



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

April 30th, 2021

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

Bureau of Land Management
Mr. Jim Amos
620 East Green Street
Carlsbad, NM 88220

**Re: Remediation Activities & Closure Report
Emerald PWU 20 #001H
API No. 30-015-38338
GPS: Latitude 32.6525154 Longitude -104.1045456
UL "D," Sec. 20, T19S, R29E
Eddy County, NM
NMOCD Ref. No. NMLB1113050834 (2RP-779)**

Pima Environmental Services, LLC (Pima) was contracted by Devon Energy Production Company (Devon) to perform remediation activities and submit a closure report for a crude oil/produced water mixed release that occurred at the Emerald PWU 20 #001H (Emerald) on May 4th, 2011. The initial C-141 (Appendix C) was submitted on May 10th, 2011 and was assigned Incident ID nMLB1113050834 (2RP-779) by the New Mexico Oil Conservation Division (NMOCD).

Site Characterization

The Emerald is located approximately eighteen (18) miles northeast of Carlsbad, NM. This spill site is in Unit D, Section 20, Township 19S, Range 29E, Latitude 32.6525154, Longitude -104.1045456, Eddy County, NM. Figure 1 references a location map.

Per the New Mexico Bureau of Geology and Mineral Resources, the geology is in the Quaternary Formation Eolian and piedmont deposits (Holocene to middle Pleistocene)-interlayered eolian sands and piedmont-slope deposits (QEP). According to the United States Department of Agriculture Natural Resources Conservation Service soil survey, the soil in this area comprises Simona-Bippus complex, 0 to 5 percent slopes (Appendix B). The drainage courses in this area are well-drained. There is a high potential for karst geology in the Emerald area (Figure 3).

According to the New Mexico Office of the State Engineer, depth to the nearest groundwater in this area is 150 feet below grade surface (BGS). According to the United States Geological Survey (USGS), the closest groundwater is between 51-100 BGS. 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
150'	20,000 mg/kg	2,500 mg/kg	1,000 mg/kg	50 mg/kg	10 mg/kg
High Karst	600 mg/kg	100 mg/kg	100 mg/kg	50 mg/kg	10mg/kg
If the release occurred within any of the following areas, the responsible party would treat the release as if the groundwater was less than 50 feet per Rule 19.15.29					
Water Issues				Yes	No
Within 300 feet of any continuously flowing watercourse or any other significant watercourse					x
Within 200 feet of any lakebed, sinkhole, or playa lake (measures from the ordinary high-water mark					x
Within 300 feet from an occupied permanent residence, school, hospital, institution, or church					x
Within 500 feet of a spring or a private, domestic freshwater well used by less than five households for domestic or stock water purposes					x
Within 1000 feet of any freshwater well or spring					x
Within incorporated municipal boundaries or within a defined municipal freshwater well field					x
Within 300 feet of a wetlands					x
Within the area overlying a subsurface mine					x
Within an unstable area (Karst)				x	
Within a 100-year floodplain					x

Reference Figure 2 for a Topographic Map.

Release Information

2RP-779: On May 4, 2011, during the flowback process, the overnight watchman fell asleep and awoke to a frac tank overflowing. The released fluids were calculated to be approximately 23 barrels (bbls) of oil and 3 bbls of produced water. A vac truck was dispatched and was able to recover 22 bbls of fluids.

Site Assessment and Soil Sampling Results

On July 7, 2020, Pima Environmental mobilized to the site to conduct a site assessment and obtain soil samples. Upon first look, there was no visual staining from any of the releases. We followed previously outlined diagrams and descriptions from C-141's to track the spills' vicinity and sampled in various random locations. The laboratory results of this sampling event can be found in the following data table. Pima submitted a work plan that would address all open RP's and was approved by the NMOCD.

7-7-20 Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (Depth to Groundwater is >100')								
Sample Date 7-7-20		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
S-1	0-6	ND	ND	ND	ND	ND	ND	360
	1	ND	ND	ND	ND	ND	ND	360
S-2	0-6	ND	ND	ND	11000	8300	19300	3800
S-3	0-6	ND	ND	ND	11	ND	11	17000
S-4	0-6	ND	ND	ND	ND	ND	ND	570
	1	ND	ND	ND	ND	ND	ND	210
S-5	0-6	ND	ND	ND	ND	ND	ND	ND
	1	ND	ND	ND	ND	ND	ND	64
S-6	0-6	ND	ND	ND	ND	ND	ND	1200
S-7	0-6	ND	ND	ND	ND	ND	ND	ND
	1	ND	ND	ND	ND	ND	ND	ND
S-8	0-6	ND	ND	ND	ND	ND	ND	2300
	1	ND	ND	ND	ND	ND	ND	200
S-9	0-6	ND	ND	ND	20000	12000	32000	4100
	1	ND	ND	ND	240	190	430	430
S-10	0-6	ND	ND	ND	2700	3200	5900	2600
S-11	0-6	ND	ND	ND	3500	3600	7100	250
	1	ND	ND	ND	74	90	164	460

ND- Analyte Not Detected

Remediation Activities

Pima submitted a work plan to address this incident, as well as all other open incidents associated with this site, that was ultimately approved and followed. Pima removed the contaminated areas from the releases and our sampling event that exceeded the NMAC Closure Criteria. We remediated through excavation and removal using mechanical equipment and hand tools. The area in the vicinity of S-2 and S-3 was excavated to a depth of 2-feet BGS. As we started excavating in the vicinity of S-6, S-8, S-9, and S-10, we extended our sampling to define where our excavation would require cleanup horizontally. This area's excavation extended further horizontally and vertically than initially expected. We ended up excavating vertically to a depth of 2-feet and 3-feet BGS respectively. The vicinity of S-11 was excavated to a depth of 2-feet BGS and ended up becoming part of the larger area. Five-point composite bottom and sidewall composite samples were obtained to ensure that the contamination's vertical and horizontal extents had been removed. Each composite sample was representative of no more than 200 square feet. Laboratory analysis includes Method SM-4500 for chlorides and Method 8015 for TPH, including MRO, DRO, and GRO. See Figure 5 for Confirmation Sample Map.

11-19-20 Extended Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (HIGH KARST AREA <50')								
Sample Date 11-19-20		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
S-15	1	ND	ND	ND	1350	272	1622	560
	2	ND	ND	ND	204	53.2	257.2	688
	3	ND	ND	ND	50.8	ND	50.8	464
S-16	1	ND	ND	ND	13.2	ND	13.2	320
	2	ND	ND	ND	ND	ND	ND	272
	3	ND	ND	ND	70.5	15.8	86.3	176
S-17	1	ND	ND	ND	ND	ND	ND	48
	2	ND	ND	ND	ND	ND	ND	32
	3	ND	ND	ND	ND	ND	ND	32
S-18	1	ND	ND	ND	ND	ND	ND	16
	2	ND	ND	ND	ND	ND	ND	32
	3	ND	ND	ND	ND	ND	ND	32
S-19	1	1.11	ND	121	4640	814	5575	368
	2	ND	ND	12	904	151	1067	512
	3	ND	ND	ND	418	80.9	498.9	544
S-20	1	ND	ND	35.6	5850	1120	7005.6	96
	2	ND	ND	ND	83.9	18.2	102.1	128
	3	ND	ND	ND	290	55.9	345.9	176
S-21	1	ND	ND	ND	123	35.6	158.6	80
S-22	1	ND	ND	ND	44.4	10.6	55	1620
	2	ND	ND	ND	22	ND	22	48
	3	ND	ND	ND	11.1	ND	11.1	32

ND-Analyte Not Detected

On November 25th, 2020, Pima sent an environmental tech to the site to obtain confirmation sidewall and bottom samples. Samples were field screened using method S300 for chlorides and using a Tiger Select to measure for VOC. The results of this sampling event can be found in the following data table.

11-25-20 Confirmation Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (HIGH KARST AREA <50')								
Sample Date 11-25-20		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
S-1 W. BOTTOM	2	ND	ND	ND	ND	ND	ND	64
S-1 W. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	64
S-5 S. BOTTOM	2	ND	ND	ND	ND	ND	ND	96
S-5 S. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	80
S-6 S. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	112
S-6 S. BOTTOM	2	ND	ND	ND	ND	ND	ND	112
S-13 E. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	64
S-13 E. BOTTOM	2	ND	ND	ND	ND	ND	ND	80
S-12 N. BOTTOM	2	ND	ND	ND	ND	ND	ND	96
S-12 N. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	64
S-11 W. BOTTOM	2	ND	ND	ND	ND	ND	ND	80
S-11 W. SIDEWALL COMP	2	ND	ND	ND	20.9	23.1	44	64
S-14 S. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	64
S-14 S. BOTTOM	2	ND	ND	ND	ND	ND	ND	80
S-23	1	ND	ND	ND	ND	ND	ND	112
	2	ND	ND	ND	ND	ND	ND	112
	3	ND	ND	ND	ND	ND	ND	112
S-24	1	ND	ND	ND	ND	ND	ND	800
	2	ND	ND	ND	ND	ND	ND	112
	3	ND	ND	ND	ND	ND	ND	96
S-25	1	ND	ND	ND	ND	ND	ND	272
	2	ND	ND	ND	ND	ND	ND	80
	3	ND	ND	ND	ND	ND	ND	112

ND- Analyte Not Detected

On December 10th, 2020, Pima returned to the site to obtain further confirmation samples. The results of this sampling event can be found in the following data table.

12-10-20 Confirmation Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (HIGH KARST AREA <50')								
Sample Date 12-10-20		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
S-6 S. BOTTOM	2	ND	ND	ND	ND	ND	ND	96
S-6 S. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	80
S-9 E. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	80
S-9 E. BOTTOM	2	ND	ND	ND	ND	ND	ND	80
S-22 N. SIDEWALL	2	ND	ND	ND	ND	ND	ND	96
S-22 N. BOTTOM	2	ND	ND	ND	ND	ND	ND	112
S-24 N. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	80
S-24 N. BOTTOM	2	ND	ND	ND	ND	ND	ND	64
S-25 E. SIDEWALL COMP	2	ND	ND	ND	ND	ND	ND	48
S-25 E. BOTTOM	2	ND	ND	ND	ND	ND	ND	48
S-26 S. SIDEWALL COMP	3	ND	ND	ND	ND	ND	ND	80
S-26 S. BOTTOM	3	ND	ND	ND	ND	ND	ND	64

ND- Analyte Not Detected

On May 3rd, 2021, Pima returned to the site to complete the collection of confirmation samples. The results of this sampling event can be found in the following data table.

5-3-21 Confirmation Soil Sample Results

NMOCD Table 1 Closure Criteria 19.15.29 NMAC (HIGH KARST AREA <50')								
Devon Energy - Emerald PWU 20 #1H								
Sample Date 5-3-21		NM Approved Laboratory Results						
Sample ID	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	Cl mg/kg
S2-2'	2	ND	ND	ND	ND	ND	ND	ND
S3-2'	2	ND	ND	ND	ND	ND	ND	16
S4-2'	2	ND	ND	ND	ND	ND	ND	ND
S7-2'	2	ND	ND	ND	ND	ND	ND	ND
S8-2'	2	ND	ND	ND	ND	ND	ND	ND
S10-2'	2	ND	ND	ND	ND	ND	ND	ND

ND – Analyte Not Detected

Complete Laboratory Reports are attached in Appendix E.

Closure Request

After careful review, Pima requests that incident NMLB1113050834 (2RP-776) be closed. Devon has complied with the applicable closure requirements outlined in rule 19.15.19.12 NMAC.

