

talonlpe.com • 866.742.0742



## Remediation and Closure Report

Arcturus 18 Federal #1H  
Eddy County, NM  
API# 30-015-38237  
\*2RP-3979, \*2RP-5348

## Prepared For:

Devon Energy Production Company  
6488 Seven Rivers Highway  
Artesia, NM 88210

## Prepared By:

TALON/LPE  
408 W. Texas Avenue  
Artesia, New Mexico 88210

**April 29, 2020**

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

Mr. Mike Bratcher  
**NMOCD District 2**  
811 S. 1<sup>st</sup> Street  
Artesia, NM 88210

Subject: **Closure Report and Deferral Request**  
Arcturus 18 Federal #1H  
API# 30-015-38237  
\*2RP-3979, \*2RP-5348

Dear Mr. Amos & Mr. Bratcher,

Devon Energy Production Company (Devon Energy) contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above-referenced location. The results of our site characterization and deferral closure request are contained herein.

### Site Information

Arcturus 18 Federal #1H is located approximately twenty-six (26) miles northeast of Carlsbad, New Mexico. The legal location for this release is Unit Letter A, Section 18, Township 19 South and Range 31 East in Eddy County, New Mexico. More specifically, the latitude and longitude for the release are 32.6665878 North and -103.9007874 West. A site plan is presented in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of Berino loamy fine sand, 0 to 3 percent slopes. See [Appendix II](#) for the referenced soil survey. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology are eolian and piedmont deposits, Holocene to middle Pleistocene in age. Drainage courses in this area are well-drained.

## Ground Water and Site Characterization

The New Mexico Office of the State Engineer Database indicates the reported nearest depth to groundwater is 180-feet below ground surface (BGS). See [Appendix II](#) for the referenced groundwater depth. This site is not located within a high potential Karst area.

If a release occurs within the following areas, the responsible party must treat the release as if it occurred less than 50 feet to the groundwater in Table I, New Mexico Oil Conservation Division (NMOCD) Rule 19.15.29 NMAC.

Approximate Depth to Groundwater	180 Feet/BGS
----------------------------------	--------------

- |   |   |
|---|---|
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within 300 feet of any continuously flowing watercourse or any other significant watercourse  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within 200 feet of any lakebed, sinkhole or playa lake  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within 300 feet from an occupied permanent residence, school, hospital, institution or church   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within 500 feet of a spring or a private, domestic freshwater well used by less than five households for domestic or stock watering purposes                                  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within 1000 feet of any freshwater well or spring   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within incorporated municipal boundaries or within a defined Municipal freshwater well field covered under a municipal ordinance adopted pursuant to Section 3-2703 NMSA 1978 |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within 300 feet of a wetland  |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within the area overlying a subsurface mine   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within an unstable area   |
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Within a 100-year floodplain  |

Because the release did not occur in any of these areas and the depth to groundwater is greater than 100-feet in-depth, based on the site characterization data, the cleanup criteria for this site are as follows.

Table I Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Method	Limit
>100 feet	Total Chlorides	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

### Incident Description

On November 11, 2016, the 2 phase separator dump valve failed to close, resulting in 175 barrels (bbls) of produced water that were spilled into the engineered lined containment. All of these fluids were recovered. Three gallons of produced water were released onto the ground near the 2 phase separator. No fluids were recovered here. Remediation order 2RP-3979 was assigned to this incident.

On March 30, 2019, the overflow alarms failed on the tanks resulting in the tanks to run over releasing 120 bbls of produced water into the lined containment. All of these fluids were recovered. Remediation order 2RP-5348 was assigned.

## Site Assessment

On February 6, 2020, Talon mobilized personnel to the site conducting a site assessment and collecting soil samples. Sample locations are shown on the attached site map and the results of our sampling event are presented in the following data table.

### 4-3-19 Soil Sample Laboratory Results

Sample ID	Sample Date	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	CI mg/kg
NMOCD Table 1 Closure Criteria 19.15.29 NMAC			50 mg/kg	10 mg/kg	DRO + GRO combined = 1000 mg/kg			2500 mg/kg	20,000 mg/kg
S-1	2/6/2020	0-1'	ND	ND	ND	ND	ND	ND	64
		2	ND	ND	ND	ND	ND	ND	64
		3	ND	ND	ND	ND	ND	ND	80
		4	ND	ND	ND	ND	ND	ND	96
S-2	2/6/2020	0-1'	ND	ND	ND	43	14.1	57.1	1790
		2	ND	ND	ND	ND	ND	ND	96
		3	ND	ND	ND	ND	ND	ND	128
		4	ND	ND	ND	ND	ND	ND	224
S-3	2/6/2020	0-1	ND	ND	ND	176	67.1	243.1	656
		2	ND	ND	ND	ND	ND	ND	3160
		3	ND	ND	ND	ND	ND	ND	3480
		4	ND	ND	ND	ND	ND	ND	2040
S-4	2/6/2020	0-1	ND	ND	ND	2590	811	3401	944
		2	ND	ND	ND	88.9	28.1	117	528
		3	ND	ND	ND	30	ND	30	592
		4	ND	ND	ND	62	17.1	79.1	464
S-5	2/6/2020	0-1	ND	ND	64.2	4640	1230	5934.2	1230
		2	ND	ND	ND	3630	918	4548	992
		3	ND	ND	ND	1900	864	2764	1380
		4	ND	ND	ND	204	47.3	251.3	1170
S-6	2/6/2020	0-1 R	ND	ND	ND	ND	ND	ND	32
S-7	2/6/2020	0-1	ND	ND	93.2	13200	3460	16753.2	192
		2	ND	ND	ND	205	58.6	263.6	48
		3	ND	ND	ND	22.8	ND	22.8	32
		4	ND	ND	ND	72.8	ND	72.8	48
S-8	2/6/2020	0-1	ND	ND	ND	ND	ND	ND	128
		2	ND	ND	ND	ND	ND	ND	32
		3	ND	ND	ND	ND	ND	ND	80
		4	ND	ND	ND	ND	ND	ND	112
S-9	2/6/2020	0-1	ND	ND	ND	ND	ND	ND	144
		2	ND	ND	ND	ND	ND	ND	32
		3	ND	ND	ND	ND	ND	ND	32
		4	ND	ND	ND	ND	ND	ND	48
S-10	2/6/2020	0-1 R	ND	ND	ND	ND	ND	ND	80
S-11	2/6/2020	0-1 R	ND	ND	ND	ND	ND	ND	608
S-12	2/6/2020	0-1 R	ND	ND	ND	ND	ND	ND	880
S-13	2/6/2020	0-1 R	ND	ND	ND	ND	ND	ND	784
S-14	2/6/2020	0-1	ND	ND	ND	ND	ND	ND	192
		2	ND	ND	ND	ND	ND	ND	176
		3	ND	ND	ND	ND	ND	ND	224
		4	ND	ND	ND	ND	ND	ND	160
S-15	2/6/2020	0-1 R	ND	ND	ND	ND	ND	ND	1540
S-16	2/6/2020	0-1	ND	ND	ND	ND	ND	ND	672
		2	ND	ND	ND	ND	ND	ND	4200
		3	ND	ND	ND	ND	ND	ND	288
		4	ND	ND	ND	ND	ND	ND	64
BG-1	2/6/2020	0	ND	ND	ND	ND	ND	ND	32
BG-2	2/6/2020	0	ND	ND	ND	ND	ND	ND	16
BG-3	2/6/2020	0	ND	ND	ND	ND	ND	ND	48

