 12/16/22 Analyzed: 12/20/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.87		8.00		98.4	70-130			

## LCS (2251084-BS1)

Prepared: 12/16/22 Analyzed: 12/20/22

Benzene	4.15	0.0250	5.00		83.1	70-130			
Ethylbenzene	4.33	0.0250	5.00		86.5	70-130			
Toluene	4.40	0.0250	5.00		88.1	70-130			
o-Xylene	4.48	0.0250	5.00		89.5	70-130			
p,m-Xylene	8.80	0.0500	10.0		88.0	70-130			
Total Xylenes	13.3	0.0250	15.0		88.5	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.83		8.00		97.9	70-130			

## Matrix Spike (2251084-MS1)

Source: E212099-04

Prepared: 12/16/22 Analyzed: 12/20/22

Benzene	4.02	0.0250	5.00	ND	80.3	54-133			
Ethylbenzene	4.23	0.0250	5.00	ND	84.6	61-133			
Toluene	4.28	0.0250	5.00	ND	85.6	61-130			
o-Xylene	4.34	0.0250	5.00	ND	86.8	63-131			
p,m-Xylene	8.59	0.0500	10.0	ND	85.9	63-131			
Total Xylenes	12.9	0.0250	15.0	ND	86.2	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.83		8.00		97.9	70-130			

## Matrix Spike Dup (2251084-MSD1)

Source: E212099-04

Prepared: 12/16/22 Analyzed: 12/20/22

Benzene	4.75	0.0250	5.00	ND	95.1	54-133	16.8	20	
Ethylbenzene	4.97	0.0250	5.00	ND	99.4	61-133	16.1	20	
Toluene	5.04	0.0250	5.00	ND	101	61-130	16.3	20	
o-Xylene	5.11	0.0250	5.00	ND	102	63-131	16.2	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	15.9	20	
Total Xylenes	15.2	0.0250	15.0	ND	101	63-131	16.0	20	
Surrogate: 4-Bromochlorobenzene-PID	7.79		8.00		97.4	70-130			



## QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	<b>Reported:</b>
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/2022 9:59:50AM

## Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2251084-BLK1)

Prepared: 12/16/22 Analyzed: 12/20/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.7	70-130			

## LCS (2251084-BS2)

Prepared: 12/16/22 Analyzed: 12/20/22

Gasoline Range Organics (C6-C10)	50.5	20.0	50.0		101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.85		8.00		98.2	70-130			

## Matrix Spike (2251084-MS2)

Source: E212099-04

Prepared: 12/16/22 Analyzed: 12/20/22

Gasoline Range Organics (C6-C10)	48.1	20.0	50.0	ND	96.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.85		8.00		98.1	70-130			

## Matrix Spike Dup (2251084-MSD2)

Source: E212099-04

Prepared: 12/16/22 Analyzed: 12/20/22

Gasoline Range Organics (C6-C10)	50.5	20.0	50.0	ND	101	70-130	4.85	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.48		8.00		93.5	70-130			



## QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	<b>Reported:</b>
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/2022 9:59:50AM

## Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2252009-BLK1)

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	51.6		50.0		103	50-200			

## LCS (2252009-BS1)

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	257	25.0	250		103	38-132			
Surrogate: n-Nonane	50.9		50.0		102	50-200			

## Matrix Spike (2252009-MS1)

Source: E212099-17

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	264	25.0	250	ND	106	38-132			
Surrogate: n-Nonane	51.4		50.0		103	50-200			

## Matrix Spike Dup (2252009-MSD1)

Source: E212099-17

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	258	25.0	250	ND	103	38-132	2.29	20	
Surrogate: n-Nonane	49.8		50.0		99.7	50-200			



QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	Reported:
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/2022 9:59:50AM

Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2251091-BLK1)					Prepared: 12/16/22 Analyzed: 12/19/22				
Chloride	ND	20.0							
LCS (2251091-BS1)					Prepared: 12/16/22 Analyzed: 12/19/22				
Chloride	248	20.0	250		99.1	90-110			
Matrix Spike (2251091-MS1)					Source: E212099-01		Prepared: 12/16/22 Analyzed: 12/19/22		
Chloride	250	20.0	250	ND	99.8	80-120			
Matrix Spike Dup (2251091-MSD1)					Source: E212099-01		Prepared: 12/16/22 Analyzed: 12/19/22		
Chloride	250	20.0	250	ND	100	80-120	0.240	20	

QC Summary Report Comment:  
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.  
Therefore, hand calculated values may differ slightly.