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

Respectfully,



Chris Jones
Environmental Professional
Pima Environmental Services, LLC

Attachments

Figures:

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

Appendices:

- Appendix A – Referenced Water Surveys
- Appendix B – Soil Survey and FEMA Flood Map
- Appendix C – C-141s
- Appendix D – Photographic Documentation
- Appendix E – Laboratory Reports



Pima Environmental Services

Figures:

1-Site Map

2-Topo Map

3-Karst Map

4-Location Map

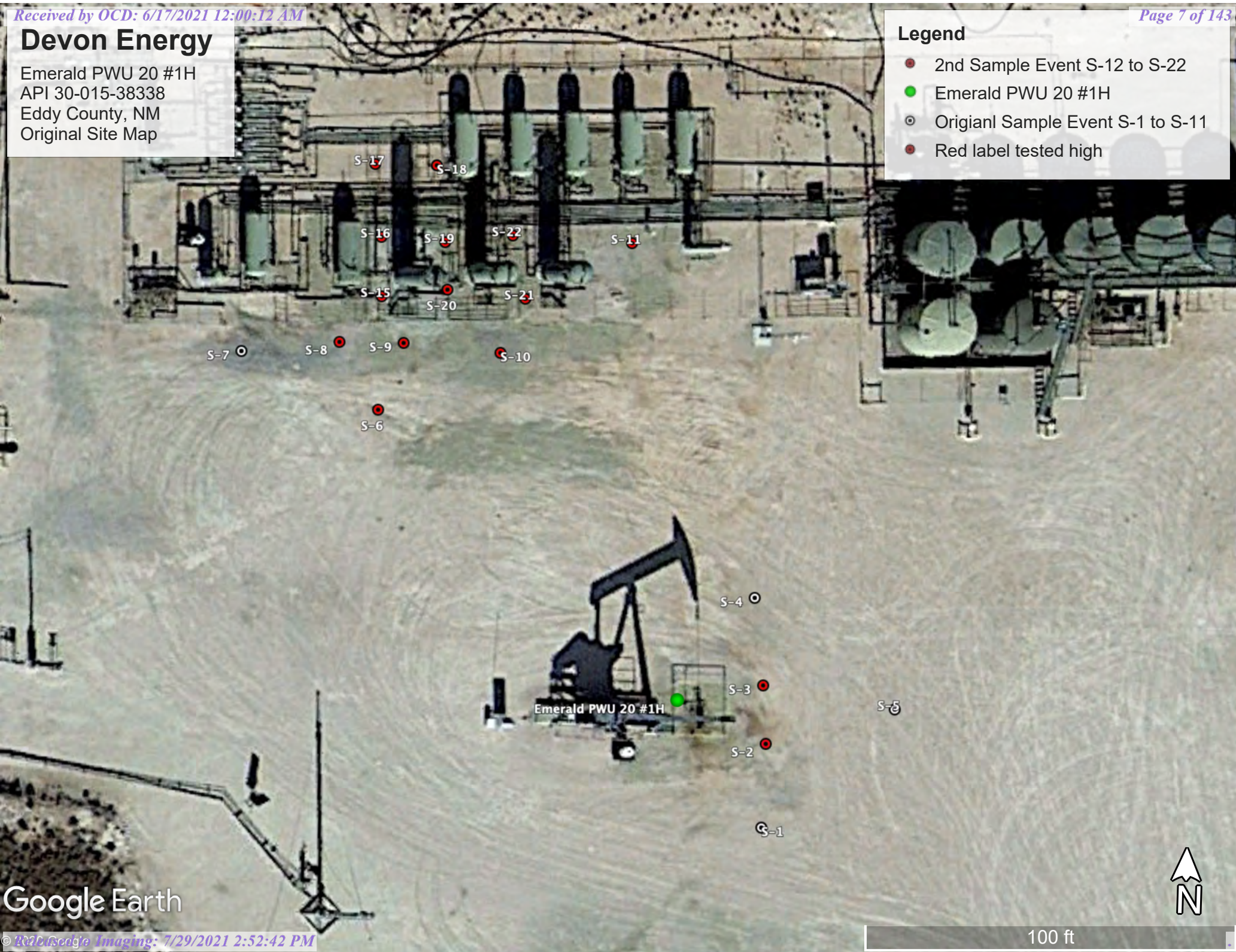
5-Confirmation Site Map

Devon Energy

Emerald PWU 20 #1H
API 30-015-38338
Eddy County, NM
Original Site Map

Legend

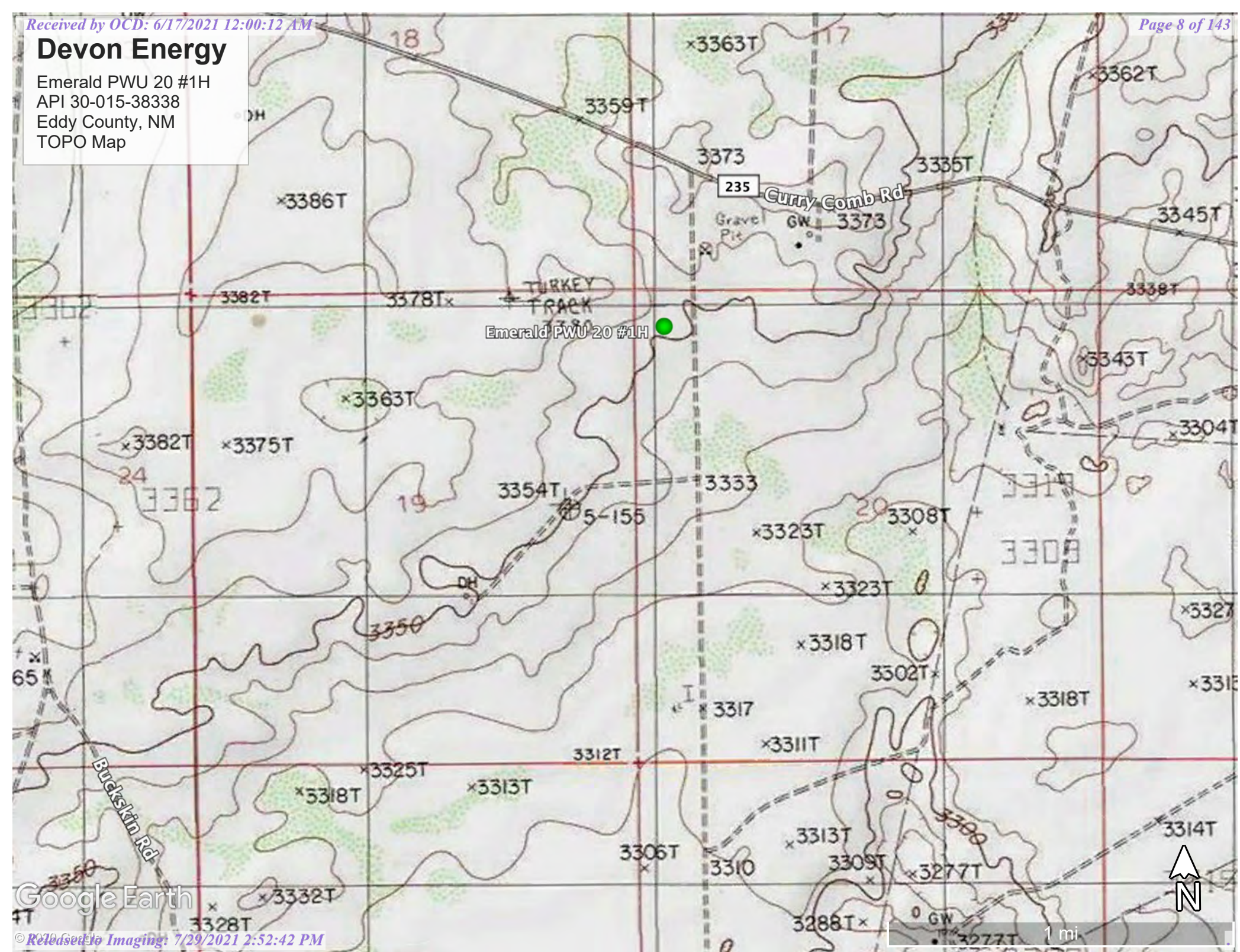
- 2nd Sample Event S-12 to S-22
- Emerald PWU 20 #1H
- Original Sample Event S-1 to S-11
- Red label tested high



Google Earth

Devon Energy

Emerald PWU 20 #1H
API 30-015-38338
Eddy County, NM
TOPO Map



Google Earth

Devon Energy

Emerald PWU 20 #1H
API 30-015-38338
Eddy County, NM
Karst Map

Legend

- High
- Low
- Medium

Emerald PWU 20 #1H



Devon Energy

Emerald PWU 20 #1H
API 30-015-38338
Eddy County, NM
Location Map

Emerald PWU 20 #1H

235 Curry Comb Rd

Buckskin Rd

Google Earth



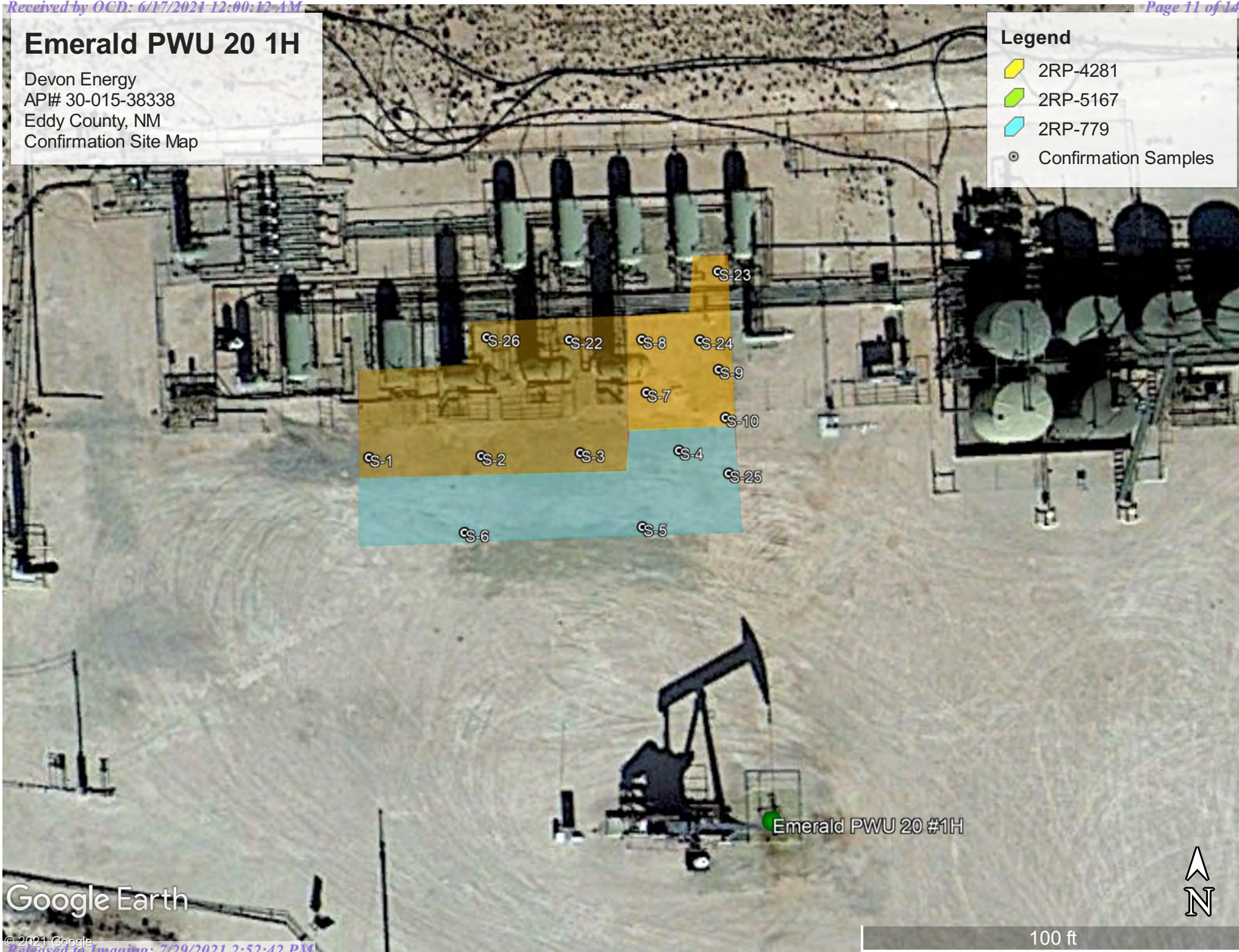
4000 ft

Emerald PWU 20 1H

Devon Energy
AP# 30-015-38338
Eddy County, NM
Confirmation Site Map

Legend

- 2RP-4281
- 2RP-5167
- 2RP-779
- Confirmation Samples



Google Earth



Pima Environmental Services

Appendix A

Water Surveys:

OSE

USGS

Surface Water Map



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
CP 00646		CP	ED	1	1	4	07	19S	29E	583155	3615551	2565	199	150	49
CP 01231 POD1		CP	ED	4	4	2	36	19S	28E	582311	3609372	4102	300	75	225
CP 01858 POD1		CP	ED	4	1	4	01	19S	28E	581872	3617163	4556	55		
CP 00681		CP	ED	1	1	3	34	19S	29E	587230	3609127*	5151			
CP 00830 POD1		CP	LE		2	1	04	20S	29E	586118	3608193*	5373	120		
CP 00741		CP	ED	1	3	2	34	19S	29E	588030	3609533*	5413	230	60	170
CP 00626 POD1		CP	ED	2	3	1	03	19S	29E	587360	3617575	5592	286	247	39
CP 00743 POD1		CP	ED		2	4	05	20S	29E	585319	3607382*	5894	160		

Average Depth to Water: **133 feet**

Minimum Depth: **60 feet**

Maximum Depth: **247 feet**

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 583977

Northing (Y): 3613121.615

Radius: 6000

*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.