## 2-18-20 Soil Sample Laboratory Results

Sample ID	Sample Date	Depth (BGS)	BTEX mg/kg	Benzene mg/kg	GRO mg/kg	DRO mg/kg	MRO mg/kg	Total TPH mg/kg	CI mg/kg
NMOCD Table 1 Closure Criteria 19.15.29 NMAC			50 mg/kg	10 mg/kg	DRO + GRO combined = 1000 mg/kg			2500 mg/kg	20,000 mg/kg
W. Composite	2/18/2020	0	ND	ND	ND	ND	ND	ND	48
E. Composite		0	ND	ND	ND	ND	ND	ND	208
N. Composite		0	ND	ND	ND	57.4	21	78.4	64
S. Composite		0	ND	ND	ND	17.6	ND	17.6	1600

ND= Analyte Not Detected

A complete laboratory report can be found in [Appendix V](#).

### Remedial Actions

- Based upon the results of our site assessment and the photographic documentation provided, it is apparent the integrity of the battery liner is intact.
- A Microblaze treatment was applied to the areas of S-4, S-5 and S-7.
- In six months, these areas will be resampled. If the levels are still above NMOCD closure criteria, another Microblaze treatment will be applied. If the levels are below NMOCD closure criteria, a full closure for 2RP-5348 will be requested.

### Closure

Based on this site characterization and analytical results, we request that no further actions be required and that closure with regard to incident 2RP-3979 be granted.

### Deferral Request

On behalf of Devon Energy we respectfully request that no further actions be required at this time and that a remediation deferral be granted until future samples are obtained, as described herein with regard to incident 2RP-5348.

Should you have any questions or if further information is required, please do not hesitate to contact our office at 575-746-8768.

Respectfully submitted,

TALON/LPE



Chris K. Jones  
Project Manager

David J. Adkins

Digitally signed by David J. Adkins  
DN: ou=David J. Adkins,  
o=Talon/LPE, ou=District  
Manager,  
email=dd@talonlpe.com,  
c=US  
Date: 2020.04.29 11:26:28 -0600

David J. Adkins  
District Manager

#### Attachments:

- Appendix I Site Map, Karst Map, TOPO Map & Locator Map
- Appendix II Soil Survey, Groundwater Data & FEMA Flood Zone
- Appendix III Initial, Final C-141 & Final C-141 Deferral
- Appendix IV Photographic Documentation
- Appendix V Laboratory Data