Definitions and Notes

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	
PO Box 247	Project Number:	01058-0007	Reported:
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/22 09:59

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

## Project Information

## Chain of Custody

Page 1 of 4

Client: Pima Environmental Services					Bill To					Lab Use Only					TAT				EPA Program					
Project: <u>HACKBERRY 19 Fed 1</u>					Attention: <u>Devon Energy</u>					Lab WO# <u>EZ12099</u>					Job Number <u>01058-0007</u>				1D	2D	3D	Standard	CWA	SDWA
Project Manager: Tom Bynum					Address:					Analysis and Method														
Address: 1601 N Turner St., Suite 500					City, State, Zip																			
City, State, Zip Hobbs, NM, 88240					Phone:																			
Phone: 580-748-1613					Email:																			
Email: tom@pimaoil.com					Pima Project # <u>1-41</u>																			
Report due by:																								

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	Remarks
10:00	12/15/22	S		SW-1	1							X		
10:05				SW-2	2									
10:10				SW-3	3									
10:15				SW-4	4									
10:20				SW-5	5									
10:25				SW-6	6									
10:30				SW-7	7									
10:35				SW-8	8									
10:40				SW-9	9									
10:45				SW-10	10									

Additional Instructions: Bill To Devon Energy #20808989

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Ned Rogers

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
<u>Ned Rogers</u>	12-15-22	2:00 P	<u>Michelle Cuyler</u>	12-15-22	1400	Received on ice: <u>(Y)</u> N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1
<u>Michelle Cuyler</u>	12-15-22	1600	<u>Carla Chir</u>	12/16/22	10:30	T2
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T3
						AVG Temp °C <u>4</u>

Sample Matrix: S - Soil, sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.





## Project Information

## Chain of Custody

Page 2 of 4

Client: Pima Environmental Services					Bill To					Lab Use Only					TAT				EPA Program											
Project: <u>HACKBERRY 19 Fed 1</u>					Attention: <u>Devon Energy</u>					Lab WO# <u>E212099</u>					Job Number <u>01058-0007</u>				1D		2D		3D		Standard		CWA		SDWA	
Project Manager: Tom Bynum					Address:					Analysis and Method															RCRA					
Address: 1601 N Turner St., Suite 500					City, State, Zip																									
City, State, Zip Hobbs, NM, 88240					Phone:																									
Phone: 580-748-1613					Email:																									
Email: tom@pimaoil.com					Pima Project # <u>1-41</u>																									
Report due by:																														

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC NM	BGDOC TX	Remarks
10:50	12/15/22	S		SW-11	11							X		
10:55				CS1 1'	12									
11:00				CS1 2'	13									
11:05				CS1 4'	14									
11:10				CS2 1'	15									
11:15				CS2 2'	16									
11:20				CS2 4'	17									
11:25				CS3 1'	18									
11:30				CS3 2'	19									
11:35				CS3 4'	20									

Additional Instructions: Bill To Devon Energy #20808989

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Relinquished by: (Signature) Ned Rogers Date 12-15-22 Time 2:00P Received by: (Signature) Nichelle Cuper Date 12-15-22 Time 1400

Relinquished by: (Signature) Nichelle Cuper Date 12-15-22 Time 1600 Received by: (Signature) Keith Chute Date 12/16/22 Time 10:30

Relinquished by: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Sample Matrix: S - Soil, sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

## Envirotech Analytical Laboratory

Printed: 12/16/2022 1:07:03PM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Pima Environmental Services-Carlsbad	Date Received:	12/16/22 10:30	Work Order ID:	E212099
Phone:	(575) 631-6977	Date Logged In:	12/16/22 08:44	Logged In By:	Caitlin Christian
Email:	tom@pimaoil.com	Due Date:	12/22/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: UPSComments/Resolution

Project Hackberry 19 Fed 1 has been separated into 2 reports due to amount of samples. Workorders are as follows: E212099 & E212100.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
  - Sample ID? Yes
  - Date/Time Collected? Yes
  - Collectors name? No

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:  
Tom Bynum



# envirotech

*Practical Solutions for a Better Tomorrow*

## Analytical Report

Pima Environmental Services-Carlsbad

Project Name: Hackberry 19 Fed 1

Work Order: E212100

Job Number: 01058-0007

Received: 12/16/2022

Revision: 1

Report Reviewed By:

Walter Hinchman  
Laboratory Director  
12/22/22

5796 U.S. Hwy 64  
Farmington, NM 87401

Phone: (505) 632-1881  
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.  
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.  
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.  
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.  
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.  
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)



Date Reported: 12/22/22



Tom Bynum  
PO Box 247  
Plains, TX 79355-0247

Project Name: Hackberry 19 Fed 1  
Workorder: E212100  
Date Received: 12/16/2022 10:30:00AM

Tom Bynum,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/16/2022 10:30:00AM, under the Project Name: Hackberry 19 Fed 1.