4/30/21 7:07 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



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USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

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site_no list =

- 323900104052901

Minimum number of levels = 1

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

USGS 323900104052901 19S.29E.20.24111 RATLSNAKE

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°39'00", Longitude 104°05'29" NAD27

Land-surface elevation 3,306 feet above NAVD88

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

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

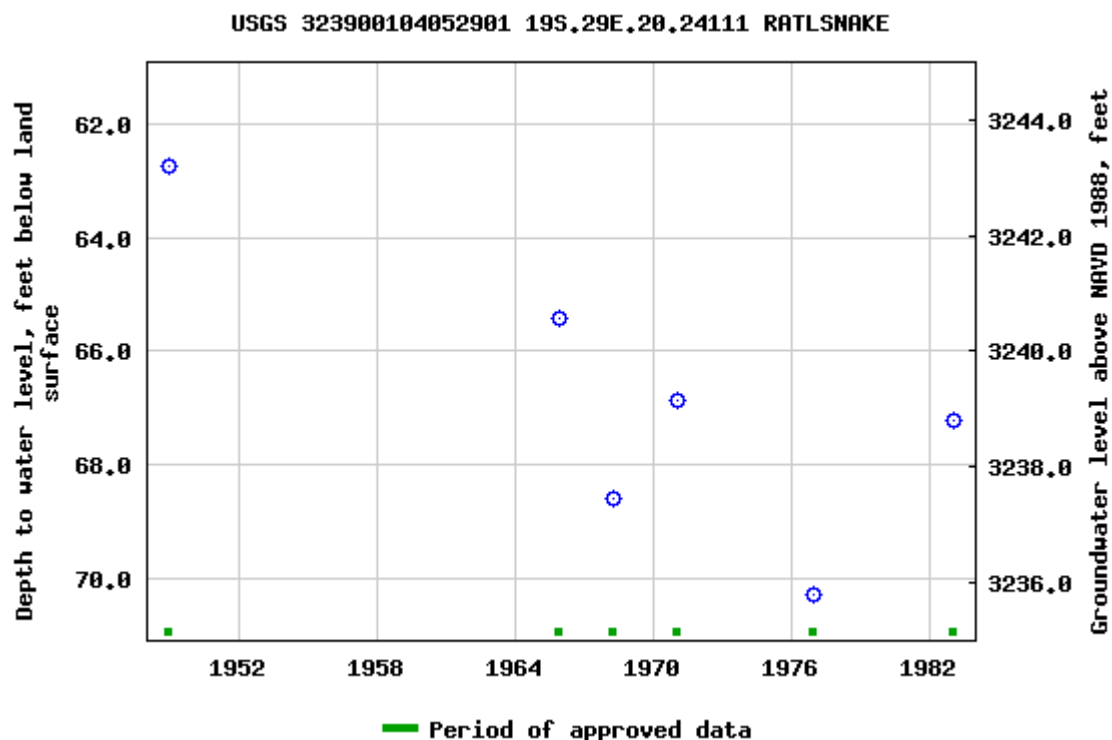
Output formats

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0.66 0.6 nadww01





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Search Results -- 1 sites found

site_no list =

- 323845104075601

Minimum number of levels = 1

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

USGS 323845104075601 19S.28E.24.32233

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°38'45", Longitude 104°07'56" NAD27

Land-surface elevation 3,352 feet above NAVD88

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

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

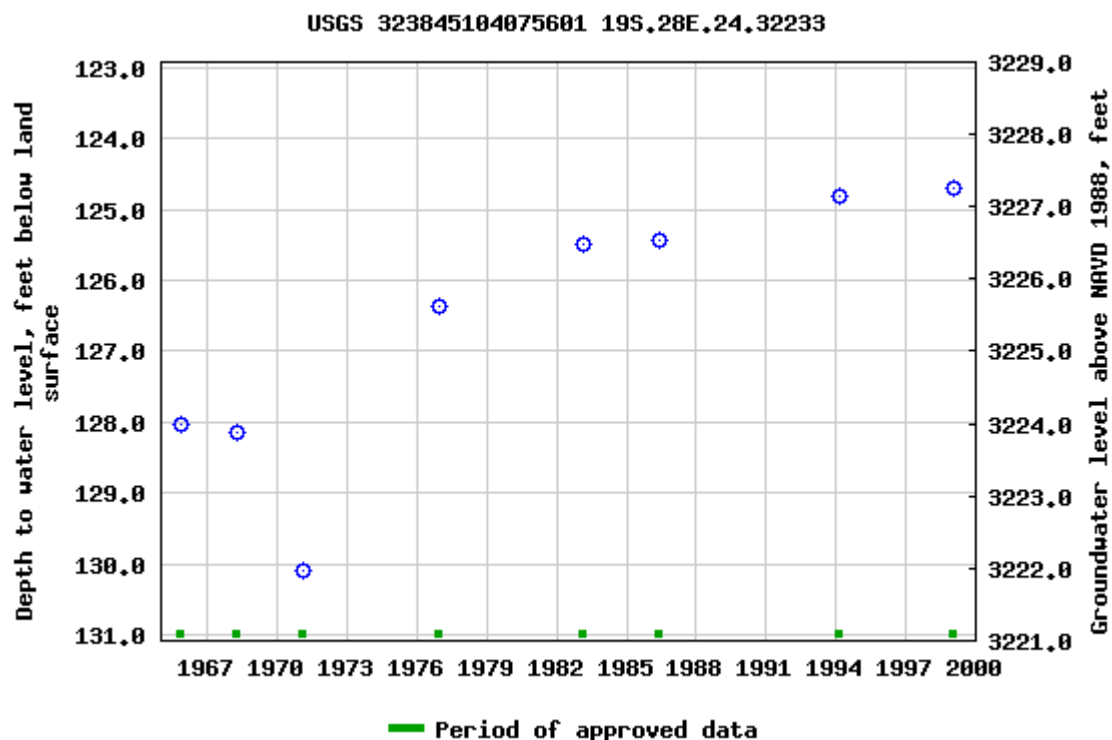
Output formats

[Table of data](#)

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0.66 0.59 nadww01



Emerald PWU 20 1H

Devon Energy
AP# 30-015-38338
Eddy County, NM
Surface Water Map

Legend

-  7.06 Miles
-  Playa

Emerald PWU 20 #1H

Playa

Bluestem Rd

Potash Mines Rd

Google Earth

4 mi





Pima Environmental Services

Appendix B

Soil Survey & Geological Data

FEMA Flood Map

Map Unit Description: Simona-Bippus complex, 0 to 5 percent slopes---Eddy Area, New Mexico

Eddy Area, New Mexico

SM—Simona-Bippus complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1w5x

Elevation: 1,800 to 5,000 feet

Mean annual precipitation: 8 to 24 inches

Mean annual air temperature: 57 to 70 degrees F

Frost-free period: 180 to 230 days

Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 55 percent

Bippus and similar soils: 30 percent

Minor components: 15 percent

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

Description of Simona

Setting

Landform: Plains, alluvial fans

Landform position (three-dimensional): Rise

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 19 inches: gravelly fine sandy loam

H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 7 to 20 inches to petrocalcic

Natural drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 1.0

Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Map Unit Description: Simona-Bippus complex, 0 to 5 percent slopes---Eddy Area, New Mexico

Ecological site: Shallow Sandy (R042XC002NM)
Hydric soil rating: No

Description of Bippus

Setting

Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 37 inches: silty clay loam
H2 - 37 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very 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: Occasional
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Bottomland (R042XC017NM)
Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 8 percent
Ecological site: Shallow Sandy (R042XC002NM)
Hydric soil rating: No

Bippus

Percent of map unit: 7 percent
Ecological site: Bottomland (R042XC017NM)

Map Unit Description: Simona-Bippus complex, 0 to 5 percent slopes---Eddy Area, New Mexico

Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico

Survey Area Data: Version 15, Sep 15, 2019

National Flood Hazard Layer FIRMette



32°39'24.20"N



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

32°38'53.91"N

Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

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 6/10/2020 at 1:40:02 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.



Pima Environmental Services

Appendix C

C-141's:

Initial

Final

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

nMLB 1113050834

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Devon Energy	Contact	Roy White, Foreman
Address	6488 Seven Rivers Hwy - P.O. Box 250	Telephone No.	575-513-1741
Facility Name	Emerald PWU 20 #1H 30-015-38338	Facility Type	

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	20	19S	29E	400	FNL	330	FWL	Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Oil & Produced Water	Volume of Release 23 bbls - Oil - 3 bbls - PW	Volume Recovered 20 bbls - Oil - 2 bbls - PW
Source of Release An overnight flow back hand fell asleep during his shift resulting in a frac tank to overflow and release 26 bbl of oil and produced water on the ground.	Date and Hour of Occurrence 05-04-11 - 6:22 am	Date and Hour of Discovery 05-04-11 - 06:22 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher, NMOCD	
By Whom? Roy White, Foreman	Date and Hour 05-04-11 - 10:100 am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* <input type="checkbox"/> An overnight flow back hand fell asleep during his shift resulting in a frac tank to overflow and release 26 bbl of oil and produced water on the ground. Flow back hand had gauged the tank at 5:00 am before he fell asleep. Tank (500 bbl capacity) was at 6'5" at 5:00 am. Crew member woke up at 5:45 am and observed the 9' tall tank was overflowing. Crew member who fell asleep is no longer employed with the contract company. 22 bbl of the oil and produced water was recovered resulting in a 4 bbl spill		
Describe Area Affected and Cleanup Action Taken.* 100 yards in length x 25 width - Called vacuum truck Removed contaminated soil and replaced w/new soil.		

RECEIVED
MAY 10 2011
NMOCD ARTESIA

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: Mykol Horner	OIL CONSERVATION DIVISION	
Printed Name: Mykol Horner	Approved by District Supervisor Signed By Mike Bratcher	
Title: Field Tech 1	Approval Date: 5/10/2011	Expiration Date:
E-mail Address: mykol.horner@dvn.com	Conditions of Approval: Remediation per OCD Rules & Guidelines. SUBMIT REMEDIATION	Attached <input type="checkbox"/>
Date: _____ Phone: 575-748-0160	PROPOSAL NOT LATER THAN: 6/10/2011	

* Attach Additional Sheets If Necessary

2RP-779

Incident ID	NMLB1113050834
District RP	2RP-779
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>150</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 not 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	NMLB1113050834
District RP	2RP-779
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: Tom Bynum Title: EHS Consultant

Signature: *Tom Bynum* Date: 10/21/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: _____ Date: _____

Incident ID	NMLB1113050834
District RP	2RP-779
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Tom Bynum Title: EHS Consultant
Signature: Tom Bynum Date: 10/21/2020
email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	NMLB1113050834
District RP	2RP-779
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: Tom Bynum Title: EHS Consultant
Signature: Tom Bynum Date: 10-21-20
email: tom.bynum@dvn.com Telephone: 575-748-2663

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: _____



Pima Environmental Services

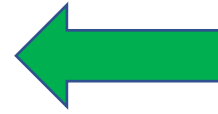
Appendix D

Photographic Documentation

Excavation Photos

Tank Battery Area





In Front of Wellhead for 2RP-5377

Completed & Backfilled







Pima Environmental Services

Appendix E

Laboratory Reports



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

July 16, 2020

Chris Jones
Pima Environmental Services LLC
1601 N. Turner Ste 500
Hobbs, NM 88240
TEL: (575) 631-6977
FAX:

RE: Emerald PWU 20 1H

OrderNo.: 2007408

Dear Chris Jones:

Hall Environmental Analysis Laboratory received 18 sample(s) on 7/9/2020 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 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 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S1, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 3:30:00 PM

Lab ID: 2007408-001

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	360	60		mg/Kg	20	7/11/2020 4:41:31 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	7/11/2020 9:45:27 PM	53614
Surr: BFB	93.5	70-130		%Rec	1	7/11/2020 9:45:27 PM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/11/2020 10:07:05 AM	53629
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2020 10:07:05 AM	53629
Surr: DNOP	97.5	55.1-146		%Rec	1	7/11/2020 10:07:05 AM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.023		mg/Kg	1	7/11/2020 9:45:27 PM	53614
Toluene	ND	0.046		mg/Kg	1	7/11/2020 9:45:27 PM	53614
Ethylbenzene	ND	0.046		mg/Kg	1	7/11/2020 9:45:27 PM	53614
Xylenes, Total	ND	0.092		mg/Kg	1	7/11/2020 9:45:27 PM	53614
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	7/11/2020 9:45:27 PM	53614
Surr: 4-Bromofluorobenzene	94.6	70-130		%Rec	1	7/11/2020 9:45:27 PM	53614
Surr: Dibromofluoromethane	112	70-130		%Rec	1	7/11/2020 9:45:27 PM	53614
Surr: Toluene-d8	101	70-130		%Rec	1	7/11/2020 9:45:27 PM	53614

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

Qualifiers:	*	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 23

Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S1, 1'

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 3:35:00 PM

Lab ID: 2007408-002

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	160	60		mg/Kg	20	7/11/2020 4:53:56 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/11/2020 10:42:56 PM	53614
Surr: BFB	94.9	70-130		%Rec	1	7/11/2020 10:42:56 PM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/11/2020 11:20:31 AM	53629
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2020 11:20:31 AM	53629
Surr: DNOP	56.7	55.1-146		%Rec	1	7/11/2020 11:20:31 AM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/11/2020 10:42:56 PM	53614
Toluene	ND	0.048		mg/Kg	1	7/11/2020 10:42:56 PM	53614
Ethylbenzene	ND	0.048		mg/Kg	1	7/11/2020 10:42:56 PM	53614
Xylenes, Total	ND	0.097		mg/Kg	1	7/11/2020 10:42:56 PM	53614
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	7/11/2020 10:42:56 PM	53614
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	7/11/2020 10:42:56 PM	53614
Surr: Dibromofluoromethane	115	70-130		%Rec	1	7/11/2020 10:42:56 PM	53614
Surr: Toluene-d8	104	70-130		%Rec	1	7/11/2020 10:42:56 PM	53614

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

Qualifiers:	*	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 23

Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S2, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 3:40:00 PM

Lab ID: 2007408-003

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	3800	150		mg/Kg	50	7/13/2020 3:54:10 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	23	D	mg/Kg	5	7/12/2020 2:04:49 AM	53614
Surr: BFB	93.1	70-130	D	%Rec	5	7/12/2020 2:04:49 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	11000	490		mg/Kg	50	7/11/2020 11:45:11 AM	53629
Motor Oil Range Organics (MRO)	8300	2500		mg/Kg	50	7/11/2020 11:45:11 AM	53629
Surr: DNOP	0	55.1-146	S	%Rec	50	7/11/2020 11:45:11 AM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.12	D	mg/Kg	5	7/12/2020 2:04:49 AM	53614
Toluene	ND	0.23	D	mg/Kg	5	7/12/2020 2:04:49 AM	53614
Ethylbenzene	ND	0.23	D	mg/Kg	5	7/12/2020 2:04:49 AM	53614
Xylenes, Total	ND	0.46	D	mg/Kg	5	7/12/2020 2:04:49 AM	53614
Surr: 1,2-Dichloroethane-d4	105	70-130	D	%Rec	5	7/12/2020 2:04:49 AM	53614
Surr: 4-Bromofluorobenzene	93.7	70-130	D	%Rec	5	7/12/2020 2:04:49 AM	53614
Surr: Dibromofluoromethane	109	70-130	D	%Rec	5	7/12/2020 2:04:49 AM	53614
Surr: Toluene-d8	102	70-130	D	%Rec	5	7/12/2020 2:04:49 AM	53614