# **APPENDIX I**

**SITE MAP**

**KARST MAP**

**TOPO MAP**

**LOCATION MAP**



Devon Energy Production Company  
Eddy County, NM  
API 30-015-38237  
Site Map

Arcturus 18 Feb 1H



Google Earth

100 ft

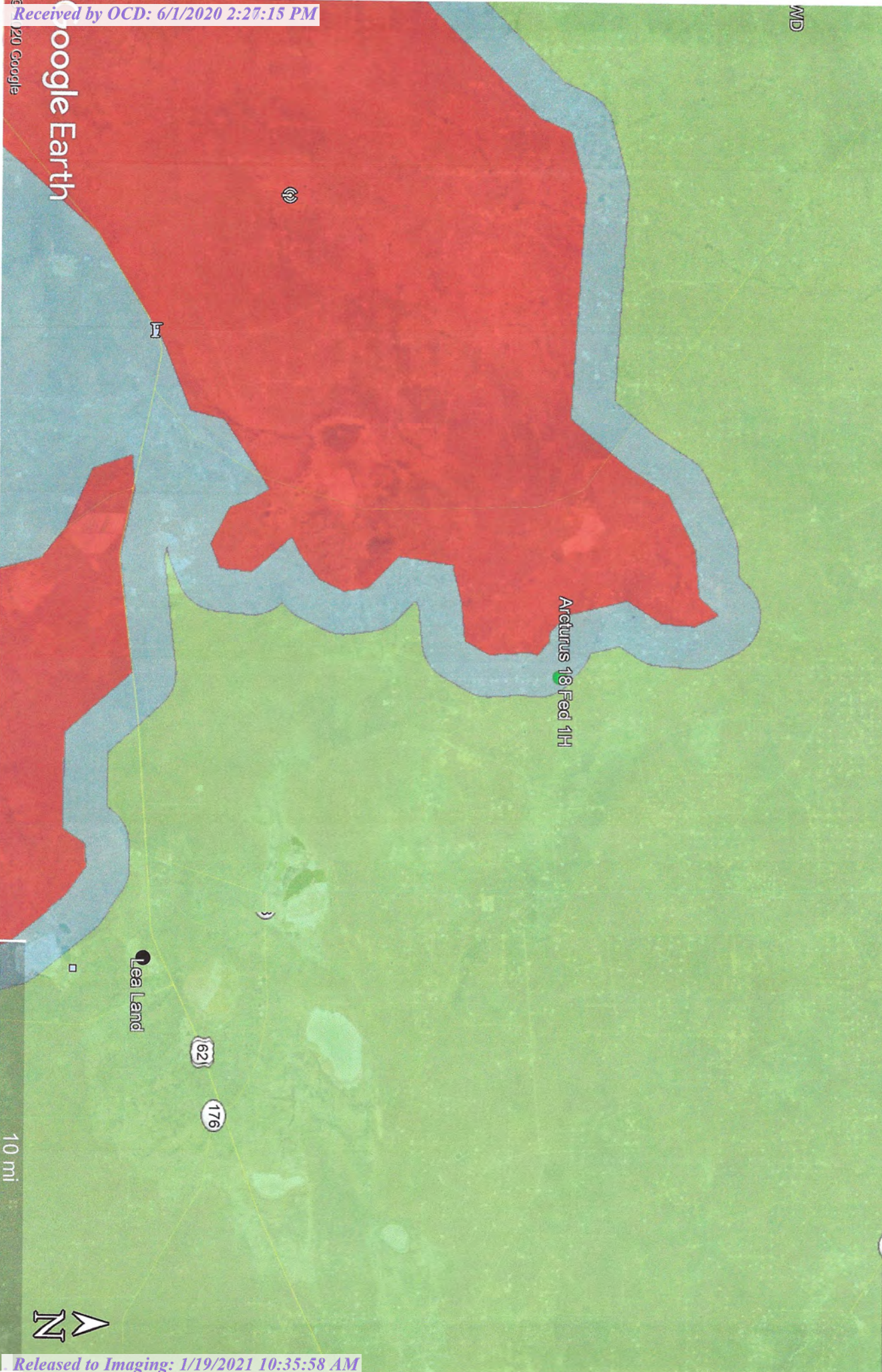




**Arcturus 18 Fed #1H**  
Devon Energy Production Company  
Eddy County, NM  
API 30-015-38237  
Karst Map

**Legend**

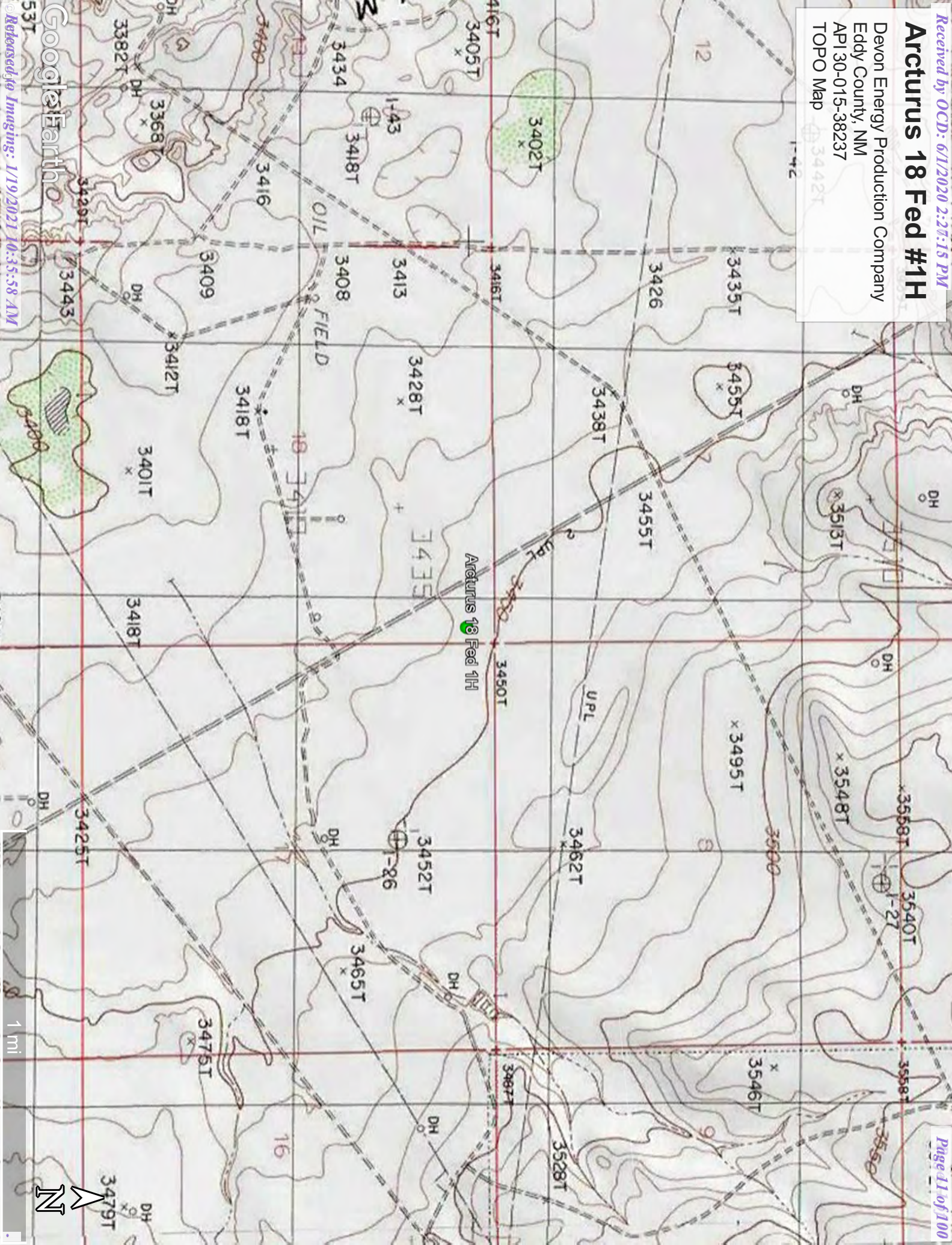
	High
	Low
	Medium





# Arcturus 18 Fed #1H

Devon Energy Production Company  
Eddy County, NM  
API 30-015-38237  
TOPO Map





# Arcturus 18 Fed #1H

Devon Energy Production Company  
Eddy County, NM  
API 30-015-38237  
Location Map



Google Earth

© 2020 Google

Released to Imaging: 1/19/2021 10:35:58 AM

5 mi







## **APPENDIX II**

# **GROUNDWATER DATA**

# **SOIL SURVEY**

# **FEMA FLOOD ZONE**



# 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  
CP 00873 POD1

Code	Sub-basin	County	Q	Q	Q	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	WaterColumn
CP	LE		1	1	19	19S	31E		601772	3613147*	1839	340	180	160

Average Depth to Water: 180 feet

Minimum Depth: 180 feet

Maximum Depth: 180 feet

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 603042.587

Northing (Y): 3614477.364

Radius: 2000

\*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.

2/25/20 9:46 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Map Unit Description: Berino loamy fine sand, 0 to 3 percent slopes—Eddy Area, New Mexico

---

## Eddy Area, New Mexico

### BA—Berino loamy fine sand, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1w42

*Elevation:* 2,000 to 5,700 feet

*Mean annual precipitation:* 6 to 14 inches

*Mean annual air temperature:* 57 to 70 degrees F

*Frost-free period:* 180 to 260 days

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Berino and similar soils:* 99 percent

*Minor components:* 1 percent

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

#### Description of Berino

##### Setting

*Landform:* Fan piedmonts, plains

*Landform position (three-dimensional):* Riser

*Down-slope shape:* Convex

*Across-slope shape:* Linear

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

##### Typical profile

*H1 - 0 to 12 inches:* loamy fine sand

*H2 - 12 to 58 inches:* sandy clay loam

*H3 - 58 to 60 inches:* clay loam

##### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):*

Moderately high to high (0.60 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 40 percent

*Salinity, maximum in profile:* Very slightly saline to slightly saline  
(2.0 to 4.0 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 1.0

*Available water storage in profile:* Moderate (about 8.4 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* B

Map Unit Description: Berino loamy fine sand, 0 to 3 percent slopes—Eddy Area, New Mexico

---

*Ecological site:* Loamy (R042XC007NM)

*Hydric soil rating:* No

#### **Minor Components**

##### **Pajarito**

*Percent of map unit:* 1 percent

*Ecological site:* Loamy Sand (R042XC003NM)

*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°40'14.86"N





103°54'21.56"W















## Legend




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

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

<b>OTHER AREAS OF FLOOD HAZARD</b>	 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
------------------------------------	---

<b>OTHER AREAS</b>	 Area of Minimal Flood Hazard Zone X  Area of Undetermined Flood Hazard Zone D
<b>GENERAL STRUCTURES</b>	 Channel, Culvert, or Storm Sewer  Levee, Dike, or Floodwall

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

<b>MAP PANELS</b>	 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 4/29/2020 at 2:09:21 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 unmoderized areas cannot be used for regulatory purposes.