The analytical test results summarized in this report with the Project Name: Hackberry 19 Fed 1 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

**Walter Hinchman**  
Laboratory Director  
Office: 505-632-1881  
Cell: 775-287-1762  
[whinchman@envirotech-inc.com](mailto:whinchman@envirotech-inc.com)

**Raina Schwanz**  
Laboratory Administrator  
Office: 505-632-1881  
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**Alexa Michaels**  
Sample Custody Officer  
Office: 505-632-1881  
[labadmin@envirotech-inc.com](mailto:labadmin@envirotech-inc.com)

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**Lynn Jarboe**  
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**West Texas Midland/Odessa Area**  
**Rayny Hagan**  
Technical Representative  
Office: 505-421-LABS(5227)

Envirotech Web Address: [www.envirotech-inc.com](http://www.envirotech-inc.com)



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## Sample Summary

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	Reported:
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/22 10:03

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
CS4 1'	E212100-01A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS4 2'	E212100-02A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS4 4'	E212100-03A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS5 1'	E212100-04A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS5 4'	E212100-05A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS5 8'	E212100-06A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS6 1'	E212100-07A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS6 4'	E212100-08A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS6 8'	E212100-09A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS7 1'	E212100-10A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS7 2'	E212100-11A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.
CS7 4'	E212100-12A	Soil	12/15/22	12/16/22	Glass Jar, 2 oz.



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

## CS4 1'

## E212100-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/19/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/19/22	
Toluene	ND	0.0250	1	12/16/22	12/19/22	
o-Xylene	ND	0.0250	1	12/16/22	12/19/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/19/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/19/22	
Surrogate: 4-Bromochlorobenzene-PID		101 %	70-130	12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/19/22	
Surrogate: 1-Chloro-4-fluorobenzene-FID		99.0 %	70-130	12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
Surrogate: n-Nonane		103 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

## CS4 2'

## E212100-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/19/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/19/22	
Toluene	ND	0.0250	1	12/16/22	12/19/22	
o-Xylene	ND	0.0250	1	12/16/22	12/19/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/19/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/19/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.7 %	70-130		12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/19/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.8 %	70-130		12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	100 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

## CS4 4'

## E212100-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/19/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/19/22	
Toluene	ND	0.0250	1	12/16/22	12/19/22	
o-Xylene	ND	0.0250	1	12/16/22	12/19/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/19/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/19/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/19/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.9 %	70-130	12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		99.6 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

## CS5 1'

## E212100-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		99.3 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		97.5 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	





## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

CS5 4'

E212100-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/19/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/19/22	
Toluene	ND	0.0250	1	12/16/22	12/19/22	
o-Xylene	ND	0.0250	1	12/16/22	12/19/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/19/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/19/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		102 %	70-130	12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/19/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		99.9 %	70-130	12/16/22	12/19/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		97.6 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

CS5 8'

E212100-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.9 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		101 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

## CS6 1'

## E212100-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2251085	
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	100 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg	Analyst: IY		Batch: 2251085	
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.9 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg	Analyst: JL		Batch: 2252010	
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	100 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2251090	
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

CS6 4'

E212100-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.5 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		101 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

CS6 8'

E212100-09

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		101 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.5 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		100 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

## CS7 1'

## E212100-10

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.3 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		99.1 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	





## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

CS7 2'

E212100-11

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	99.9 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	98.5 %	70-130		12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
	103 %	50-200		12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## Sample Data

Pima Environmental Services-Carlsbad  
PO Box 247  
Plains TX, 79355-0247

Project Name: Hackberry 19 Fed 1  
Project Number: 01058-0007  
Project Manager: Tom Bynum

**Reported:**  
12/22/2022 10:03:05AM

CS7 4'

E212100-12

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
<b>Volatile Organics by EPA 8021B</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Benzene	ND	0.0250	1	12/16/22	12/20/22	
Ethylbenzene	ND	0.0250	1	12/16/22	12/20/22	
Toluene	ND	0.0250	1	12/16/22	12/20/22	
o-Xylene	ND	0.0250	1	12/16/22	12/20/22	
p,m-Xylene	ND	0.0500	1	12/16/22	12/20/22	
Total Xylenes	ND	0.0250	1	12/16/22	12/20/22	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
		100 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - GRO</b>						
	mg/kg	mg/kg		Analyst: IY		Batch: 2251085
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/16/22	12/20/22	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
		98.0 %	70-130	12/16/22	12/20/22	
<b>Nonhalogenated Organics by EPA 8015D - DRO/ORO</b>						
	mg/kg	mg/kg		Analyst: JL		Batch: 2252010
Diesel Range Organics (C10-C28)	ND	25.0	1	12/19/22	12/20/22	
Oil Range Organics (C28-C36)	ND	50.0	1	12/19/22	12/20/22	
<i>Surrogate: n-Nonane</i>						
		102 %	50-200	12/19/22	12/20/22	
<b>Anions by EPA 300.0/9056A</b>						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2251090
Chloride	ND	20.0	1	12/16/22	12/19/22	



## QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	Reported:
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/2022 10:03:05AM

## Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2251085-BLK1)

Prepared: 12/16/22 Analyzed: 12/19/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	8.08		8.00		101	70-130			

## LCS (2251085-BS1)

Prepared: 12/16/22 Analyzed: 12/19/22

Benzene	4.70	0.0250	5.00		94.1	70-130			
Ethylbenzene	4.92	0.0250	5.00		98.4	70-130			
Toluene	4.97	0.0250	5.00		99.5	70-130			
o-Xylene	5.04	0.0250	5.00		101	70-130			
p,m-Xylene	9.98	0.0500	10.0		99.8	70-130			
Total Xylenes	15.0	0.0250	15.0		100	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8.10		8.00		101	70-130			