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

Qualifiers:	*	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 3 of 23

Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S3, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 3:45:00 PM

Lab ID: 2007408-004

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	17000	600		mg/Kg	200	7/13/2020 4:06:35 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2020 2:33:19 AM	53614
Surr: BFB	97.3	70-130		%Rec	1	7/12/2020 2:33:19 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	11	9.8		mg/Kg	1	7/11/2020 12:09:59 PM	53629
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2020 12:09:59 PM	53629
Surr: DNOP	49.1	55.1-146	S	%Rec	1	7/11/2020 12:09:59 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/12/2020 2:33:19 AM	53614
Toluene	ND	0.049		mg/Kg	1	7/12/2020 2:33:19 AM	53614
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2020 2:33:19 AM	53614
Xylenes, Total	ND	0.098		mg/Kg	1	7/12/2020 2:33:19 AM	53614
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	7/12/2020 2:33:19 AM	53614
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	7/12/2020 2:33:19 AM	53614
Surr: Dibromofluoromethane	104	70-130		%Rec	1	7/12/2020 2:33:19 AM	53614
Surr: Toluene-d8	103	70-130		%Rec	1	7/12/2020 2:33:19 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S4, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 3:50:00 PM

Lab ID: 2007408-005

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	570	60		mg/Kg	20	7/11/2020 5:31:09 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/12/2020 3:01:50 AM	53614
Surr: BFB	96.1	70-130		%Rec	1	7/12/2020 3:01:50 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/11/2020 12:34:49 PM	53629
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/11/2020 12:34:49 PM	53629
Surr: DNOP	33.0	55.1-146	S	%Rec	1	7/11/2020 12:34:49 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/12/2020 3:01:50 AM	53614
Toluene	ND	0.048		mg/Kg	1	7/12/2020 3:01:50 AM	53614
Ethylbenzene	ND	0.048		mg/Kg	1	7/12/2020 3:01:50 AM	53614
Xylenes, Total	ND	0.096		mg/Kg	1	7/12/2020 3:01:50 AM	53614
Surr: 1,2-Dichloroethane-d4	113	70-130		%Rec	1	7/12/2020 3:01:50 AM	53614
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	7/12/2020 3:01:50 AM	53614
Surr: Dibromofluoromethane	112	70-130		%Rec	1	7/12/2020 3:01:50 AM	53614
Surr: Toluene-d8	102	70-130		%Rec	1	7/12/2020 3:01:50 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S4, 1'

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 3:55:00 PM

Lab ID: 2007408-006

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	210	60		mg/Kg	20	7/11/2020 5:43:33 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/12/2020 3:30:36 AM	53614
Surr: BFB	96.4	70-130		%Rec	1	7/12/2020 3:30:36 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/11/2020 12:59:50 PM	53629
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2020 12:59:50 PM	53629
Surr: DNOP	44.3	55.1-146	S	%Rec	1	7/11/2020 12:59:50 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	7/12/2020 3:30:36 AM	53614
Toluene	ND	0.050		mg/Kg	1	7/12/2020 3:30:36 AM	53614
Ethylbenzene	ND	0.050		mg/Kg	1	7/12/2020 3:30:36 AM	53614
Xylenes, Total	ND	0.10		mg/Kg	1	7/12/2020 3:30:36 AM	53614
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	7/12/2020 3:30:36 AM	53614
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	1	7/12/2020 3:30:36 AM	53614
Surr: Dibromofluoromethane	108	70-130		%Rec	1	7/12/2020 3:30:36 AM	53614
Surr: Toluene-d8	104	70-130		%Rec	1	7/12/2020 3:30:36 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S5, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:00:00 PM

Lab ID: 2007408-007

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	7/11/2020 5:55:57 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/12/2020 3:59:11 AM	53614
Surr: BFB	94.2	70-130		%Rec	1	7/12/2020 3:59:11 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/11/2020 1:24:53 PM	53629
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/11/2020 1:24:53 PM	53629
Surr: DNOP	29.7	55.1-146	S	%Rec	1	7/11/2020 1:24:53 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/12/2020 3:59:11 AM	53614
Toluene	ND	0.048		mg/Kg	1	7/12/2020 3:59:11 AM	53614
Ethylbenzene	ND	0.048		mg/Kg	1	7/12/2020 3:59:11 AM	53614
Xylenes, Total	ND	0.095		mg/Kg	1	7/12/2020 3:59:11 AM	53614
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	7/12/2020 3:59:11 AM	53614
Surr: 4-Bromofluorobenzene	92.0	70-130		%Rec	1	7/12/2020 3:59:11 AM	53614
Surr: Dibromofluoromethane	109	70-130		%Rec	1	7/12/2020 3:59:11 AM	53614
Surr: Toluene-d8	102	70-130		%Rec	1	7/12/2020 3:59:11 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S5, 1'

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:05:00 PM

Lab ID: 2007408-008

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	64	60		mg/Kg	20	7/11/2020 6:08:22 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2020 4:27:38 AM	53614
Surr: BFB	96.4	70-130		%Rec	1	7/12/2020 4:27:38 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/11/2020 1:49:46 PM	53629
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/11/2020 1:49:46 PM	53629
Surr: DNOP	47.2	55.1-146	S	%Rec	1	7/11/2020 1:49:46 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	7/12/2020 4:27:38 AM	53614
Toluene	ND	0.049		mg/Kg	1	7/12/2020 4:27:38 AM	53614
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2020 4:27:38 AM	53614
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2020 4:27:38 AM	53614
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	7/12/2020 4:27:38 AM	53614
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	7/12/2020 4:27:38 AM	53614
Surr: Dibromofluoromethane	110	70-130		%Rec	1	7/12/2020 4:27:38 AM	53614
Surr: Toluene-d8	105	70-130		%Rec	1	7/12/2020 4:27:38 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S6, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:10:00 PM

Lab ID: 2007408-009

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	1200	60		mg/Kg	20	7/11/2020 6:45:34 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2020 4:56:06 AM	53614
Surr: BFB	94.2	70-130		%Rec	1	7/12/2020 4:56:06 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/11/2020 2:14:39 PM	53629
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/11/2020 2:14:39 PM	53629
Surr: DNOP	30.9	55.1-146	S	%Rec	1	7/11/2020 2:14:39 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	7/12/2020 4:56:06 AM	53614
Toluene	ND	0.049		mg/Kg	1	7/12/2020 4:56:06 AM	53614
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2020 4:56:06 AM	53614
Xylenes, Total	ND	0.098		mg/Kg	1	7/12/2020 4:56:06 AM	53614
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	7/12/2020 4:56:06 AM	53614
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	7/12/2020 4:56:06 AM	53614
Surr: Dibromofluoromethane	104	70-130		%Rec	1	7/12/2020 4:56:06 AM	53614
Surr: Toluene-d8	102	70-130		%Rec	1	7/12/2020 4:56:06 AM	53614

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

Qualifiers:	*	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		

Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S7, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:15:00 PM

Lab ID: 2007408-010

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	7/11/2020 6:57:58 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/12/2020 5:25:03 AM	53614
Surr: BFB	92.3	70-130		%Rec	1	7/12/2020 5:25:03 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	7/11/2020 2:39:45 PM	53629
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/11/2020 2:39:45 PM	53629
Surr: DNOP	44.4	55.1-146	S	%Rec	1	7/11/2020 2:39:45 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/12/2020 5:25:03 AM	53614
Toluene	ND	0.047		mg/Kg	1	7/12/2020 5:25:03 AM	53614
Ethylbenzene	ND	0.047		mg/Kg	1	7/12/2020 5:25:03 AM	53614
Xylenes, Total	ND	0.095		mg/Kg	1	7/12/2020 5:25:03 AM	53614
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	7/12/2020 5:25:03 AM	53614
Surr: 4-Bromofluorobenzene	92.3	70-130		%Rec	1	7/12/2020 5:25:03 AM	53614
Surr: Dibromofluoromethane	115	70-130		%Rec	1	7/12/2020 5:25:03 AM	53614
Surr: Toluene-d8	99.0	70-130		%Rec	1	7/12/2020 5:25:03 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S7, 1'

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:20:00 PM

Lab ID: 2007408-011

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	ND	60		mg/Kg	20	7/11/2020 7:10:22 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2020 5:53:47 AM	53614
Surr: BFB	94.8	70-130		%Rec	1	7/12/2020 5:53:47 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/11/2020 3:04:50 PM	53629
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/11/2020 3:04:50 PM	53629
Surr: DNOP	71.9	55.1-146		%Rec	1	7/11/2020 3:04:50 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	7/12/2020 5:53:47 AM	53614
Toluene	ND	0.049		mg/Kg	1	7/12/2020 5:53:47 AM	53614
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2020 5:53:47 AM	53614
Xylenes, Total	ND	0.099		mg/Kg	1	7/12/2020 5:53:47 AM	53614
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	7/12/2020 5:53:47 AM	53614
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	7/12/2020 5:53:47 AM	53614
Surr: Dibromofluoromethane	114	70-130		%Rec	1	7/12/2020 5:53:47 AM	53614
Surr: Toluene-d8	101	70-130		%Rec	1	7/12/2020 5:53:47 AM	53614

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

Qualifiers:	*	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		

Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S8, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:25:00 PM

Lab ID: 2007408-012

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	2300	60		mg/Kg	20	7/11/2020 7:22:47 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/12/2020 6:22:15 AM	53614
Surr: BFB	95.8	70-130		%Rec	1	7/12/2020 6:22:15 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/11/2020 3:54:54 PM	53629
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/11/2020 3:54:54 PM	53629
Surr: DNOP	57.8	55.1-146		%Rec	1	7/11/2020 3:54:54 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/12/2020 6:22:15 AM	53614
Toluene	ND	0.048		mg/Kg	1	7/12/2020 6:22:15 AM	53614
Ethylbenzene	ND	0.048		mg/Kg	1	7/12/2020 6:22:15 AM	53614
Xylenes, Total	ND	0.096		mg/Kg	1	7/12/2020 6:22:15 AM	53614
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	7/12/2020 6:22:15 AM	53614
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	7/12/2020 6:22:15 AM	53614
Surr: Dibromofluoromethane	105	70-130		%Rec	1	7/12/2020 6:22:15 AM	53614
Surr: Toluene-d8	106	70-130		%Rec	1	7/12/2020 6:22:15 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S8, 1'

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:30:00 PM

Lab ID: 2007408-013

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	200	61		mg/Kg	20	7/11/2020 7:35:12 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2020 6:50:45 AM	53614
Surr: BFB	95.3	70-130		%Rec	1	7/12/2020 6:50:45 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/11/2020 4:19:36 PM	53629
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/11/2020 4:19:36 PM	53629
Surr: DNOP	86.4	55.1-146		%Rec	1	7/11/2020 4:19:36 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.025		mg/Kg	1	7/12/2020 6:50:45 AM	53614
Toluene	ND	0.049		mg/Kg	1	7/12/2020 6:50:45 AM	53614
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2020 6:50:45 AM	53614
Xylenes, Total	ND	0.098		mg/Kg	1	7/12/2020 6:50:45 AM	53614
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	7/12/2020 6:50:45 AM	53614
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	7/12/2020 6:50:45 AM	53614
Surr: Dibromofluoromethane	106	70-130		%Rec	1	7/12/2020 6:50:45 AM	53614
Surr: Toluene-d8	104	70-130		%Rec	1	7/12/2020 6:50:45 AM	53614

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

Qualifiers:	*	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		

Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S9, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:35:00 PM

Lab ID: 2007408-014

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	4100	150		mg/Kg	50	7/13/2020 4:18:59 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	25	D	mg/Kg	5	7/12/2020 7:19:14 AM	53614
Surr: BFB	96.4	70-130	D	%Rec	5	7/12/2020 7:19:14 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	20000	490		mg/Kg	50	7/11/2020 4:44:23 PM	53629
Motor Oil Range Organics (MRO)	12000	2500		mg/Kg	50	7/11/2020 4:44:23 PM	53629
Surr: DNOP	0	55.1-146	S	%Rec	50	7/11/2020 4:44:23 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.12	D	mg/Kg	5	7/12/2020 7:19:14 AM	53614
Toluene	ND	0.25	D	mg/Kg	5	7/12/2020 7:19:14 AM	53614
Ethylbenzene	ND	0.25	D	mg/Kg	5	7/12/2020 7:19:14 AM	53614
Xylenes, Total	ND	0.49	D	mg/Kg	5	7/12/2020 7:19:14 AM	53614
Surr: 1,2-Dichloroethane-d4	104	70-130	D	%Rec	5	7/12/2020 7:19:14 AM	53614
Surr: 4-Bromofluorobenzene	73.9	70-130	D	%Rec	5	7/12/2020 7:19:14 AM	53614
Surr: Dibromofluoromethane	106	70-130	D	%Rec	5	7/12/2020 7:19:14 AM	53614
Surr: Toluene-d8	104	70-130	D	%Rec	5	7/12/2020 7:19:14 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S9,1'