# **APPENDIX III**

## **INITIAL C-141**

## **&**

## **FINAL C-141**

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

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

NOV 08 2016

Form C-141  
Revised August 8, 2011Submit 1 Copy to appropriate District Office in  
conformance with 19.15.29 NMAC.

RECEIVED

## Release Notification and Corrective Action

*NAB 1631440104*

<b>OPERATOR</b>		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
<b>Name of Company</b> Devon Energy Production Company <i>4137</i>		<b>Contact</b> Danny Velo, Production Foreman	
<b>Address</b> 6488 Seven Rivers Hwy Artesia, NM 88210		<b>Telephone No.</b> 575-703-3360	
<b>Facility Name</b> Arcturus 18 Federal #1H		<b>Facility Type</b> Oil	
<b>Surface Owner</b> Federal		<b>Mineral Owner</b> Federal	<b>API No</b> 30-015-38237

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	18	19S	31E	400	North	200	East	Eddy

Latitude: 32.6665878 Longitude: -103.9007874

## NATURE OF RELEASE

<b>Type of Release</b> Produced water	<b>Volume of Release</b> 175.07 BBLS	<b>Volume Recovered</b> 175 BBLS
<b>Source of Release</b> 2 phase separator dump valve	<b>Date and Hour of Occurrence</b> 11/1/2016 @ 7:55pm	<b>Date and Hour of Discovery</b> 11/1/2016 @ 7:55pm
<b>Was Immediate Notice Given?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	<b>If YES, To Whom?</b> OCD-Mike Bratcher BLM- Jim Amos	
<b>By Whom?</b> Hubert Perry, Night Production Foreman	<b>Date and Hour</b> OCD- 11/2/2016 @ 5:35am BLM- 11/2/2016 @ 5:20am	
<b>Was a Watercourse Reached?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>If YES, Volume Impacting the Watercourse</b> N/A	

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

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

The 2 phase separator dump valve hung failed closed resulting in 175 BBLS produced water to be release into lined containment and another 3 gallons was released onto the ground near the 2 phase separator. Switched all wells on header from production to test to prevent further release.

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

175 BBLS of produced water was released from 2 phase separator dump valve into lined containment with an additional 3 gallons being released onto the ground near the 2 phase separator. The 175 BBLS produced water released into lined containment remained in lined containment, the 3 gallons released onto the ground was not recoverable. None of the released fluid left location. The liner was checked for holes and no holes were found. Vacuum truck recovered all 175 BBLS of the released produced water that was in lined containment. Environmental agency will be contacted for remediation.

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

<b>Signature:</b> Sarah Gallegos-Troublefield		<b>OIL CONSERVATION DIVISION</b>	
<b>Printed Name:</b> Sarah Gallegos-Troublefield		<b>Signed By:</b> <i>Mike Bratcher</i>	
<b>Title:</b> Field Admin Support		<b>Approved by Environmental Specialist:</b>	
<b>E-mail Address:</b> Sarah.Gallegos-Troublefield@dm.com		<b>Approval Date:</b> 11/9/16	<b>Expiration Date:</b> N/A
<b>Date:</b> 11/8/2016 <b>Phone:</b> 575.748.1864		<b>Conditions of Approval:</b>	
		<b>Attached</b> <input checked="" type="checkbox"/>	

\* Attach Additional Sheets If Necessary

2RP-3979

Incident ID	
District RP	2RP-3979
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?	_____ 180 _____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	2RP-3979
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: Chris Jones

Title: Project Manager

Signature: *Chris Jones*

Date: 4-29-20

email: [cjones@talonlpe.com](mailto:cjones@talonlpe.com)

Telephone: 575-748-8768

**OCD Only**

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

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



Incident ID	
District RP	2RP-3979
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: Chris Jones

Title: Project Manager

Signature: *Chris Jones*

Date: 4-29-20

email: [cjones@talonlpe.com](mailto:cjones@talonlpe.com)

Telephone: 575-748-8768

**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: \_\_\_\_\_

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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

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

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

Incident ID	
District RP	4TR/756:
Facility ID	
Application ID	

## Release Notification

### Responsible Party

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

### Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

### Nature and Volume of Release

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

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

Cause of Release

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP *****	4TR/756:
Facility ID	
Application ID	

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

**Initial Response**

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

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



State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	2RP-5348
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?

180 (ft bgs)

Did this release impact groundwater or surface water?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?

☐ Yes ☒ 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)?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?

☐ Yes ☒ 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?

☐ Yes ☒ No

Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?

☐ Yes ☒ No

Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a wetland?

☐ Yes ☒ No

Are the lateral extents of the release overlying a subsurface mine?

☐ Yes ☒ No

Are the lateral extents of the release overlying an unstable area such as karst geology?

☐ Yes ☒ No

Are the lateral extents of the release within a 100-year floodplain?

☐ Yes ☒ No

Did the release impact areas **not** on an exploration, development, production, or storage site?

☐ Yes ☒ 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.

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	2RP-5348
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: Chris Jones

Title: Project Manager

Signature: *Chris Jones*

Date: 4-29-20

email: [cjones@talonlpe.com](mailto:cjones@talonlpe.com)

Telephone: 575-748-8768

**OCD Only**

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

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

Incident ID	
District RP	2RP-5348
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: Chris Jones

Title: Project Manager

Signature: *Chris Jones*

Date: 4-29-20

email: [cjones@talonlpe.com](mailto:cjones@talonlpe.com)

Telephone: 575-748-8768

**OCD Only**

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

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

Signature: \_\_\_\_\_

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

Incident ID	
District RP	2RP-5348
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: Chris Jones

Title: Project Manager

Signature: *Chris Jones*

Date: 4-29-20

email: [cjones@talonlpe.com](mailto:cjones@talonlpe.com)