## Matrix Spike (2251085-MS1)

Source: E212100-05

Prepared: 12/16/22 Analyzed: 12/19/22

Benzene	4.77	0.0250	5.00	ND	95.3	54-133			
Ethylbenzene	4.97	0.0250	5.00	ND	99.3	61-133			
Toluene	5.04	0.0250	5.00	ND	101	61-130			
o-Xylene	5.10	0.0250	5.00	ND	102	63-131			
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131			
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131			
Surrogate: 4-Bromochlorobenzene-PID	8.12		8.00		102	70-130			

## Matrix Spike Dup (2251085-MSD1)

Source: E212100-05

Prepared: 12/16/22 Analyzed: 12/19/22

Benzene	4.68	0.0250	5.00	ND	93.5	54-133	1.91	20	
Ethylbenzene	4.88	0.0250	5.00	ND	97.6	61-133	1.74	20	
Toluene	4.94	0.0250	5.00	ND	98.8	61-130	1.89	20	
o-Xylene	4.99	0.0250	5.00	ND	99.8	63-131	2.14	20	
p,m-Xylene	9.89	0.0500	10.0	ND	98.9	63-131	1.66	20	
Total Xylenes	14.9	0.0250	15.0	ND	99.2	63-131	1.82	20	
Surrogate: 4-Bromochlorobenzene-PID	8.15		8.00		102	70-130			



QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	Reported:  12/22/2022 10:03:05AM
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2251085-BLK1) Prepared: 12/16/22 Analyzed: 12/19/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.92		8.00		98.9	70-130			

LCS (2251085-BS2) Prepared: 12/16/22 Analyzed: 12/19/22

Gasoline Range Organics (C6-C10)	45.0	20.0	50.0		89.9	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	8.05		8.00		101	70-130			

Matrix Spike (2251085-MS2) Source: E212100-05 Prepared: 12/16/22 Analyzed: 12/19/22

Gasoline Range Organics (C6-C10)	44.8	20.0	50.0	ND	89.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.99		8.00		99.8	70-130			

Matrix Spike Dup (2251085-MSD2) Source: E212100-05 Prepared: 12/16/22 Analyzed: 12/19/22

Gasoline Range Organics (C6-C10)	47.9	20.0	50.0	ND	95.8	70-130	6.72	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.98		8.00		99.7	70-130			



## QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	<b>Reported:</b>
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/2022 10:03:05AM

## Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: JL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2252010-BLK1)

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	48.9		50.0		97.8	50-200			

## LCS (2252010-BS1)

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	258	25.0	250		103	38-132			
Surrogate: n-Nonane	48.3		50.0		96.7	50-200			

## Matrix Spike (2252010-MS1)

Source: E212100-05

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	264	25.0	250	ND	105	38-132			
Surrogate: n-Nonane	46.9		50.0		93.7	50-200			

## Matrix Spike Dup (2252010-MSD1)

Source: E212100-05

Prepared: 12/19/22 Analyzed: 12/20/22

Diesel Range Organics (C10-C28)	265	25.0	250	ND	106	38-132	0.459	20	
Surrogate: n-Nonane	47.5		50.0		95.0	50-200			



## QC Summary Data

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	<b>Reported:</b>
PO Box 247	Project Number:	01058-0007	
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/2022 10:03:05AM

## Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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## Blank (2251090-BLK1)

Prepared: 12/16/22 Analyzed: 12/19/22

Chloride ND 20.0

## LCS (2251090-BS1)

Prepared: 12/16/22 Analyzed: 12/19/22

Chloride 251 20.0 250 100 90-110

## Matrix Spike (2251090-MS1)

Source: E212098-01

Prepared: 12/16/22 Analyzed: 12/19/22

Chloride 380 20.0 250 133 99.0 80-120

## Matrix Spike Dup (2251090-MSD1)

Source: E212098-01

Prepared: 12/16/22 Analyzed: 12/19/22

Chloride 394 20.0 250 133 104 80-120 3.47 20

## QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.





Definitions and Notes

Pima Environmental Services-Carlsbad	Project Name:	Hackberry 19 Fed 1	
PO Box 247	Project Number:	01058-0007	Reported:
Plains TX, 79355-0247	Project Manager:	Tom Bynum	12/22/22 10:03

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with \*\* are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