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:40:00 PM

Lab ID: 2007408-015

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CJS
Chloride	430	59		mg/Kg	20	7/11/2020 8:00:00 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/12/2020 7:47:47 AM	53614
Surr: BFB	92.4	70-130		%Rec	1	7/12/2020 7:47:47 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	240	9.8		mg/Kg	1	7/11/2020 5:09:07 PM	53629
Motor Oil Range Organics (MRO)	190	49		mg/Kg	1	7/11/2020 5:09:07 PM	53629
Surr: DNOP	112	55.1-146		%Rec	1	7/11/2020 5:09:07 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/12/2020 7:47:47 AM	53614
Toluene	ND	0.049		mg/Kg	1	7/12/2020 7:47:47 AM	53614
Ethylbenzene	ND	0.049		mg/Kg	1	7/12/2020 7:47:47 AM	53614
Xylenes, Total	ND	0.098		mg/Kg	1	7/12/2020 7:47:47 AM	53614
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/12/2020 7:47:47 AM	53614
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	7/12/2020 7:47:47 AM	53614
Surr: Dibromofluoromethane	106	70-130		%Rec	1	7/12/2020 7:47:47 AM	53614
Surr: Toluene-d8	101	70-130		%Rec	1	7/12/2020 7:47:47 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S10, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:45:00 PM

Lab ID: 2007408-016

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	2600	150		mg/Kg	50	7/13/2020 4:31:23 PM	53651
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	23	D	mg/Kg	5	7/12/2020 8:16:16 AM	53614
Surr: BFB	95.2	70-130	D	%Rec	5	7/12/2020 8:16:16 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	2700	190		mg/Kg	20	7/11/2020 5:34:21 PM	53629
Motor Oil Range Organics (MRO)	3200	930		mg/Kg	20	7/11/2020 5:34:21 PM	53629
Surr: DNOP	0	55.1-146	S	%Rec	20	7/11/2020 5:34:21 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.12	D	mg/Kg	5	7/12/2020 8:16:16 AM	53614
Toluene	ND	0.23	D	mg/Kg	5	7/12/2020 8:16:16 AM	53614
Ethylbenzene	ND	0.23	D	mg/Kg	5	7/12/2020 8:16:16 AM	53614
Xylenes, Total	ND	0.47	D	mg/Kg	5	7/12/2020 8:16:16 AM	53614
Surr: 1,2-Dichloroethane-d4	107	70-130	D	%Rec	5	7/12/2020 8:16:16 AM	53614
Surr: 4-Bromofluorobenzene	95.7	70-130	D	%Rec	5	7/12/2020 8:16:16 AM	53614
Surr: Dibromofluoromethane	113	70-130	D	%Rec	5	7/12/2020 8:16:16 AM	53614
Surr: Toluene-d8	103	70-130	D	%Rec	5	7/12/2020 8:16:16 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S11, 0"-6"

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:50:00 PM

Lab ID: 2007408-017

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	250	60		mg/Kg	20	7/13/2020 11:46:02 AM	53665
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	24	D	mg/Kg	5	7/12/2020 8:44:46 AM	53614
Surr: BFB	95.7	70-130	D	%Rec	5	7/12/2020 8:44:46 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	3500	98		mg/Kg	10	7/11/2020 5:59:39 PM	53629
Motor Oil Range Organics (MRO)	3600	490		mg/Kg	10	7/11/2020 5:59:39 PM	53629
Surr: DNOP	0	55.1-146	S	%Rec	10	7/11/2020 5:59:39 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.12	D	mg/Kg	5	7/12/2020 8:44:46 AM	53614
Toluene	ND	0.24	D	mg/Kg	5	7/12/2020 8:44:46 AM	53614
Ethylbenzene	ND	0.24	D	mg/Kg	5	7/12/2020 8:44:46 AM	53614
Xylenes, Total	ND	0.49	D	mg/Kg	5	7/12/2020 8:44:46 AM	53614
Surr: 1,2-Dichloroethane-d4	103	70-130	D	%Rec	5	7/12/2020 8:44:46 AM	53614
Surr: 4-Bromofluorobenzene	90.5	70-130	D	%Rec	5	7/12/2020 8:44:46 AM	53614
Surr: Dibromofluoromethane	104	70-130	D	%Rec	5	7/12/2020 8:44:46 AM	53614
Surr: Toluene-d8	106	70-130	D	%Rec	5	7/12/2020 8:44:46 AM	53614

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

Qualifiers:	*	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		

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Analytical Report

Lab Order 2007408

Date Reported: 7/16/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Pima Environmental Services LLC

Client Sample ID: S11, 1'

Project: Emerald PWU 20 1H

Collection Date: 7/7/2020 4:55:00 PM

Lab ID: 2007408-018

Matrix: SOIL

Received Date: 7/9/2020 9:18:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	460	60		mg/Kg	20	7/13/2020 11:58:26 AM	53665
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/12/2020 9:13:15 AM	53614
Surr: BFB	97.7	70-130		%Rec	1	7/12/2020 9:13:15 AM	53614
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	74	10		mg/Kg	1	7/11/2020 6:24:55 PM	53629
Motor Oil Range Organics (MRO)	90	50		mg/Kg	1	7/11/2020 6:24:55 PM	53629
Surr: DNOP	109	55.1-146		%Rec	1	7/11/2020 6:24:55 PM	53629
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.024		mg/Kg	1	7/12/2020 9:13:15 AM	53614
Toluene	ND	0.048		mg/Kg	1	7/12/2020 9:13:15 AM	53614
Ethylbenzene	ND	0.048		mg/Kg	1	7/12/2020 9:13:15 AM	53614
Xylenes, Total	ND	0.096		mg/Kg	1	7/12/2020 9:13:15 AM	53614
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	7/12/2020 9:13:15 AM	53614
Surr: 4-Bromofluorobenzene	97.4	70-130		%Rec	1	7/12/2020 9:13:15 AM	53614
Surr: Dibromofluoromethane	107	70-130		%Rec	1	7/12/2020 9:13:15 AM	53614
Surr: Toluene-d8	107	70-130		%Rec	1	7/12/2020 9:13:15 AM	53614

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

Qualifiers:	*	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		

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

WO#: 2007408

16-Jul-20

Client: Pima Environmental Services LLC**Project:** Emerald PWU 20 1H

Sample ID: MB-53651	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 53651	RunNo: 70283								
Prep Date: 7/11/2020	Analysis Date: 7/11/2020	SeqNo: 2443142	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53651	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 53651	RunNo: 70283								
Prep Date: 7/11/2020	Analysis Date: 7/11/2020	SeqNo: 2443143	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.4	90	110			

Sample ID: MB-53665	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 53665	RunNo: 70304								
Prep Date: 7/13/2020	Analysis Date: 7/13/2020	SeqNo: 2443770	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-53665	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 53665	RunNo: 70304								
Prep Date: 7/13/2020	Analysis Date: 7/13/2020	SeqNo: 2443771	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

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

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

WO#: 2007408

16-Jul-20

Client: Pima Environmental Services LLC**Project:** Emerald PWU 20 1H

Sample ID: MB-53629	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 53629	RunNo: 70238								
Prep Date: 7/10/2020	Analysis Date: 7/11/2020	SeqNo: 2442220 Units: mg/Kg								
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		121	55.1	146			

Sample ID: LCS-53629	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 53629	RunNo: 70238								
Prep Date: 7/10/2020	Analysis Date: 7/11/2020	SeqNo: 2442221 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	70	130			
Surr: DNOP	4.9		5.000		97.0	55.1	146			

Sample ID: 2007408-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S1, 0"-6"	Batch ID: 53629	RunNo: 70238								
Prep Date: 7/10/2020	Analysis Date: 7/11/2020	SeqNo: 2442223 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.4	47.13	0	92.4	47.4	136			
Surr: DNOP	4.5		4.713		95.2	55.1	146			

Sample ID: 2007408-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S1, 0"-6"	Batch ID: 53629	RunNo: 70238								
Prep Date: 7/10/2020	Analysis Date: 7/11/2020	SeqNo: 2442224 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.7	48.40	0	92.4	47.4	136	2.60	43.4	
Surr: DNOP	4.4		4.840		91.6	55.1	146	0	0	

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

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

WO#: 2007408

16-Jul-20

Client: Pima Environmental Services LLC**Project:** Emerald PWU 20 1H

Sample ID: mb-53614	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batch ID: 53614	RunNo: 70265								
Prep Date: 7/9/2020	Analysis Date: 7/11/2020	SeqNo: 2442043	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		107	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.1	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.50		0.5000		99.2	70	130			

Sample ID: lcs-53614	SampType: LCS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: BatchQC	Batch ID: 53614	RunNo: 70265								
Prep Date: 7/9/2020	Analysis Date: 7/11/2020	SeqNo: 2442044	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	111	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 1,2-Dichloroethane-d4	0.55		0.5000		110	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.8	70	130			
Surr: Dibromofluoromethane	0.56		0.5000		111	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			

Sample ID: 2007408-001ams	SampType: MS4	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: S1, 0"-6"	Batch ID: 53614	RunNo: 70265								
Prep Date: 7/9/2020	Analysis Date: 7/11/2020	SeqNo: 2442046	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9814	0	116	71.1	115			S
Toluene	1.0	0.049	0.9814	0	106	79.6	132			
Ethylbenzene	1.1	0.049	0.9814	0	107	83.8	134			
Xylenes, Total	3.3	0.098	2.944	0	113	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.52		0.4907		107	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.4907		89.4	70	130			
Surr: Dibromofluoromethane	0.55		0.4907		111	70	130			
Surr: Toluene-d8	0.48		0.4907		98.0	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

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

WO#: 2007408

16-Jul-20

Client: Pima Environmental Services LLC**Project:** Emerald PWU 20 1H

Sample ID: 2007408-001amsd		SampType: MSD4		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: S1, 0"-6"		Batch ID: 53614		RunNo: 70265						
Prep Date: 7/9/2020		Analysis Date: 7/11/2020		SeqNo: 2442047		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9533	0	118	71.1	115	0.906	20	S
Toluene	1.0	0.048	0.9533	0	106	79.6	132	3.28	20	
Ethylbenzene	1.1	0.048	0.9533	0	111	83.8	134	0.748	20	
Xylenes, Total	3.4	0.095	2.860	0	117	82.4	132	0.974	20	
Surr: 1,2-Dichloroethane-d4	0.50		0.4766		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.48		0.4766		101	70	130	0	0	
Surr: Dibromofluoromethane	0.55		0.4766		115	70	130	0	0	
Surr: Toluene-d8	0.47		0.4766		98.8	70	130	0	0	

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

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

WO#: 2007408

16-Jul-20

Client: Pima Environmental Services LLC**Project:** Emerald PWU 20 1H

Sample ID: mb-53614	SampType: MBLK	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: PBS	Batch ID: 53614	RunNo: 70265								
Prep Date: 7/9/2020	Analysis Date: 7/11/2020	SeqNo: 2442071 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	450		500.0		89.8	70	130			

Sample ID: lcs-53614	SampType: LCS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: LCSS	Batch ID: 53614	RunNo: 70265								
Prep Date: 7/9/2020	Analysis Date: 7/11/2020	SeqNo: 2442072 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	25.00	0	75.9	70	130			
Surr: BFB	480		500.0		96.2	70	130			

Sample ID: 2007408-002ams	SampType: MS	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: S1, 1'	Batch ID: 53614	RunNo: 70265								
Prep Date: 7/9/2020	Analysis Date: 7/11/2020	SeqNo: 2442076 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.73	0	84.3	70	130			
Surr: BFB	480		494.6		97.1	70	130			

Sample ID: 2007408-002amsd	SampType: MSD	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: S1, 1'	Batch ID: 53614	RunNo: 70265								
Prep Date: 7/9/2020	Analysis Date: 7/12/2020	SeqNo: 2442077 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	23.92	0	86.0	70	130	1.38	20	
Surr: BFB	470		478.5		97.3	70	130	0	0	

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 Services LLC

Work Order Number: 2007408

RcptNo: 1

Received By: Juan Rojas

7/9/2020 9:18:00 AM

[Signature]

Completed By: Juan Rojas

7/9/2020 10:12:55 AM

[Signature]

Reviewed By:

em 7/9/20

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° C to 6.0°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? Yes ☒ No ☐
(Note discrepancies on chain of custody)
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? Yes ☒ No ☐
(If no, notify customer for authorization.)

of preserved bottles checked for pH:

(<2 or >12 unless noted)

Adjusted? ☐

Checked by: *JE 7/9/20*

Special Handling (if applicable)

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

Person Notified:

Date

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.7	Good				

Chain-of-Custody Record

Client: Pima Environmental

Turn-Around Time: 5 Day

☒ Standard ☐ Rush

Mailing Address: 1601 N. Turner Ste 500

Project Name:

Emerald Pwuzo 1H

Hobbs, NM 88240

Project #:

20715188

Phone #: 575-631-6977

email or Fax#: Chris @ PimaOil.com

Project Manager:

Chris Jones

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)

Sampler:

On Ice: ☒ Yes ☐ No

of Coolers: 2

Cooler Temp (including CF): 0.5-0.1 = 0.7 °C

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	chloride
7/7/20	3:30	S1	S1, 0"-6"	Glass	Ice	2007408-001											
	3:35		S1, 1'			-002											
	3:40		S2, 0"-6"			-003											
	3:45		S3, 0"-6"			-004											
	3:50		S4, 0"-6"			-005											
	3:55		S4, 1'			-006											
	4:00		S5, 0"-6"			-007											
	4:05		S5, 1'			-008											
	4:10		S6, 0"-6"			-009											
	4:15		S7, 0"-6"			-010											
	4:20		S7, 1'			-011											
	4:25		S8, 0"-6"			-012											

Date: 7/8/20 Time: 4:33 Relinquished by: Colton Ashcraft

Received by: Cummings Date: 7/8/20 Time: 1540

Remarks:

Bill to Devon

Date: 7/8/20 Time: 1900 Relinquished by: Cummings

Received by: courier Date: 7/9/20 Time: 9:18

Released to Imaging: 7/29/2021 2:52:42 PM

Turn-Around Time: 5 Days

Project Name: Emerald Pwll 20 1H

Project #:
20715128

Project Manager:
Chris Jones

☐ Standard ☐ Level 4 (Full Validation)

On Ice: ☒ Yes ☐ No

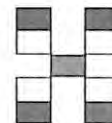
of Coolers: 7

□ EDD (Type)

Cooler Temp (including CF): $12.8 - 0.1 = 0.7 (^{\circ}\text{C})$ [illegible]

Received by:	Via:	Date	Time
Mumma		7/8/20	1540

Received by:	Via:	Date	Time
<i>[Signature]</i>		7/9/20	9:18



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)
TPH:8015D(GRO / DRO / MRO)
8081 Pesticides/8082 PCB's
EDB (Method 504.1)
PAHs by 8310 or 8270SIMS
RCRA 8 Metals
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄
8260 (VOA)
8270 (Semi-VOA)
Total Coliform (Present/Absent)
Chloride

Remarks:	Bill to Devon
----------	---------------



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

November 25, 2020

CHRIS JONES

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: EMERALD 20 PWV #1H

Enclosed are the results of analyses for samples received by the laboratory on 11/23/20 8:05.