Telephone: 575-748-8768

**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: \_\_\_\_\_



## **APPENDIX IV**

# **PHOTOGRAPHIC DOCUMENTATION**

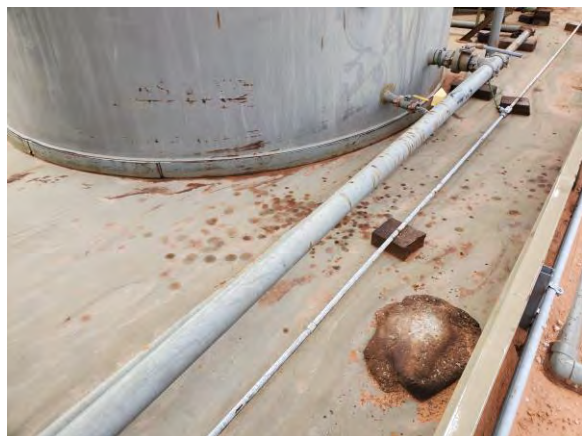
## Photographic Documentation

### Liner





## Photographic Documentation



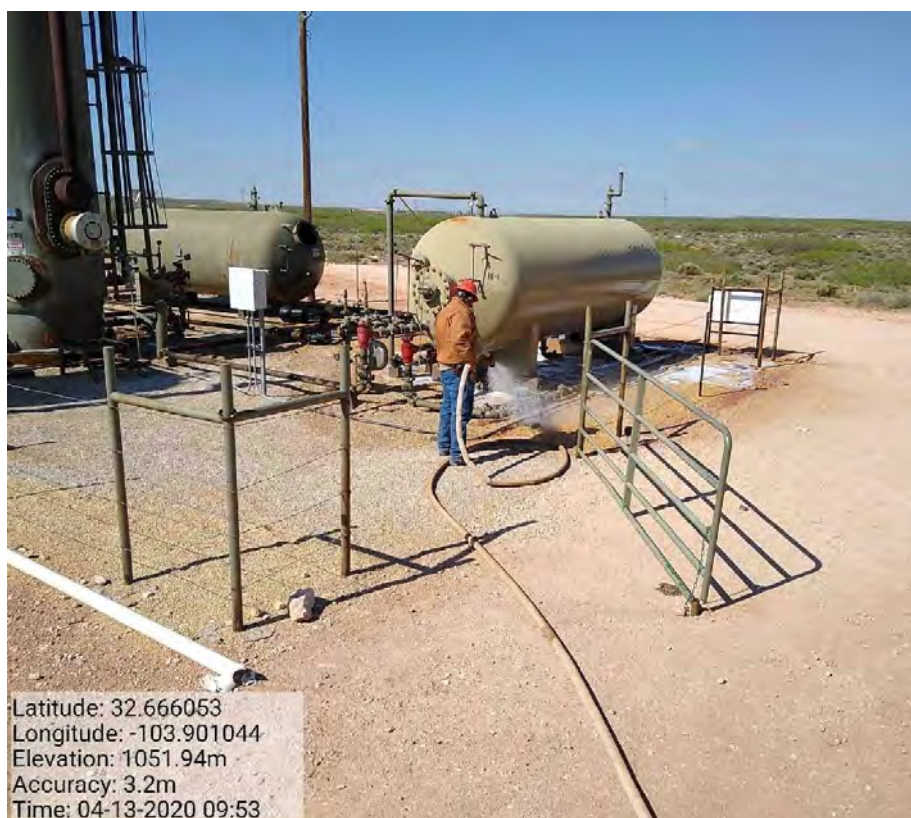
## Photographic Documentation

### Microblaze Treatment





## Photographic Documentation





# APPENDIX V

# LABORATORY DATA



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

February 13, 2020

CHRIS JONES

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: ARCTURUS 18 FED 1H

Enclosed are the results of analyses for samples received by the laboratory on 02/10/20 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 1 0-1' (H000401-01)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTEx	<0.300	0.300	02/11/2020	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 1 2' (H000401-02)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 89.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.2 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 1 3' (H000401-03)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	
Total BTX	<0.300	0.300	02/11/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 87.1 % 41-142

Surrogate: 1-Chlorooctadecane 91.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 1 4' (H000401-04)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 85.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 2 0-1' (H000401-05)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1790	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	43.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	14.1	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 91.2 % 41-142

Surrogate: 1-Chlorooctadecane 99.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 2 2' (H000401-06)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 85.8 % 41-142

Surrogate: 1-Chlorooctadecane 88.4 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 2 3' (H000401-07)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 93.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 2 4' (H000401-08)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 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	224	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 94.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 3 0-1' (H000401-09)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	656	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	176	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	67.1	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 3 2' (H000401-10)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3160	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 87.3 % 41-142

Surrogate: 1-Chlorooctadecane 91.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 3 3' (H000401-11)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	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	3480	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 85.7 % 41-142

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 3 4' (H000401-12)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	2040	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 4 0-1' (H000401-13)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	GC-NC
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	GC-NC
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 141 % 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	944	16.0	02/12/2020	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	2590	50.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	811	50.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 96.1 % 41-142

Surrogate: 1-Chlorooctadecane 168 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 4 2' (H000401-14)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	
Total BTX	<0.300	0.300	02/11/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	88.9	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	28.1	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 4 3' (H000401-15)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	
Total BTX	<0.300	0.300	02/11/2020	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	592	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	30.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 86.2 % 41-142

Surrogate: 1-Chlorooctadecane 92.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 4 4' (H000401-16)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	
Total BTEX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 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	464	16.0	02/12/2020	ND	448	112	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	62.0	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	17.1	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 87.6 % 41-142

Surrogate: 1-Chlorooctadecane 97.9 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 5 0-1' (H000401-17)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	GC-NC
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	GC-NC
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 283 % 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	1230	16.0	02/12/2020	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	64.2	50.0	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	4640	50.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	1230	50.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 220 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 5 2' (H000401-18)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	GC-NC
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	GC-NC
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 197 % 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	992	16.0	02/12/2020	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	3630	50.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	918	50.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 84.9 % 41-142

Surrogate: 1-Chlorooctadecane 171 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 5 3' (H000401-19)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47	
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42	
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	1380	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	1900	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	864	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 144 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 5 4' (H000401-20)**

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	02/11/2020	ND	1.75	87.7	2.00	7.47		
Toluene*	<0.050	0.050	02/11/2020	ND	1.80	90.1	2.00	7.86		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.83	91.5	2.00	8.40		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.33	88.8	6.00	8.42		
Total BTX	<0.300	0.300	02/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	1170	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	193	96.4	200	2.76	
DRO >C10-C28*	204	10.0	02/11/2020	ND	182	91.0	200	0.561	
EXT DRO >C28-C36	47.3	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 84.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 6 0-1' R (H000401-21)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	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	32.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 81.8 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 7 0-1' (H000401-22)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	GC-NC
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	GC-NC
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 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	192	16.0	02/12/2020	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	93.2	50.0	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	13200	50.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	3460	50.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 111 % 41-142

Surrogate: 1-Chlorooctadecane 540 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 7 2' (H000401-23)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	205	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	58.6	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 76.7 % 41-142

Surrogate: 1-Chlorooctadecane 86.8 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 7 3' (H000401-24)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37		
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98		
Total BTX	<0.300	0.300	02/11/2020	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	22.8	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 86.2 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 7 4' (H000401-25)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	72.8	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 76.7 % 41-142

Surrogate: 1-Chlorooctadecane 82.7 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 8 0-1' (H000401-26)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37		
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98		
Total BTX	<0.300	0.300	02/11/2020	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	128	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 74.0 % 41-142

Surrogate: 1-Chlorooctadecane 76.5 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 8 2' (H000401-27)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 72.2 % 41-142

Surrogate: 1-Chlorooctadecane 74.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 8 3' (H000401-28)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37		
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98		
Total BTX	<0.300	0.300	02/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 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	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 72.1 % 41-142

Surrogate: 1-Chlorooctadecane 73.5 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 8 4' (H000401-29)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	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	112	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 73.6 % 41-142