## Project Information

## Chain of Custody

Page 3 of 4

Client: Pima Environmental Services				Bill To				Lab Use Only				TAT				EPA Program	
Project: <u>HACKBERRY 19 Fed 1</u>				Attention: <u>Devon Energy</u>				Lab WO# <u>E 212100</u>		Job Number <u>01058-0007</u>		1D	2D	3D	Standard	CWA	SDWA
Project Manager: Tom Bynum				Address:				Analysis and Method								RCRA	
Address: <u>1601 N Turner St., Suite 500</u>				City, State, Zip													
City, State, Zip <u>Hobbs, NM, 88240</u>				Phone:				DRO/ORO by 8015 GRO/DRO by 8015 BTEX by 8021 VOC by 8260 Metals 6010 Chloride 300.0 BGDOC NM BGDOC TX								State	
Phone: <u>580-748-1613</u>				Email:												NM	CO
Email: <u>tom@pimaoil.com</u>				Pima Project # <u>1-41</u>				Remarks									
Report due by:																	

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number
11:40	12/15/22	S		CS4 1'	1
11:45				CS4 2'	2
11:50				CS4 4'	3
11:55				CS5 1'	4
12:00				CS5 4'	5
12:05				CS5 8'	6
12:10				CS6 1'	7
12:15				CS6 4'	8
12:20				CS6 8'	9
12:25				CS7 1'	10

Additional Instructions: Bill To Devon Energy #20808989

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: Ned Rogers

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <u>Ned Rogers</u>	Date <u>12-15-22</u>	Time <u>2:00P</u>	Received by: (Signature) <u>Michelle Gurgels</u>	Date <u>12-15-22</u>	Time <u>1400</u>
Relinquished by: (Signature) <u>Michelle Gurgels</u>	Date <u>12-15-22</u>	Time <u>1600</u>	Received by: (Signature) <u>Keith Chute</u>	Date <u>12/16/22</u>	Time <u>10:30</u>
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only

Received on ice: (Y) N

T1 \_\_\_\_\_ T2 \_\_\_\_\_ T3 \_\_\_\_\_

AVG Temp °C 4

Sample Matrix: S - Soil, sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.







## Envirotech Analytical Laboratory

Printed: 12/16/2022 1:09:37PM

## Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Pima Environmental Services-Carlsbad	Date Received:	12/16/22 10:30	Work Order ID:	E212100
Phone:	(575) 631-6977	Date Logged In:	12/16/22 08:47	Logged In By:	Caitlin Christian
Email:	tom@pimaoil.com	Due Date:	12/22/22 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: UPSComments/Resolution

Project Hackberry 19 Fed 1 has been separated into 2 reports due to amount of samples. Workorders are as follows: E212099 & E212100.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 

Sample ID?	Yes
Date/Time Collected?	Yes
Collectors name?	No

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.



Pima Environmental Services

## **Appendix F**

SoilRX Information & Protocols

# Soil RX "The Hydrocarbon Solution"



**Product Overview** Soil Rx utilizes a new approach to solving soil and water hydrocarbon contamination problems. Specifically formulated for safe, effective and environmentally friendly applications, **Soil Rx** utilizes a blend of Polyelectrolyte Enhanced Bio-Polymers, highly concentrated live, hydrocarbon-oxidizing bacteria, and a readily biodegradable natural amino acid complex consisting of a nutrient-rich extract with a broad-spectrum package of identifiable amino acids and other proteins. This triple action product works together synergistically to degrade hydrocarbons with minimal use of equipment, labor and cost. **Soil Rx** is a low-cost liquid, making it an easy-to-use, cost effective means to eliminate hydrocarbon contamination problems within various types of industry. **Soil Rx** is an excellent product to remediate hydrocarbons in soil and water. It is effective on gasoline, jet fuels, diesel fuels, grease, tar, motor oils, crude oils, organic solvents, etc.

**Application Methods** Soil Rx is a liquid concentrate that must be diluted prior to use. **Soil Rx** can be sprayed after dilution using standard spray application equipment including but not limited to hand sprayers, mechanical sprayers, water trucks, fire or emergency response equipment, pressure washers, aerial spray equipment, soil injection, well injection, wastewater injection, etc.

**Soils Applications:** Mix and saturate diluted mixture with contaminated soils thoroughly for maximum performance. For shallow/surface contamination, drench affected areas with enough dilution to fully saturate the soil using normal spray equipment or water trucks. For general contamination less than two feet, contaminated soil may require tilling or excavation to properly mix concentrate/water dilution into soils. For deeper contamination greater than two feet, product application can be applied through boring-n-pour method, soil injection, or on-site soil land farming and/or bio-piling.

**Water Applications:** For contaminated water such as marshes, shorelines and open water with floating hydrocarbons, apply dilution directly to the contaminated areas using appropriate spray equipment or water cannons. For wastewater systems, contact 3 Tier Technologies directly for appropriate treatment methods.

**Application Rates** Soil Rx must be diluted using 1 part concentrate to 10 parts clean water prior to use. Product can be diluted up to 100 parts water as directed for specific applications. Application rates are determined by level of contamination, area of application, and speed required for cleanup. Specific application rates are determined prior to sale by the manufacturer and/or distributor.

**Soil:** Standard application rate for contaminated soil is one gallon (5 liters) 10:1 diluted product per cubic yard (meter) of soil.