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.

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 "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For 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:	11/23/2020	Sampling Date:	11/19/2020
Reported:	11/25/2020	Sampling Type:	Soil
Project Name:	EMERALD 20 PWV #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	DEVON - EDDY CO NM		

Sample ID: S - 15 - 1' (H003091-01)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/23/2020	ND	1.78	88.9	2.00	11.6	
Toluene*	<0.050	0.050	11/23/2020	ND	1.70	84.9	2.00	11.6	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.05	84.1	6.00	10.6	
Total BTEX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	11/23/2020	ND	400	100	400	7.69	

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	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	1350	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	272	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 88.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 110 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 15 - 2' (H003091-02)

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	11/23/2020	ND	1.78	88.9	2.00	11.6	
Toluene*	<0.050	0.050	11/23/2020	ND	1.70	84.9	2.00	11.6	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.05	84.1	6.00	10.6	
Total BTEX	<0.300	0.300	11/23/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	11/23/2020	ND	400	100	400	7.69	

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	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	204	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	53.2	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 94.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 102 % 42.2-156

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*=Accredited Analyte

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 15 - 3' (H003091-03)

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	11/23/2020	ND	1.78	88.9	2.00	11.6	
Toluene*	<0.050	0.050	11/23/2020	ND	1.70	84.9	2.00	11.6	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.05	84.1	6.00	10.6	
Total BTEX	<0.300	0.300	11/23/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	11/23/2020	ND	400	100	400	7.69	

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	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	50.8	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 94.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.1 % 42.2-156

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*=Accredited Analyte

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 16 - 1' (H003091-04)

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	11/23/2020	ND	1.78	88.9	2.00	11.6	
Toluene*	<0.050	0.050	11/23/2020	ND	1.70	84.9	2.00	11.6	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.05	84.1	6.00	10.6	
Total BTX	<0.300	0.300	11/23/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	11/23/2020	ND	400	100	400	7.69	

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	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	13.2	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 97.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.9 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 16 - 2' (H003091-05)

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	11/23/2020	ND	1.78	88.9	2.00	11.6		
Toluene*	<0.050	0.050	11/23/2020	ND	1.70	84.9	2.00	11.6		
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.74	87.1	2.00	11.3		
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.05	84.1	6.00	10.6		
Total BTEx	<0.300	0.300	11/23/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	11/23/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	<10.0	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 101 % 44.3-144

Surrogate: 1-Chlorooctadecane 93.8 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 16 - 3' (H003091-06)

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	11/23/2020	ND	1.78	88.9	2.00	11.6	
Toluene*	<0.050	0.050	11/23/2020	ND	1.70	84.9	2.00	11.6	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.05	84.1	6.00	10.6	
Total BTX	<0.300	0.300	11/23/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	70.1	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	15.8	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 94.0 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.8 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 17 - 1' (H003091-07)

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	11/23/2020	ND	1.78	88.9	2.00	11.6	
Toluene*	<0.050	0.050	11/23/2020	ND	1.70	84.9	2.00	11.6	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.74	87.1	2.00	11.3	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.05	84.1	6.00	10.6	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	<10.0	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 105 % 44.3-144

Surrogate: 1-Chlorooctadecane 96.2 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 17 - 2' (H003091-08)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	<10.0	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 108 % 44.3-144

Surrogate: 1-Chlorooctadecane 100 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 17 - 3' (H003091-09)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTEx	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	<10.0	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.0 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 18 - 1' (H003091-10)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	<10.0	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 100 % 44.3-144

Surrogate: 1-Chlorooctadecane 92.5 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 18 - 2' (H003091-11)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	<10.0	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 95.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 90.2 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 18 - 3' (H003091-12)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	<10.0	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	<10.0	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 97.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.1 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 19 - 1' (H003091-13)

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	11/23/2020	ND	1.98	99.1	2.00	2.74		
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24		
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	GC-NC	
Total Xylenes*	1.09	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13		
Total BTX	1.11	0.300	11/23/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 246 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	11/23/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	121	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	4640	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	814	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 138 % 44.3-144

Surrogate: 1-Chlorooctadecane 214 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 19 - 2' (H003091-14)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	GC-NC
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	12.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	904	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	151	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-144

Surrogate: 1-Chlorooctadecane 111 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 19 - 3' (H003091-15)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	418	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	80.9	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 118 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 20 - 1' (H003091-16)

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	11/23/2020	ND	1.98	99.1	2.00	2.74		
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24		
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	GC-NC	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13		
Total BTX	<0.300	0.300	11/23/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 175 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	35.6	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	5850	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	1120	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 113 % 44.3-144

Surrogate: 1-Chlorooctadecane 270 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 20 - 2' (H003091-17)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	83.9	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	18.2	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 102 % 44.3-144

Surrogate: 1-Chlorooctadecane 100 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 20 - 3' (H003091-18)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	290	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	55.9	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 97.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 106 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 21 - 1' (H003091-19)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	123	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	35.6	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 90.3 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.3 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 22 - 1' (H003091-20)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTX	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1620	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/23/2020	ND	240	120	200	1.58	
DRO >C10-C28*	44.4	10.0	11/23/2020	ND	243	122	200	0.638	
EXT DRO >C28-C36	10.6	10.0	11/23/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 105 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 22 - 2' (H003091-21)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTEx	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/24/2020	ND	246	123	200	8.82	
DRO >C10-C28*	22.0	10.0	11/24/2020	ND	249	125	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	11/24/2020	ND					

Surrogate: 1-Chlorooctane 89.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 88.0 % 42.2-156

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Mike Snyder For 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: 11/23/2020
Reported: 11/25/2020
Project Name: EMERALD 20 PWV #1H
Project Number: NONE GIVEN
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/19/2020
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S - 22 - 3' (H003091-22)

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	11/23/2020	ND	1.98	99.1	2.00	2.74	
Toluene*	<0.050	0.050	11/23/2020	ND	1.89	94.4	2.00	3.24	
Ethylbenzene*	<0.050	0.050	11/23/2020	ND	1.96	98.2	2.00	2.42	
Total Xylenes*	<0.150	0.150	11/23/2020	ND	5.64	94.0	6.00	2.13	
Total BTEx	<0.300	0.300	11/23/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/23/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/24/2020	ND	246	123	200	8.82	
DRO >C10-C28*	11.1	10.0	11/24/2020	ND	249	125	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	11/24/2020	ND					

Surrogate: 1-Chlorooctane 97.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 96.2 % 42.2-156

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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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.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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 "Mike Snyder".

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Prima Environmental</u>				BILL TO				ANALYSIS REQUEST														
Project Manager: <u>Chris Jones</u>				P.O. #: <u>20715745</u>																		
Address: <u>1601 N. Turner</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>3</u> Project Owner: <u>Devon</u>				City:																		
Project Name: <u>Emerald 20 Pw 114</u>				State: Zip:																		
Project Location: <u>Eddy</u>				Phone #:																		
Sampler Name: <u>Robert Lopez</u>				Fax #:																		
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING														
Lab I.D.	Sample I.D.	(GRAB OR (C)OMP.)	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME								
<u>H003091</u>															<u>Chloride</u>	<u>BTEX</u>	<u>TPH</u>					
1	<u>5-15-1'</u>												<u>11-23-20</u>	<u>2:00</u>								
2	<u>5-15-2'</u>													<u>2:10</u>								
3	<u>5-15-3'</u>													<u>2:20</u>								
4	<u>5-16-1'</u>													<u>2:30</u>								
5	<u>5-16-2'</u>													<u>2:40</u>								
6	<u>5-16-3'</u>													<u>2:50</u>								
7	<u>5-17-1'</u>													<u>3:00</u>								
8	<u>5-17-2'</u>													<u>3:10</u>								
9	<u>5-17-3'</u>													<u>3:20</u>								
10	<u>5-18-1'</u>													<u>3:30</u>								

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Relinquished By: <u>[Signature]</u>		Date: <u>11-23-20</u>		Received By: <u>[Signature]</u>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
		Time: <u>4:51</u>				All Results are emailed. Please provide Email address:	
Relinquished By: <u>[Signature]</u>		Date: <u>11-23-20</u>		Received By: <u>[Signature]</u>		REMARKS:	
		Time: <u>0805</u>					
Delivered By: (Circle One)		Observed Temp. °C <u>-6.5</u>		Sample Condition		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Bacteria (only) Sample Condition	
				Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>		Observed Temp. °C	
				Checked By: (Initials) <u>TO</u>		Thermometer ID # <u>97-#113 TO</u>	
						Correction Factor <u>+0.4°C</u>	
						Corrected Temp. °C	

FORM-006 R 3.0

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Pima Environmental</u>		BILL TO		ANALYSIS REQUEST									
Project Manager: <u>Chris Tones</u>		P.O. #: <u>20719745</u>		<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chloride</div> </div>									
Address: <u>1601 N. Turner</u>		Company: <u>Devon</u>											
City: <u>Hobbs</u> State: <u>AZ</u> Zip: <u>88240</u>		Attn: <u>Tom Bynum</u>											
Phone #: <u>575-631-6977</u> Fax #:		Address:											
Project #: <u>3</u> Project Owner: <u>Devon</u>		City:											
Project Name: <u>Emerald 20 PMU 1H</u>		State: Zip:											
Project Location: <u>Eddy</u>		Phone #:											
Sampler Name: <u>Robert Casper</u>		Fax #:											

FOR LAB USE ONLY		CIRAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING		DATE	TIME
Lab I.D.	Sample I.D.			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER		
<u>H003091</u>														
<u>11</u>	<u>S-18-2'</u>					X							<u>11-19-20</u>	<u>3:40</u>
<u>12</u>	<u>S-18-3'</u>													<u>3:45</u>
<u>13</u>	<u>S-19-1'</u>													<u>3:50</u>
<u>14</u>	<u>S-19-2'</u>													<u>3:55</u>
<u>15</u>	<u>S-19-3'</u>													<u>4:00</u>
<u>16</u>	<u>S-20-1'</u>													<u>4:05</u>
<u>17</u>	<u>S-20-2'</u>													<u>4:10</u>
<u>18</u>	<u>S-20-3'</u>													<u>4:20</u>
<u>19</u>	<u>S-21-1'</u>													<u>4:25</u>
<u>20</u>	<u>S-22-1'</u>													<u>4:30</u>

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Relinquished By: <u>[Signature]</u>	Date: <u>11-28-20</u>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
	Time: <u>8:58</u>		All Results are emailed. Please provide Email address:
Relinquished By:	Date: <u>11-23-20</u>	Received By: <u>[Signature]</u>	REMARKS:
	Time: <u>0805</u>		
Delivered By: (Circle One)	Observed Temp. °C <u>-6.5</u>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
Sampler - UPS - Bus - Other:	Corrected Temp. °C	CHECKED BY: (Initials) <u>TO</u>	Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No
			Thermometer ID # <u>1113</u> T.O. <u>11/23/20</u>
			Correction Factor +0.4 °C

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <i>Pima Environmental</i>				BILL TO				ANALYSIS REQUEST														
Project Manager: <i>Chris Jones</i>				P.O. #: <i>20715745</i>				<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chloride</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH</div> </div>														
Address: <i>1601 N. Turner</i>				Company: <i>Deron</i>																		
City: <i>Hobbs</i> State: <i>AZ</i> Zip: <i>88240</i>				Attn: <i>Tom Bynum</i>																		
Phone #: <i>575-631-6977</i> Fax #:				Address:																		
Project #: <i>3</i> Project Owner:				City:																		
Project Name: <i>Emerald 20 PWA 1H</i>				State: Zip:																		
Project Location: <i>Eddy</i>				Phone #:																		
Sampler Name: <i>Robert Carper</i>				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								
<i>H003091</i>													<i>11-17-20</i>	<i>9:40</i>								
<i>21</i>	<i>5-22-21</i>	<i>2</i>				<i>X</i>							<i>1</i>	<i>4:50</i>	<i>+</i>	<i>+</i>	<i>+</i>					
<i>32</i>	<i>5-22-31</i>	<i>2</i>				<i>X</i>							<i>1</i>									

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Relinquished By: <i>[Signature]</i>	Date: <i>11-23-20</i>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
	Time: <i>8:58</i>		All Results are emailed. Please provide Email address:
Relinquished By:	Date: <i>11-23-20</i>	Received By: <i>[Signature]</i>	REMARKS:
	Time: <i>0805</i>		
Delivered By: (Circle One)	Observed Temp. °C <i>-6.5</i>	Sample Condition	Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Bacteria (only) Sample Condition
		Checked By: <i>T.O.</i>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
			Thermometer ID <i>#07-1113 TO</i>
			Correction Factor <i>+0.5 °C</i>

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

December 03, 2020

CHRIS JONES

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: EMERALD 20 PWU #1H

Enclosed are the results of analyses for samples received by the laboratory on 11/30/20 12:30.