Surrogate: 1-Chlorooctadecane 75.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 9 0-1' (H000401-30)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 76.0 % 41-142

Surrogate: 1-Chlorooctadecane 76.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 9 2' (H000401-31)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	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	32.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 72.9 % 41-142

Surrogate: 1-Chlorooctadecane 73.5 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 9 3' (H000401-32)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	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	32.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 70.5 % 41-142

Surrogate: 1-Chlorooctadecane 71.7 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 9 4' (H000401-33)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	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	48.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 69.4 % 41-142

Surrogate: 1-Chlorooctadecane 70.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 10 0-1' R (H000401-34)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	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	80.0	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 69.2 % 41-142

Surrogate: 1-Chlorooctadecane 69.7 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 11 0-1' R (H000401-35)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37		
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46		
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79		
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98		
Total BTX	<0.300	0.300	02/11/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 73.3-129

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: GM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95		
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85		
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND						

Surrogate: 1-Chlorooctane 71.2 % 41-142

Surrogate: 1-Chlorooctadecane 72.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 12 0-1' R (H000401-36)**

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	02/11/2020	ND	1.73	86.4	2.00	9.37	
Toluene*	<0.050	0.050	02/11/2020	ND	1.78	89.2	2.00	9.46	
Ethylbenzene*	<0.050	0.050	02/11/2020	ND	1.81	90.7	2.00	9.79	
Total Xylenes*	<0.150	0.150	02/11/2020	ND	5.27	87.8	6.00	9.98	
Total BTX	<0.300	0.300	02/11/2020	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	02/12/2020	ND	416	104	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	02/11/2020	ND	205	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/11/2020	ND	189	94.6	200	2.85	
EXT DRO >C28-C36	<10.0	10.0	02/11/2020	ND					

Surrogate: 1-Chlorooctane 69.3 % 41-142

Surrogate: 1-Chlorooctadecane 69.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 13 0-1' R (H000401-37)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTX	<0.300	0.300	02/12/2020	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	784	16.0	02/12/2020	ND	416	104	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 78.3 % 41-142

Surrogate: 1-Chlorooctadecane 79.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 14 0-1' (H000401-38)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTEx	<0.300	0.300	02/12/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 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	192	16.0	02/12/2020	ND	416	104	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142

Surrogate: 1-Chlorooctadecane 82.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 14 2' (H000401-39)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTX	<0.300	0.300	02/12/2020	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 80.5 % 41-142

Surrogate: 1-Chlorooctadecane 81.9 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 14 3' (H000401-40)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTEx	<0.300	0.300	02/12/2020	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	224	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 80.9 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 14 4' (H000401-41)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTX	<0.300	0.300	02/12/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 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	160	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142

Surrogate: 1-Chlorooctadecane 83.4 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 15 0-1' R (H000401-42)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8	
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7	
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5	
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7	
Total BTEx	<0.300	0.300	02/12/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	1540	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 83.2 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 16 0-1' (H000401-43)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTEx	<0.300	0.300	02/12/2020	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	672	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 80.4 % 41-142

Surrogate: 1-Chlorooctadecane 83.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 16 2' (H000401-44)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTEx	<0.300	0.300	02/12/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4200	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 82.8 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 16 3' (H000401-45)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTEx	<0.300	0.300	02/12/2020	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	288	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 82.5 % 41-142

Surrogate: 1-Chlorooctadecane 84.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S - 16 4' (H000401-46)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTX	<0.300	0.300	02/12/2020	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 79.2 % 41-142

Surrogate: 1-Chlorooctadecane 80.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BG - 1 (H000401-47)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8		
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7		
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5		
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7		
Total BTX	<0.300	0.300	02/12/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	32.0	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 86.7 % 41-142

Surrogate: 1-Chlorooctadecane 86.8 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BG - 2 (H000401-48)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8	
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7	
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5	
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7	
Total BTX	<0.300	0.300	02/12/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 83.3 % 41-142

Surrogate: 1-Chlorooctadecane 84.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/10/2020  
Reported: 02/13/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/06/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BG - 3 (H000401-49)**

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	02/12/2020	ND	1.90	95.2	2.00	11.8	
Toluene*	<0.050	0.050	02/12/2020	ND	1.97	98.3	2.00	12.7	
Ethylbenzene*	<0.050	0.050	02/12/2020	ND	1.99	99.5	2.00	11.5	
Total Xylenes*	<0.150	0.150	02/12/2020	ND	5.79	96.5	6.00	11.7	
Total BTX	<0.300	0.300	02/12/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	48.0	16.0	02/12/2020	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	02/12/2020	ND	201	101	200	5.43	
DRO >C10-C28*	<10.0	10.0	02/12/2020	ND	199	99.5	200	6.77	
EXT DRO >C28-C36	<10.0	10.0	02/12/2020	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 85.8 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

Cardinal Laboratories

\*=Accredited Analyte

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

A handwritten signature in black ink, appearing to read "Celey D. Keene", written in a cursive style.

Celey D. Keene, Lab Director/Quality Manager



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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <b>THLON LPE</b>		P.O. #: <b>700794, 307.01</b>	
Project Manager: <b>CHRIS JONES</b>		Company: <b>THLON</b>	
Address: <b>408 W. TEXAS AVE.</b>		Attn: <b>C. JONES</b>	
City: <b>ARTESIA</b>	State: <b>NM</b> Zip: <b>88210</b>	Address:	
Phone #: <b>575-746-8768</b>	Fax #:	City:	
Project #: <b>700794, 307.01</b>	Project Owner: <b>DEUDON</b>	State:	
Project Location: <b>EDDY COUNTY</b>		Zip:	
Sampler Name: <b>MICHAEL COLLIER</b>		Phone #:	
FOR LAB USE ONLY		Fax #:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX								DATE	TIME	ANALYSIS REQUEST			
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL			OTHER:	BTEX	TPH	TOTAL CHLORIDES
4000461	5-1 0-1'	G	1									2-6-20	9:30am				
2	5-1 2'	G	1									2-6-20	9:35am				
3	5-1 3'	G	1									2-6-20	9:40am				
4	5-1 4'	G	1									2-6-20	9:45am				
5	5-2 0-1'	G	1									2-6-20	9:55am				
6	5-2 2'	G	1									2-6-20	10:00am				
7	5-2 3'	G	1									2-6-20	10:05am				
8	5-2 4'	G	1									2-6-20	10:10am				
9	5-3 0-1'	G	1									2-6-20	10:20am				
10	5-3 2'	G	1									2-6-20	10:25am				

PLEASE NOTE: Liability and Damages. Cardinal's liability and clients' exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the services. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 90 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client. Its obligation, estimates or assessments arising out of or related to the performance of services shall be limited to the performance of services as stated on the invoice.