**Water:** Normal application rate for water applications is three gallons (12 liters) 10:1 diluted product per 1000 sq. feet (93 sq. meters) of contaminated surface area. Wastewater systems will receive application rates between 5 and 100 PPM of the average GPD or system volume.

**Technical Information** Soil Rx contains naturally occurring, single-celled, hydrocarbon-oxidizing microorganisms; a biodegradable natural amino acid complex consisting of a nutrient-rich extract with a broad-spectrum package of identifiable amino acids, coenzymes, and other proteins in a blend of organic bio-polymers.

**Product Effectiveness:** The effectiveness and "speed" of this product is determined by several factors. In general, these factors are:

**Temperature:** Optimum performance temperatures range from 40°F (5°C) to 98°F (36°C).

**pH:** Maximum performance range is 5 – 9, acceptable range is 4 – 10.

**Soil Moisture:** Optimum soil moisture is 15% to 20% moisture content.

**Remediation Speed:** Factors that influence speed of process include type, level, depth, and age of contaminants as well as method of applications, regulatory standards, and urgency.

**Performance Tips:** Various strategies may be used to maximize performance like application rate & frequency, the addition of aeration, and method of application.

**Shelf Life:** Properly stored unopened containers have a shelf life of 2 years, 1 year after opening.

**Benefits:**

- Cost Effective In-Situ Method
- No Dig-N-Dump Costs for Contaminated Soils
- "Green" Remediation Technology
- Significant Labor & Application Cost Savings
- Can be Used Through Multiple Application Methods

**For more information Contact:**







## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

NOV 17 2010

Mr. Daniel J. Burdette  
3 Tier Technologies, LLC  
2302 Mercator Drive  
Suite 102  
Orlando, FL 32807

OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

Dear Mr. Burdette,

Thank you for providing the technical product data required by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, on your product "Soil Rx (aka, Bio-Regen Hydrocarbon)." After conducting our review, your data submissions have satisfied the requirements contained in Title 40 of the CFR section 300.915 of the NCP. "Soil Rx (aka, Bio-Regen Hydrocarbon)" will be listed on the NCP Product Schedule under the Bioremediation Agent category and may be authorized for use by Federal On-Scene Coordinators in accordance with 40 CFR section 300.910. The technical data for this product will be kept on file by the Office of Emergency Management Regulation and Policy Division Oil Program Center pursuant to 40 CFR section 300.920.

Enclosed are some of the relevant provisions in the NCP on restrictions regarding the listing of your product. Please note, you are required to notify the Environmental Protection Agency (EPA) of any changes in composition, formulation, handling procedures, or application of your product. Based on this notice, EPA may require retesting of the product.

Also, note that the listing of "Soil Rx (aka, Bio-Regen Hydrocarbon)" on the NCP Product Schedule does not constitute approval, certification, authorization, licensing or promotion of the product; nor does it imply compliance with any criteria or minimum standards for such agents. Failure to comply with these restrictions or the making of any improper reference to EPA in an attempt to demonstrate approval or acceptance of the product will constitute grounds for removal of the product from the schedule.

Please review the enclosed information and contact Ms. Leigh DeHaven in the Office of Emergency Management at (202) 564-1974 if you have any corrections or questions.

Sincerely,

A handwritten signature in black ink, reading "R. Craig Matthiessen", is positioned above the typed name.

R. Craig Matthiessen, Director  
Regulation and Policy Development Division  
Office of Emergency Management



## Bio-Regen Soil Rx

### Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 06/01/2015

Supersedes: 03/24/15

Version: 1.0

Format: GHS

Language: English (US)

## SECTION 1: Identification

### Product Identifier

**Product Name** Bio-Regen Soil Rx

**Product Name** Mixture

### Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

### Details of the Supplier of the Safety Data Sheet

**Manufacturer** 3 Tier Technologies, LLC  
250 National Place, Suite 142  
Longwood, FL 32750

**Telephone (General)** 877-226-7498

### Emergency Telephone Number

**Manufacturer** 407-808-4653

## SECTION 2: Hazard Identification

### Classification of the Substance or Mixture

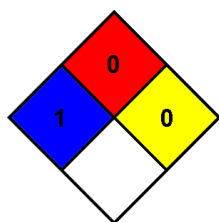
**Classification (GHS-US)** Not classified

**Label elements** No labeling applicable

**Hazard Statements** None

**Precautionary Statements** None

### Other Information



### NFPA Health Hazard

1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

### NFPA Fire Hazard

0 - Materials that will not burn.

### NFPA Reactivity

0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

# Bio-Regen Soil Rx

## Safety Data Sheet

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### SECTION 3: Composition/Information on Ingredients

**Substances** Material does not meet the criteria of a substance.

#### Mixtures

Bio-Regen Soil Rx is a blended composition "not considered hazardous" under the OSHA Hazard Communication Standard CFR Title 29 1910.1200. All ingredients appear on the EPA TSCA Inventory. All Bacillus Bacteria contained in this product are DSL Listed and Compliant.