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.

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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 1 W - BOTTOM (H003128-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2020	ND	1.96	98.2	2.00	4.41	
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14	
Total BTEX	<0.300	0.300	12/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	12/01/2020	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 120 % 44.3-144

Surrogate: 1-Chlorooctadecane 125 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 1 W - SIDE (H003128-02)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 114 % 44.3-144

Surrogate: 1-Chlorooctadecane 118 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 5 S - BOTTOM (H003128-03)

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	12/01/2020	ND	1.96	98.2	2.00	4.41	
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14	
Total BTX	<0.300	0.300	12/01/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 105 % 44.3-144

Surrogate: 1-Chlorooctadecane 108 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 5 S - SIDE (H003128-04)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 113 % 44.3-144

Surrogate: 1-Chlorooctadecane 118 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 6 S - SIDE (H003128-05)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	12/01/2020	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 118 % 44.3-144

Surrogate: 1-Chlorooctadecane 123 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 6 S - BOTTOM (H003128-06)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 103 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 13 E - SIDE (H003128-07)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 119 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 13 E - BOTTOM (H003128-08)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2020	ND	1.96	98.2	2.00	4.41	
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14	
Total BTEx	<0.300	0.300	12/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 113 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 12 N - BOTTOM (H003128-09)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 115 % 44.3-144

Surrogate: 1-Chlorooctadecane 122 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 12 N - SIDE (H003128-10)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTEx	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 114 % 44.3-144

Surrogate: 1-Chlorooctadecane 120 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 11 W - BOTTOM (H003128-11)

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	12/01/2020	ND	1.96	98.2	2.00	4.41		
Toluene*	<0.050	0.050	12/01/2020	ND	1.89	94.3	2.00	4.60		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	1.97	98.7	2.00	4.30		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.64	94.0	6.00	4.14		
Total BTEx	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/01/2020	ND	208	104	200	5.58	
DRO >C10-C28*	<10.0	10.0	12/01/2020	ND	180	89.9	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	12/01/2020	ND					

Surrogate: 1-Chlorooctane 109 % 44.3-144

Surrogate: 1-Chlorooctadecane 116 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 11 W - SIDE (H003128-12)

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	12/01/2020	ND	2.10	105	2.00	3.68	
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43	
Total BTX	<0.300	0.300	12/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	20.9	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	23.1	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 97.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 93.2 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 14 S - SIDE (H003128-13)

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	12/01/2020	ND	2.10	105	2.00	3.68	
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43	
Total BTX	<0.300	0.300	12/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 95.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 89.9 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 14 S - BOTTOM (H003128-14)

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	12/01/2020	ND	2.10	105	2.00	3.68		
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43		
Total BTEx	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 86.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 84.9 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 23 - 1' (H003128-15)

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	12/01/2020	ND	2.10	105	2.00	3.68	
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43	
Total BTX	<0.300	0.300	12/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	12/01/2020	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 97.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 94.1 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 23 - 2' (H003128-16)

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	12/01/2020	ND	2.10	105	2.00	3.68		
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43		
Total BTEx	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 86.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 85.1 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 23 - 3' (H003128-17)

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	12/01/2020	ND	2.10	105	2.00	3.68	
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43	
Total BTEx	<0.300	0.300	12/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 87.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.2 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 24 - 1' (H003128-18)

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	12/01/2020	ND	2.10	105	2.00	3.68		
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43		
Total BTEX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	800	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 92.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 89.9 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 24 - 2' (H003128-19)

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	12/01/2020	ND	2.10	105	2.00	3.68		
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43		
Total BTEX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 89.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 85.2 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 24 - 3' (H003128-20)

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	12/01/2020	ND	2.10	105	2.00	3.68		
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43		
Total BTEX	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	12/01/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 94.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.9 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 25 - 1' (H003128-21)

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	12/01/2020	ND	2.10	105	2.00	3.68		
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43		
Total BTEx	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	12/01/2020	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 90.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 87.1 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 25 - 2' (H003128-22)

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	12/01/2020	ND	2.10	105	2.00	3.68	
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56	
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60	
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43	
Total BTX	<0.300	0.300	12/01/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/01/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 87.7 % 44.3-144

Surrogate: 1-Chlorooctadecane 85.6 % 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: 11/30/2020
Reported: 12/03/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 11/25/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 25 - 3' (H003128-23)

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	12/01/2020	ND	2.10	105	2.00	3.68		
Toluene*	<0.050	0.050	12/01/2020	ND	2.02	101	2.00	3.56		
Ethylbenzene*	<0.050	0.050	12/01/2020	ND	2.09	104	2.00	3.60		
Total Xylenes*	<0.150	0.150	12/01/2020	ND	5.96	99.4	6.00	3.43		
Total BTEx	<0.300	0.300	12/01/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/01/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/02/2020	ND	211	105	200	4.03	
DRO >C10-C28*	<10.0	10.0	12/02/2020	ND	211	106	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	12/02/2020	ND					

Surrogate: 1-Chlorooctane 94.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 91.4 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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



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>		BILL TO		ANALYSIS REQUEST																					
Project Manager: <u>Chris Jones</u>		P.O. #: <u>20715188</u>																							
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>575-964-4470</u> Fax #:		Address:																							
Project #: <u>Emerald 3</u> Project Owner:		City:																							
Project Name: <u>Emerald 20 PWU 1H</u>		State: Zip:																							
Project Location: <u>Eddy Co NM</u>		Phone #:																							
Sampler Name: <u>Robert Carper</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	TPH	BTEX	Chloride							
	<u>H003128</u>	<u>S-1W-Bottom</u>	<u>G</u>				<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>11-25-20</u>	<u>0900</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
	<u>2</u>	<u>S-1W-Side</u>													<u>0905</u>										
	<u>3</u>	<u>S-5S-Bottom</u>													<u>0910</u>										
	<u>4</u>	<u>S-5S-Side</u>													<u>0915</u>										
	<u>5</u>	<u>S-6S-Side</u>													<u>0920</u>										
	<u>6</u>	<u>S-6S-Bottom</u>													<u>0925</u>										
	<u>7</u>	<u>S-13E-Side</u>													<u>0930</u>										
	<u>8</u>	<u>S-13E-Bottom</u>													<u>0935</u>										
	<u>9</u>	<u>S-12N-Bottom</u>													<u>0940</u>										
	<u>10</u>	<u>S-12N-Side</u>													<u>0945</u>										

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Relinquished By: <u>Ruth</u>	Date: <u>11-30-20</u>	Received By: <u>Amara Alda</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address:
Time: <u>12:30</u>			REMARKS:
Time:			
Delivered By: (Circle One)	Observed Temp. °C <u>12.7</u>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
Sampler - UPS - Bus - Other:	Corrected Temp. °C	CHECKED BY: (Initials) <u>TS</u>	Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
			Thermometer ID #113 Correction Factor None
			Corrected Temp. °C

FORM-006 R.S. 1 06/04/20

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

† 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

(575) 393-2326 FAX (575) 393-2476		BILL TO		ANALYSIS REQUEST																							
Company Name: <u>Pima Environmental</u>				P.O. #: <u>20715188</u>																							
Project Manager: <u>Chris Jones</u>				Company: <u>Devon</u>																							
Address: <u>1601 N Turner St. 500</u>				Attn: <u>Tom Bynam</u>																							
City: <u>Holbrook</u> State: <u>NM</u> Zip: <u>88240</u>				Address:																							
Phone #: <u>575-964-7740</u> Fax #:				City:																							
Project #: <u>3</u> Project Owner:				State: Zip:																							
Project Name: <u>Emerald 20 PNU 1H</u>				Phone #:																							
Project Location: <u>Eddy Co NM</u>				Fax #:																							
Sampler Name: <u>Robert Carper</u>																											
FOR LAB USE ONLY																											
Lab I.D.		Sample I.D.		MATRIX		PRESERV.		SAMPLING		<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chloride</div> </div>																	
				GROUNDWATER		WASTEWATER		SOIL				SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME			
				# CONTAINERS		GROUNDWATER		WASTEWATER				SOIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME	
				(G)RAB OR (C)OMP.		GROUNDWATER		WASTEWATER				SOIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME	
				# CONTAINERS		GROUNDWATER		WASTEWATER				SOIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME	
				(G)RAB OR (C)OMP.		GROUNDWATER		WASTEWATER				SOIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME	
H003128		S-25-1'		G						✓						✓						11-25-20		11:00			
21		S-25-2'																				11:05		11:05			
22		S-25-3'																				11:10		11:10			
23																						11:15		11:15			
																						11:20		11:20			
																						11:25		11:25			
																						11:30		11:30			
																						11:35		11:35			



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

December 14, 2020

CHRIS JONES

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: EMERALD 20 PWU #1H

Enclosed are the results of analyses for samples received by the laboratory on 12/10/20 16:55.

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.

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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 6 S - BOTTOM (H003237-01)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2020	ND	1.93	96.6	2.00	8.05		
Toluene*	<0.050	0.050	12/11/2020	ND	1.85	92.4	2.00	7.75		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	1.92	95.8	2.00	8.56		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.47	91.1	6.00	8.59		
Total BTEX	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	96.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/11/2020	ND	244	122	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/11/2020	ND	235	118	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	12/11/2020	ND					

Surrogate: 1-Chlorooctane 87.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 81.5 % 42.2-156

Cardinal Laboratories

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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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 6 S - SIDE (H003237-02)

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	12/11/2020	ND	1.93	96.6	2.00	8.05		
Toluene*	<0.050	0.050	12/11/2020	ND	1.85	92.4	2.00	7.75		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	1.92	95.8	2.00	8.56		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.47	91.1	6.00	8.59		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	80.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/11/2020	ND	244	122	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/11/2020	ND	235	118	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	12/11/2020	ND					

Surrogate: 1-Chlorooctane 84.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 79.6 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 9 E - SIDE (H003237-03)

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	12/11/2020	ND	1.93	96.6	2.00	8.05		
Toluene*	<0.050	0.050	12/11/2020	ND	1.85	92.4	2.00	7.75		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	1.92	95.8	2.00	8.56		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.47	91.1	6.00	8.59		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	80.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/11/2020	ND	244	122	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/11/2020	ND	235	118	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	12/11/2020	ND					

Surrogate: 1-Chlorooctane 87.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 82.2 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 9 E - BOTTOM (H003237-04)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2020	ND	1.93	96.6	2.00	8.05		
Toluene*	<0.050	0.050	12/11/2020	ND	1.85	92.4	2.00	7.75		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	1.92	95.8	2.00	8.56		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.47	91.1	6.00	8.59		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	80.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 85.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 79.9 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 22 N - SIDE (H003237-05)

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	12/11/2020	ND	1.93	96.6	2.00	8.05		
Toluene*	<0.050	0.050	12/11/2020	ND	1.85	92.4	2.00	7.75		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	1.92	95.8	2.00	8.56		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.47	91.1	6.00	8.59		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	96.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 91.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 85.6 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 22 N - BOTTOM (H003237-06)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2020	ND	1.93	96.6	2.00	8.05		
Toluene*	<0.050	0.050	12/11/2020	ND	1.85	92.4	2.00	7.75		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	1.92	95.8	2.00	8.56		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.47	91.1	6.00	8.59		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	112	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 84.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 80.3 % 42.2-156

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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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 24 N - SIDE (H003237-07)

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	12/11/2020	ND	1.93	96.6	2.00	8.05		
Toluene*	<0.050	0.050	12/11/2020	ND	1.85	92.4	2.00	7.75		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	1.92	95.8	2.00	8.56		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.47	91.1	6.00	8.59		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	80.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 88.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 83.4 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 24 N - BOTTOM (H003237-08)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2020	ND	2.02	101	2.00	5.96		
Toluene*	<0.050	0.050	12/11/2020	ND	1.92	96.0	2.00	5.88		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	2.01	101	2.00	5.69		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.76	96.0	6.00	5.29		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	64.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 80.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 75.7 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 25 E - SIDE (H003237-09)

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	12/11/2020	ND	2.02	101	2.00	5.96		
Toluene*	<0.050	0.050	12/11/2020	ND	1.92	96.0	2.00	5.88		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	2.01	101	2.00	5.69		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.76	96.0	6.00	5.29		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 85.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 79.7 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 25 E - BOTTOM (H003237-10)

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	12/11/2020	ND	2.02	101	2.00	5.96		
Toluene*	<0.050	0.050	12/11/2020	ND	1.92	96.0	2.00	5.88		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	2.01	101	2.00	5.69		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.76	96.0	6.00	5.29		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 92.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.6 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 26 S - SIDE (H003237-11)