Relinquished By: **M. P. Le.** Date: **2-6-20** Received By: **Michael Collier** Date: **2-6-20**

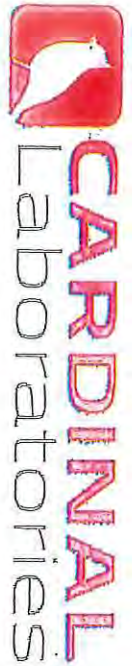
Delivered By: (Circle One) **5.6c** #113 Sample Condition Cool Intact Yes ☒ No ☐ Checked By: **YO**

Sampler - LPS - Bus - Other: **5.6c** #113

Phone Result: ☐ Yes ☐ No ☐ Add'l Phone #:

REMARKS: **PG. 1 OF 5**





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

## ANALYSIS REQUEST

Company Name: TALON CPE

Project Manager: CHRIS JONES

Address: 408 W. TEXAS AVE.

City: ARTESIA

Phone #: 575-746-8168

Project #: 700794, 307.01

Project Name: ARCTURUS 18 FEB 1A

Project Location: EDDY COUNTY

Sampler Name: MICHAEL COLLIER

FOR LAB USE ONLY

P.O. #: 700794.307.01

Company: TALON

Attn: C. JONES

Address:

City:

State: Zip:

Phone #:

Fax #:

Lab I.D.

Sample I.D.

#000401

11

12

13

14

15

16

17

18

19

20

5-3

5-3

5-4

5-4

5-4

5-4

5-5

5-5

5-5

5-5

3'

4'

0-1'

2'

3'

4'

0-1'

2'

3'

4'

6

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

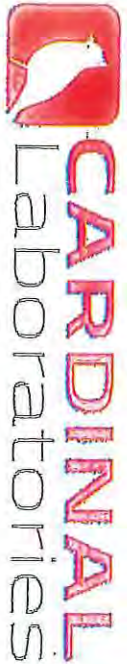
1

1

1

1





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: TALON CPE		P.O. #: 700794.307.01	
Project Manager: CHRIS JONES		Company: TALON	
Address: 408 W. TEXAS AVE.		Attn: C. JONES	
City: ARTESIA		Address:	
Phone #: 575-746-8768		City:	
Fax #: Project Owner: DEBON		State: Zip:	
Project #: 700794.307.01		Phone #: Fax #:	
Project Name: ARCTURUS 18 FEB 14		Project Location: EODY COUNTY	
Sampler Name: MICHAEL COLLIER		For Lab Use Only	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST						
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:			ACID/BASE:	ICE/COOL	OTHER:	BTEX	TPH	TOTAL CHLORIDES	
4006401	21	5-6	0-1	R														
	22	5-7	0-1															
	23	5-7	2'															
	24	5-7	3'															
	25	5-7	4'															
	26	5-8	0-1															
	27	5-8	2'															
	28	5-8	3'															
	29	5-8	4'															
	30	5-9	0-1															

Delivered By: (Circle One)	Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other:	Good Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	(Initials)

Relinquished By:	Date:	Received By:	Date:
Relinquished By:	Time:	Received By:	Time:

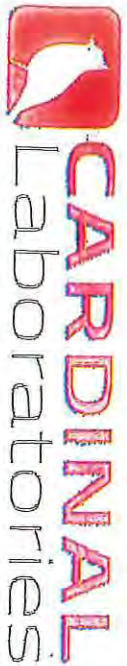
Phone Result:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Add'l Phone #:
Fax Result:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Add'l Fax #:

REMARKS: P.C. 3 of 5

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

104 East Maryland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: TALON LPE		P.O. #: 700744.307.01	
Project Manager: CHRIS JONES		Company: TALON	
Address: 408 W. TEXAS AVE.		Attn: C. JONES	
City: ARRESIA	State: NM Zip: 88210	Address:	
Phone #: 575-746-8768	Fax #:	City:	
Project #: 700744.307.01	Project Owner: DEUDON	State: Zip:	
Project Location: EDDY COUNTY	Phone #:	Fax #:	
Sampler Name: MICHAEL COLLIER	FOR LAB USE ONLY		

Lab I.D.	Sample I.D.	(C)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS REQUEST			
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:				ICE/COOL	OTHER:	
4800401																
31	S-9 2'		6									2-10-20	12:40pm	✓	BTEX	
32	S-9 3'		1										12:45pm	✓	TPH	
33	S-9 4'												12:50pm	✓	TOTAL CHLORIDES	
34	S-10 0-1' R												1:00pm			
35	S-11 0-1' R												1:10pm			
36	S-12 0-1' R												1:20pm			
37	S-13 0-1' R												1:30pm			
38	S-14 0-1'												1:40pm			
39	S-14 2'												1:45pm			
40	S-14 3'												2:20	1:50pm	✓	

PLEASE NOTE: Liability and Damages, Cardinal's liability and ability to provide services is limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed void and unenforceable if the applicable statute of limitations expires within 30 days after completion of the applicable analysis. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, loss of use, or loss of profit incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal. Cardinal's liability shall be limited to the amount paid by the client for the analysis.

Relinquished By: Michael Collier Date: 2-10-20 Received By: Lauren K. [Signature] Date: 2-10-20

Delivered By: (Circle One) UPS 5:45 #113 Sample Condition: Good Intact Yes Yes No No CHIEKED BY: 70

Sampler - UPS - Bus - Other: 5:45 #113

1 Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

REMARKS: Pc. 4 of 5

Phone Result: ☐ Yes ☐ No ☐ No ☐ Add'l Phone #:

Fax Result: ☐ Yes ☐ No ☐ No ☐ Add'l Fax #:





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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: TALON LPE		P.O. #: 700794.307.01	
Project Manager: CHRIS JONES		Company: TALON	
Address: 408 W. TEXAS AVE.		Attn: C. JONES	
City: ARTESIA	State: NM Zip: 88210	Address:	
Phone #: 575-746-8768	Fax #:	City:	
Project #: 700794.307.01	Project Owner: DEBON	State:	
Project Location: EDDY COUNTY	18 FEB 14	Zip:	
Sampler Name: MICHAEL COLLIER	Phone #:	Fax #:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST		
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			ACID/BASE:	ICE / COOL	OTHER :
401	S-14 4'		1							2-6-20	1:55pm			
42	S-15 0-1' R		1							2-6-20	2:05pm			
43	S-16 0-1'		1							2-6-20	2:15pm			
44	S-16 2'		1							2-6-20	2:20pm			
45	S-16 3'		1							2-6-20	2:25pm			
46	S-16 4'		1							2-6-20	2:30pm			
47	B-1		1							2-6-20	2:40pm			
48	B-2		1							2-6-20	2:50pm			
49	B-3		1							2-6-20	2:00pm			

Delivered By: (Circle One)	Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other:	Good Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	(Initials)
Relinquished By:	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No
Date: 2-10-20	Date: 2-10-20	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No
Time: 1:50	Time: 1:50	REMARKS:
		PC 5075