Components	CAS Number	%	Hazardous
Organic Biopolymer	1415-93-6	50	No
Bacillus Bacteria	ATCC 18250-7	30	No
RO Water	7732-18-5	10	No
Amino Acids	Various	10	No

*Ingredients of <1% have been added to a non-hazardous liquid organic substrate. Active components >5% are identified above.*

*See Section 11 for Toxicology Information*

### SECTION 4: First aid measures

#### Description of First Aid Measures

<b>Inhalation</b>	Remove to fresh air and keep at rest in a comfortable position for breathing.
<b>Skin (or clothing)</b>	Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
<b>Eye</b>	Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

#### Most Important Symptoms and Effects, both Acute and Delayed

Refer to Section 11: Toxicological Information.

#### Indication of Any Medical Attention and Special Treatment Needed

#### Notes to Physician

All treatments should be based on observed signs and symptoms of distress in patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

### SECTION 5: Fire-Fighting Measures

#### Extinguishing Media

**Suitable Extinguishing Media** Carbon dioxide. Dry powder. Foam

# Bio-Regen Soil Rx

## Safety Data Sheet

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**Unsuitable Extinguishing Media** Not applicable.

### Special Hazards Arising From the Substance or Mixture

**Unusual Fire and Explosion Hazards** Not applicable.

**Hazardous Combustion Products** Not applicable.

**Advice for Firefighters** No special firefighting equipment is needed; however, self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.

## SECTION 6: Accidental Release Measures

### Personal Precautions, Protective Equipment and Emergency Procedures

**Personal Precautions** Store in a safe place. Wear approved goggles when handling this product. Wash material off skin with plenty of soap and water. Wash clothing and footwear before reuse. Always wash hands thoroughly after use.

**Emergency Procedures** Not applicable.

### Environmental Precautions

### Methods and Material for Containment and Cleaning Up

**Containment/Clean-Up Measures** Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Place in a suitable container for disposal in a safe manner in accordance with local/national regulations.

## SECTION 7: Handling and Storage

### Precautions for Safe Handling

**Handling** Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### Conditions for Safe Storage, Including Any Incompatibilities

**Storage** Keep out of reach of children. Store in a dry, well-ventilated area. Keep container closed when not in use.

**Incompatible Materials or Ignition Sources** Caustics, oxidizers, reducers.

## SECTION 8: Exposure Controls/Personal Protection

### Control Parameters

### Exposure Controls

**Engineering Measures/Controls** None specified.



# Bio-Regen Soil Rx

## Safety Data Sheet

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### Personal Protective Equipment



### Pictograms

#### Respiratory

MSHA-NIOSH approved. No special precautions required.

#### Eye/Face

Protective eye goggles are recommended.

#### Hands

Wear rubber gloves for prolonged exposure; rinse completely from skin after contact.

#### Skin/Body

No special precautions required; rinse completely from skin after contact.

**General Industrial Hygiene Considerations** None specified.

**Environmental Exposure Controls** None specified.

## SECTION 9: Physical and Chemical Properties

Material Description			
<b>Physical Form</b>	Liquid	<b>Appearance - Description</b>	Brown / Black Liquid
<b>Color</b>	Brown / Black	<b>Odor</b>	Mild Citrus Odor
<b>Taste</b>	Data Lacking	<b>Particulate Type</b>	Not relevant
<b>Particulate Size</b>	Not relevant	<b>Aerosol Type</b>	Not relevant
<b>Odor Threshold</b>	Data Lacking	<b>Physical and Chemical Properties</b>	Data Lacking
<b>General Properties</b>			
<b>Boiling Point</b>	>212°F (100°C)	<b>Melting Point</b>	Data Lacking
<b>Decomposition Temperature</b>	Data Lacking	<b>Heat of Decomposition</b>	Data Lacking
<b>pH</b>	6.9 – 9.5	<b>Specific Gravity/Relative Density</b>	1.01 – 1.05
<b>Density</b>	Data Lacking	<b>Bulk Density</b>	Data Lacking
<b>Water Solubility</b>	99%	<b>Solvent Solubility</b>	Not relevant
<b>Viscosity</b>	Equivalent to Water	<b>Explosive Properties</b>	Classification criteria not met.
<b>Oxidizing Properties</b>	Classification criteria not met.		
<b>Volatility</b>			
<b>Vapor Pressure</b>	Equivalent to Water	<b>Vapor Density</b>	Equivalent to Water
<b>Evaporation Rate</b>	Not Determined	<b>VOC (Wt.)</b>	Negligible
<b>VOC (Vol.)</b>	Data Lacking	<b>Volatiles (Wt.)</b>	Data Lacking
<b>Volatiles (Vol.)</b>	Data Lacking		
<b>Flammability</b>			
<b>Flash Point</b>	Not relevant	<b>UEL</b>	Not relevant
<b>LEL</b>	Not relevant	<b>Autoignition</b>	Not relevant
<b>Self-Accelerating Decomposition Temperature (SADT)</b>	Not relevant	<b>Heat of Combustion</b>	Not relevant
<b>Burning Time</b>	Not relevant	<b>Flame Duration</b>	Not relevant
<b>Flame Height</b>	Not relevant	<b>Flame Extension</b>	Not relevant
<b>Ignition Distance</b>	Not relevant	<b>Flammability (solid, gas)</b>	Non-flammable