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	12/11/2020	ND	2.02	101	2.00	5.96	
Toluene*	<0.050	0.050	12/11/2020	ND	1.92	96.0	2.00	5.88	
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	2.01	101	2.00	5.69	
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.76	96.0	6.00	5.29	
Total BTX	<0.300	0.300	12/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	80.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 84.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 78.8 % 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: 12/10/2020
Reported: 12/14/2020
Project Name: EMERALD 20 PWU #1H
Project Number: 3
Project Location: DEVON - EDDY CO NM

Sampling Date: 12/10/2020
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: S - 26 S - BOTTOM (H003237-12)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2020	ND	2.02	101	2.00	5.96		
Toluene*	<0.050	0.050	12/11/2020	ND	1.92	96.0	2.00	5.88		
Ethylbenzene*	<0.050	0.050	12/11/2020	ND	2.01	101	2.00	5.69		
Total Xylenes*	<0.150	0.150	12/11/2020	ND	5.76	96.0	6.00	5.29		
Total BTEx	<0.300	0.300	12/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	64.0	16.0	12/14/2020	ND	432	108	400	3.77		

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	12/12/2020	ND	248	124	200	0.114	
DRO >C10-C28*	<10.0	10.0	12/12/2020	ND	241	120	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	12/12/2020	ND					

Surrogate: 1-Chlorooctane 86.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 80.4 % 42.2-156

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Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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>				BILL TO				ANALYSIS REQUEST																			
Project Manager: <u>Chris Jones</u>				P.O. #: <u>20715188</u>																							
Address: <u>1601 N. Turner</u> <u>Ste 500</u>				Company: <u>Devon</u>																							
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88280</u>				Attn: <u>Wes Matthews</u>																							
Phone #: <u>964-7740</u> Fax #:				Address:																							
Project #: <u>3</u> Project Owner: <u>Devon</u>				City:																							
Project Name: <u>Emerald 20 PWU 1H</u>				State: Zip:																							
Project Location: <u>Eddy Co NM</u>				Phone #:																							
Sampler Name: <u>Robert Carper</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>H003237</u>																											
1	S-6S-Bottom					X							12/10/20	9:00	X	X	X										
2	S-6S-Side													9:10													
3	S-9E-side													9:20													
4	S-9E-Bottom													9:30													
5	S-22N-side													9:40													
6	S-22N-Bottom													9:58													
7	S-24N-side													10:00													
8	S-24N-Bottom													10:16													
9	S-25E-side													10:20													
10	S-25E-Bottom													10:30													

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Relinquished By: <u>[Signature]</u>	Date: <u>12-10-20</u>	Received By: <u>[Signature]</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By: <u>[Signature]</u>	Date: <u>12-10-20</u>	Received By: <u>[Signature]</u>	All Results are emailed. Please provide Email address:
Delivered By: (Circle One)	Observed Temp. °C <u>13.7</u>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	REMARKS:
Sampler - UPS - Bus - Other:	Corrected Temp. °C	CHECKED BY: (Initials) <u>TO.</u>	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
			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
			Thermometer ID #113 Correction Factor None
			Corrected Temp. °C

FORM-006 R 3.1 06/04/20

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

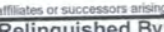
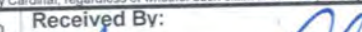


101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Puma Environmental										BILL TO										ANALYSIS REQUEST																			
Project Manager: Chris Jones										P.O. #: 20715188																													
Address: 1601 N. Turner St 500										Company: Devon																													
City: Hobbs State: NM Zip: 88280										Attn: Wes Mathews																													
Phone #: 964-7740 Fax #:										Address:																													
Project #: 3 Project Owner:										City:																													
Project Name: Emerald 20 PWU 14										State: Zip:																													
Project Location: Eddy Co NM										Phone #:																													
Sampler Name: Robert Carpt										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									
H003287																																							
11 S-26 S-side										C																													
12 S-26 S-Bottom										F																													

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Relinquished By: 		Date: 12/10/20	Received By: 	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Time: 4:30				All Results are emailed. Please provide Email address:
Relinquished By:		Date: 1/6/55	Received By:	REMARKS:
Time:				
Delivered By: (Circle One)	Observed Temp. °C 13.7	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) YD	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) Sample Condition Cool Intact Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID #113 Correction Factor None <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C



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

May 06, 2021

TOM BYNUM

PIMA ENVIROMENTAL

1601 N TURNER STE. 500

HOBBS, NM 88240

RE: EMERALD PWV 20

Enclosed are the results of analyses for samples received by the laboratory on 05/04/21 8:20.

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.

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

PIMA ENVIROMENTAL
TOM BYNUM
1601 N TURNER STE. 500
HOBBS NM, 88240
Fax To:

Received: 05/04/2021
Reported: 05/06/2021
Project Name: EMERALD PWV 20
Project Number: NONE GIVEN
Project Location: DEVON

Sampling Date: 05/03/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S 2 - 2' (H211127-01)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/04/2021	ND	2.03	102	2.00	9.39	
Toluene*	<0.050	0.050	05/04/2021	ND	1.98	98.8	2.00	9.71	
Ethylbenzene*	<0.050	0.050	05/04/2021	ND	1.92	95.8	2.00	10.1	
Total Xylenes*	<0.150	0.150	05/04/2021	ND	5.67	94.5	6.00	10.1	
Total BTEx	<0.300	0.300	05/04/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 69.9-140

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	05/05/2021	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	05/05/2021	ND	197	98.3	200	1.39	
DRO >C10-C28*	<10.0	10.0	05/05/2021	ND	208	104	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	05/05/2021	ND					

Surrogate: 1-Chlorooctane 80.9 % 44.3-133

Surrogate: 1-Chlorooctadecane 80.6 % 38.9-142

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
TOM BYNUM
1601 N TURNER STE. 500
HOBBS NM, 88240
Fax To:

Received: 05/04/2021
Reported: 05/06/2021
Project Name: EMERALD PWV 20
Project Number: NONE GIVEN
Project Location: DEVON

Sampling Date: 05/03/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S 3 - 2' (H211127-02)

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	05/04/2021	ND	2.03	102	2.00	9.39	
Toluene*	<0.050	0.050	05/04/2021	ND	1.98	98.8	2.00	9.71	
Ethylbenzene*	<0.050	0.050	05/04/2021	ND	1.92	95.8	2.00	10.1	
Total Xylenes*	<0.150	0.150	05/04/2021	ND	5.67	94.5	6.00	10.1	
Total BTEx	<0.300	0.300	05/04/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 69.9-140

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	05/05/2021	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	05/05/2021	ND	197	98.3	200	1.39	
DRO >C10-C28*	<10.0	10.0	05/05/2021	ND	208	104	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	05/05/2021	ND					

Surrogate: 1-Chlorooctane 84.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 83.9 % 38.9-142

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

PIMA ENVIROMENTAL
TOM BYNUM
1601 N TURNER STE. 500
HOBBS NM, 88240
Fax To:

Received: 05/04/2021
Reported: 05/06/2021
Project Name: EMERALD PWV 20
Project Number: NONE GIVEN
Project Location: DEVON

Sampling Date: 05/03/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S 4 - 2' (H211127-03)

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	05/05/2021	ND	2.03	102	2.00	9.39	
Toluene*	<0.050	0.050	05/05/2021	ND	1.98	98.8	2.00	9.71	
Ethylbenzene*	<0.050	0.050	05/05/2021	ND	1.92	95.8	2.00	10.1	
Total Xylenes*	<0.150	0.150	05/05/2021	ND	5.67	94.5	6.00	10.1	
Total BTEX	<0.300	0.300	05/05/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 69.9-140

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	05/05/2021	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	05/05/2021	ND	197	98.3	200	1.39	
DRO >C10-C28*	<10.0	10.0	05/05/2021	ND	208	104	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	05/05/2021	ND					

Surrogate: 1-Chlorooctane 81.5 % 44.3-133

Surrogate: 1-Chlorooctadecane 80.4 % 38.9-142

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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
TOM BYNUM
1601 N TURNER STE. 500
HOBBS NM, 88240
Fax To:

Received: 05/04/2021
Reported: 05/06/2021
Project Name: EMERALD PWV 20
Project Number: NONE GIVEN
Project Location: DEVON

Sampling Date: 05/03/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S 7 - 2' (H211127-04)

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	05/05/2021	ND	2.01	101	2.00	10.9	
Toluene*	<0.050	0.050	05/05/2021	ND	1.95	97.6	2.00	10.7	
Ethylbenzene*	<0.050	0.050	05/05/2021	ND	1.92	96.0	2.00	9.65	
Total Xylenes*	<0.150	0.150	05/05/2021	ND	5.72	95.3	6.00	9.45	
Total BTX	<0.300	0.300	05/05/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 69.9-140

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	05/05/2021	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	05/05/2021	ND	197	98.3	200	1.39	
DRO >C10-C28*	<10.0	10.0	05/05/2021	ND	208	104	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	05/05/2021	ND					

Surrogate: 1-Chlorooctane 83.9 % 44.3-133

Surrogate: 1-Chlorooctadecane 83.2 % 38.9-142

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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
TOM BYNUM
1601 N TURNER STE. 500
HOBBS NM, 88240
Fax To:

Received: 05/04/2021
Reported: 05/06/2021
Project Name: EMERALD PWV 20
Project Number: NONE GIVEN
Project Location: DEVON

Sampling Date: 05/03/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S 8 - 2' (H211127-05)

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	05/05/2021	ND	2.01	101	2.00	10.9		
Toluene*	<0.050	0.050	05/05/2021	ND	1.95	97.6	2.00	10.7		
Ethylbenzene*	<0.050	0.050	05/05/2021	ND	1.92	96.0	2.00	9.65		
Total Xylenes*	<0.150	0.150	05/05/2021	ND	5.72	95.3	6.00	9.45		
Total BTEX	<0.300	0.300	05/05/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 69.9-140

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	05/05/2021	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	05/05/2021	ND	197	98.3	200	1.39	
DRO >C10-C28*	<10.0	10.0	05/05/2021	ND	208	104	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	05/05/2021	ND					

Surrogate: 1-Chlorooctane 82.9 % 44.3-133

Surrogate: 1-Chlorooctadecane 83.6 % 38.9-142

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
TOM BYNUM
1601 N TURNER STE. 500
HOBBS NM, 88240
Fax To:

Received: 05/04/2021
Reported: 05/06/2021
Project Name: EMERALD PWV 20
Project Number: NONE GIVEN
Project Location: DEVON

Sampling Date: 05/03/2021
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: S 10 - 2' (H211127-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/05/2021	ND	2.01	101	2.00	10.9	
Toluene*	<0.050	0.050	05/05/2021	ND	1.95	97.6	2.00	10.7	
Ethylbenzene*	<0.050	0.050	05/05/2021	ND	1.92	96.0	2.00	9.65	
Total Xylenes*	<0.150	0.150	05/05/2021	ND	5.72	95.3	6.00	9.45	
Total BTEX	<0.300	0.300	05/05/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 69.9-140

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	05/05/2021	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	05/05/2021	ND	197	98.3	200	1.39	
DRO >C10-C28*	<10.0	10.0	05/05/2021	ND	208	104	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	05/05/2021	ND					

Surrogate: 1-Chlorooctane 79.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 79.4 % 38.9-142

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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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.
QR-04	The RPD for the BS/BSD was outside of historical limits.
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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(5/5) 393-2326 FAX (5/5) 393-2476

Company Name: Devon Energy / PIMA Project Manager: Tom Bynum Address: 1601 N. Turner Ste 500 City: Hobbes State: NM Zip: 88240 Phone #: 580-748-1613 Fax #: Project #: Project Owner: Project Name: Emerald PWU 20 Project Location: Sampler Name: S.O				BILL TO		ANALYSIS REQUEST																					
				P.O. #:		<div style="font-size: 2em; transform: rotate(-90deg); display: inline-block;"> BTEX (8021) TPH: (8015D) CL </div>																					
				Company: Devon																							
				Attn:																							
				Address:																							
				City:																							
				State: Zip:																							
				Phone #:																							
				Fax #:																							
FOR LAB USE ONLY	Lab I.D.	Sample I.D.	(G)RAB OR (C)COMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING															
					GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:					ACID/BASE: ICE / COOL OTHER:				DATE		TIME											
	H211127													5/3/21													
	1	S2-2'			X					X								X									
	2	S3-2'																X									
	3	S4-2'																X									
	4	S7-2'																									
	5	S8-2'																									
	6	S10-2'																									

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Relinquished By: <i>Sebastian E.</i>		Date: 5/4/21 Time: 0820		Received By: <i>Jamara Oldak</i>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:		All Results are emailed. Please provide Email address:											
Relinquished By:		Date:		Received By:		REMARKS: <i>Bill Devon Directly.</i>													
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 5.3 Corrected Temp. °C		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) <i>TO</i>		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C									

Incident ID	NMLB1113050834
District RP	2RP-779
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: Tom Bynum Title: EHS Consultant
Signature: Tom Bynum Date: 10-21-20
email: tom.bynum@dvn.com Telephone: 575-748-2663

OCD Only

Received by: Robert Hamlet Date: 7/29/2021

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: Robert Hamlet Date: 7/29/2021
Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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 32384

CONDITIONS

Operator: Pima Environmental Services, LLC 1601 N. Turner Hobbs, NM 88240	OGRID: 329999
	Action Number: 32384
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NMLB1113050834 EMERALD PWU 20 #1H, thank you. This closure is approved.	7/29/2021