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

---

February 24, 2020

CHRIS JONES

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: ARCTURUS 18 FED 1H

Enclosed are the results of analyses for samples received by the laboratory on 02/19/20 13:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received:	02/19/2020	Sampling Date:	02/18/2020
Reported:	02/24/2020	Sampling Type:	Soil
Project Name:	ARCTURUS 18 FED 1H	Sampling Condition:	Cool & Intact
Project Number:	700794.307.01 BATTERY	Sample Received By:	Tamara Oldaker
Project Location:	DEVON - EDDY CO NM		

**Sample ID: W. COMP (H000524-01)**

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	02/20/2020	ND	1.75	87.6	2.00	16.3		
Toluene*	<0.050	0.050	02/20/2020	ND	1.78	88.8	2.00	16.2		
Ethylbenzene*	<0.050	0.050	02/20/2020	ND	1.77	88.6	2.00	16.4		
Total Xylenes*	<0.150	0.150	02/20/2020	ND	5.14	85.7	6.00	16.5		
Total BTEX	<0.300	0.300	02/20/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 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	48.0	16.0	02/24/2020	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	02/21/2020	ND	196	98.2	200	1.90	
DRO >C10-C28*	<10.0	10.0	02/21/2020	ND	208	104	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	02/21/2020	ND					

Surrogate: 1-Chlorooctane 91.2 % 44.3-144

Surrogate: 1-Chlorooctadecane 95.9 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/19/2020  
Reported: 02/24/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01 BATTERY  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/18/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: E. COMP (H000524-02)**

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	02/20/2020	ND	1.75	87.6	2.00	16.3		
Toluene*	<0.050	0.050	02/20/2020	ND	1.78	88.8	2.00	16.2		
Ethylbenzene*	<0.050	0.050	02/20/2020	ND	1.77	88.6	2.00	16.4		
Total Xylenes*	<0.150	0.150	02/20/2020	ND	5.14	85.7	6.00	16.5		
Total BTX	<0.300	0.300	02/20/2020	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	208	16.0	02/24/2020	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	02/21/2020	ND	196	98.2	200	1.90	
DRO >C10-C28*	<10.0	10.0	02/21/2020	ND	208	104	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	02/21/2020	ND					

Surrogate: 1-Chlorooctane 81.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 86.7 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/19/2020  
Reported: 02/24/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01 BATTERY  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/18/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: N. COMP (H000524-03)**

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	02/20/2020	ND	1.75	87.6	2.00	16.3		
Toluene*	<0.050	0.050	02/20/2020	ND	1.78	88.8	2.00	16.2		
Ethylbenzene*	<0.050	0.050	02/20/2020	ND	1.77	88.6	2.00	16.4		
Total Xylenes*	<0.150	0.150	02/20/2020	ND	5.14	85.7	6.00	16.5		
Total BTX	<0.300	0.300	02/20/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	02/24/2020	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	02/21/2020	ND	196	98.2	200	1.90	
DRO >C10-C28*	57.4	10.0	02/21/2020	ND	208	104	200	1.59	
EXT DRO >C28-C36	21.0	10.0	02/21/2020	ND					

Surrogate: 1-Chlorooctane 95.4 % 44.3-144

Surrogate: 1-Chlorooctadecane 103 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TALON LPE  
CHRIS JONES  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/19/2020  
Reported: 02/24/2020  
Project Name: ARCTURUS 18 FED 1H  
Project Number: 700794.307.01 BATTERY  
Project Location: DEVON - EDDY CO NM

Sampling Date: 02/18/2020  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S. COMP (H000524-04)**

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	02/20/2020	ND	1.75	87.6	2.00	16.3		
Toluene*	<0.050	0.050	02/20/2020	ND	1.78	88.8	2.00	16.2		
Ethylbenzene*	<0.050	0.050	02/20/2020	ND	1.77	88.6	2.00	16.4		
Total Xylenes*	<0.150	0.150	02/20/2020	ND	5.14	85.7	6.00	16.5		
Total BTX	<0.300	0.300	02/20/2020	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	1600	16.0	02/24/2020	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	02/21/2020	ND	196	98.2	200	1.90	
DRO >C10-C28*	17.6	10.0	02/21/2020	ND	208	104	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	02/21/2020	ND					

Surrogate: 1-Chlorooctane 90.6 % 44.3-144

Surrogate: 1-Chlorooctadecane 96.6 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

### Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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

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

Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Maryland, Hobbs, NM 88240

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

[illegible]

Incident ID	NAB1909944395
District RP	2RP-5348
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: Chris Jones

Title: Project Manager

Signature: *Chris Jones*

Date: 4-29-20

email: [cjones@talonlpe.com](mailto:cjones@talonlpe.com)

Telephone: 575-748-8768

**OCD Only**Received by: Robert Hamlet Date: 1/19/2021☐ Approved ☐ Approved with Attached Conditions of Approval ☒ Denied ☐ Deferral ApprovedSignature: *Robert Hamlet* Date: 1/19/2021

**From:** [Hamlet, Robert, EMNRD](#)  
**To:** [DeHoyos, Kendra](#)  
**Cc:** [Bratcher, Mike, EMNRD](#); [Eads, Cristina, EMNRD](#); [CFO Spill, BLM NM](#)  
**Subject:** Deferral Denied - Devon - Arcturus 18 Fed #1H - (Incident #NAB1909944395)  
**Date:** Tuesday, January 19, 2021 10:30:00 AM  
**Attachments:** [Deferral Denied - Devon - Arcturus 18 Fed #1H \(NAB1909944395\).pdf](#)

---

**Kendra,**

We have received your deferral request and C-141 for **Incident #NAB1909944395 Arcturus 18 Fed #1H**, thank you. This deferral request is denied.

- The initial C-141 only reported a release of produced water. Looking at the Soil Sample Laboratory Results, TPH was shown in heavy amounts on at least 3 of the sample locations.
- When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less.
- If you feel the depth to groundwater is >100', a shallow borehole can be drilled to 101' allowing for verification of the depth. If water is not visible after reaching bottom-hole and waiting 72 hours, the OCD will accept this as evidence. We would just need a copy of the driller's log.
- Please make sure the C-141 and Site Assessment/Characterization are corrected on the report and continue delineating all sample points to 600 mg/kg for chlorides and 100 mg/kg for TPH.

Please let me know if you have any further questions.

Regards,

**Robert Hamlet** • Environmental Specialist - Advanced  
Environmental Bureau  
EMNRD - Oil Conservation Division  
811 S. First Street | Artesia, NM 88210  
505.748.1283 | [robert.hamlet@state.nm.us](mailto:robert.hamlet@state.nm.us)  
<http://www.emnrd.state.nm.us/OCD/>





**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 8544

**CONDITIONS OF APPROVAL**

Operator:			DEVON ENERGY PRODUCTION COMPAN			333 West Sheridan Ave.			Oklahoma City, OK73102			OGRID:	6137	Action Number:	8544	Action Type:	C-141
OCD Reviewer		Condition															
rhamlet		We have received your deferral request and C-141 for Incident #NAB1909944395 Arcturus 18 Fed #1H, thank you. This deferral request is denied.															