# Bio-Regen Soil Rx

## Safety Data Sheet

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<b>Environmental</b>			
<b>Half-Life</b>	Data Lacking	<b>Octanol/Water Partition Coefficient</b>	Data Lacking
<b>Coefficient of Water/Oil Distribution</b>	Data Lacking	<b>Bioaccumulation Factor</b>	Data Lacking
<b>Bioconcentration Factor</b>	Data Lacking	<b>Biochemical Oxygen Demand BOD/BOD5</b>	Data Lacking
<b>Chemical Oxygen Demand</b>	Data Lacking	<b>Persistence</b>	Data Lacking
<b>Degradation</b>	Data Lacking		

### SECTION 10: Stability and Reactivity

<b>Reactivity</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability</b>	Stable under normal temperatures and pressures.
<b>Possibility of Hazardous Reactions</b>	None known.
<b>Conditions to Avoid</b>	None known.
<b>Incompatible Materials</b>	Strong oxidizing agents, alkalis.
<b>Hazardous Decomposition Products</b>	Carbon oxides (CO, CO2). Sulfur oxides.

### SECTION 11: Toxicological Information

#### Information of Toxicological Effects

GHS Properties	Classification
<b>Acute Toxicity</b>	<b>OSHA HCS 2012</b> Classification criteria not met
<b>Aspiration Hazard</b>	<b>OSHA HCS 2012</b> Classification criteria not met
<b>Carcinogenicity</b>	<b>OSHA HCS 2012</b> Classification criteria not met
<b>Germ Cell Mutagenicity</b>	<b>OSHA HCS 2012</b> Classification criteria not met
<b>Respiratory Sensitization</b>	<b>OSHA HCS 2012</b> Mild Irritant
<b>Serious Eye Damage/Irritation</b>	<b>OSHA HCS 2012</b> Mild Irritant
<b>Skin Corrosion/Irritation</b>	<b>OSHA HCS 2012</b> Classification criteria not met
<b>Skin Sensitization</b>	<b>OSHA HCS 2012</b> Mild Irritant
<b>STOT-RE</b>	<b>OSHA HCS 2012</b> Classification criteria not met
<b>STOT-SE</b>	<b>OSHA HCS 2012</b> Classification criteria not met
<b>Toxicity for Reproduction</b>	<b>OSHA HCS 2012</b> Classification criteria not met

**Target Organs** None.

**Route(s) of Entry/Exposure**

**Potential Health Effects**

#### Inhalation

Acute (Immediate) May cause respiratory irritation.  
 Chronic (Delayed) No data available.



# Bio-Regen Soil Rx

## Safety Data Sheet

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### Skin

Acute (Immediate) May cause skin irritation.  
 Chronic (Delayed) No data available.

### Eye

Acute (Immediate) Direct contact with the eyes is likely to be irritating.  
 Chronic (Delayed) No data available.

### Ingestion

Acute (Immediate) May cause gastrointestinal irritation.  
 Chronic (Delayed) No data available.

## SECTION 12: Ecological information

**Toxicity** Material data lacking.

**Persistence and Degradability** Material data lacking.

**Bioaccumulative Potential** Material data lacking.

**Mobility in Soil** Material data lacking.

**Other Adverse Effects** No studies have been found.

**Other Information** No data is available on the adverse effects of this material on the environment.

## SECTION 13: Disposal Considerations

### Waste Treatment Methods

**Product Waste** Dispose of content in accordance with local, regional, national, and/or international regulations.

**Packaging Waste** Dispose of container in accordance with local, regional, national, and/or international regulations.

## SECTION 14: Transport Information

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Transport Hazard Class(es)	14.4 Packing Group	14.5 Environmental Hazards
DOT	Not applicable	(N.O.I.) Non Hazardous	Not applicable	Not applicable	Not applicable
TDG	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
IMO/IMDG	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
IATA/ICAO	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

**Special Precautions for User** None specified.

**Transport in Bulk According to**

**Annex II of MARPOL 73/78**

# Bio-Regen Soil Rx

## Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### The IBC Code

None specified.

## SECTION 15: Regulatory information

### US Federal Regulations

All chemical substances in this product are listed in the EPA (Environmental Protection Agency) TSCA (Toxic Substances Control Act) Inventory.

### International Regulations

No additional information available.

### California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

## SECTION 16: Other Information

### Disclaimer/Statement of Liability

*The information for this safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual products use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the mandatory requirements of Federal, State, Provincial, or local laws. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries, or consequential damages which may result from the use of or reliance on any information contained in this form.*

**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 172069

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 172069
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	1/4/2023