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## **Closure Report**

Hackberry 18 Federal No. 1 \* API # 30-015-29780 \* **2RP-3272 & 2RP-3502**

Talon Project No. 700794.158.01

## **Prepared For:**

Devon Energy Production Company,  
6488 Seven Rivers Hwy  
Artesia, New Mexico 88210

## **Prepared By:**

Kimberly M. Wilson  
Talon/LPE  
408 West Texas  
Artesia, New Mexico 88210

**May 11, 2016**

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

Subject:       **Remediation and Closure Report**  
                  Devon Energy  
                  Hackberry 18 Federal No. 1 \* 30-015-29780 \* (2RP-3272)

Dear Mr. Bratcher,

Devon Energy has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The incident description, soil sampling results, remediation activities and closure request are submitted herein.

#### **Incident Date**

September 14, 2015

#### **Site Information**

The Hackberry 18 Federal No. 1 is located approximately nineteen (19) miles southeast of Artesia, New Mexico. The legal location for the site is Section 18, Township 19 South and Range 31 East in Eddy County, New Mexico. More specifically the latitude and longitude for the location are 32.654948 North and 103.906560 West. See site plan 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 complex with 0 to 3 percent slopes. Drainage courses in this area are normally dry.

#### **Groundwater and Site Ranking**

The New Mexico State Engineer web site indicates the nearest ground water data to be in S19-T19S-R31E. The ground water in the area is reported to be a depth of 180-feet below ground surface (bgs). The referenced groundwater data is presented in [Appendix II](#).

Therefore the ranking for this site is a **0** based on the following:

|                                |        |
|--------------------------------|--------|
| Depth to ground water          | >100'  |
| Wellhead Protection Area       | >1000' |
| Distance to surface water body | >1000' |

Based upon the site ranking of **0**, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 5,000 mg/kg for TPH and 1,000 mg/kg for total chlorides.

## Incident Description

On September 14, 2015 the two phase separator at the Sirius 17 Federal No. 8 location malfunctioned and sent fluid to the compressor at the Hackberry 18 Fed No. 1 causing the tanks to overflow releasing 400 barrels of oil and 70 barrels of produced water. (This was the second release at this facility. The area had been previously excavated and treated with mircoblaze and high nitrogen fertilizer. The release occurred within the same previously impacted area). The battery was shut in and a vac truck was immediately called to the location. A total of 397 barrels of oil and 68 barrels of produced water were recovered. A site plan is presented in [Appendix I](#) which illustrates the impacted areas.

On January 8, 2016 due to the cold weather pressure caused the separator to vent into the water tank causing it to explode resulting in a release of 132 barrels of produced water into the excavated containment around the tanks. The well was immediately shut-in and a vac truck was called to the location. Due to the frozen ground all fluid were recovered. Samples were collected from the impacted areas on January 15, 2015 utilizing a hand auger. The resulting data is presented below. The initial C-141's are presented in [Appendix III](#).

## Laboratory Results

See [Appendix IV](#) for complete report of laboratory results.

January 16, 2016

| Sample ID | Depth | BTEX<br>(mg/kg) | Chlorides<br>(mg/kg) | TPH<br>(mg/kg)<br>GRO | TPH<br>(mg/kg)<br>DRO |
|-----------|-------|-----------------|----------------------|-----------------------|-----------------------|
| S-5       | 0.25' | --              | 256                  | --                    | --                    |
| S-6       | 0.25  | --              | 144                  | --                    | --                    |

--Analyte Not Tested

As shown by the analytical report no addition chloride impacts occurred with regard to this release and therefore the previously approved work plan was implemented.

## Remedial Actions Taken

The remediation activities were completed pursuant to the work plan approved by the NMOCD and BLM with the stipulations presented in [Appendix II](#).

The hydrocarbon impacted soil was excavated and mechanically aerated with a soil shredder. The impacted material was loaded into a hopper with the backhoe. The material was then processed through a series of conveyors and screens to break up the soil into smaller particles. The material was then ejected from the shredder in a wide flat stream onto a shredding belt. As the material exited the shredder a series of spray bars applied a relatively even coat of selected remedial solution (a hydrogen peroxide solution). The impacted soil was processed through the machine twice for maximum

results. The stockpiles were left in place undisturbed for 3 days and then mechanically turned to aerate the treated soil. This process was completed several times. A site plan is presented in [Appendix I](#) which illustrates the impacted areas.

Confirmation samples were collected from the treated soil to verify effectiveness of treatment with a frequency of one sample per 50 cubic yards of treated soil. NMOCD and BLM were given advance notice of the sampling event. Analytical results were forwarded to the NMOCD and BLM for review. Permission to backfill was granted by NMOCD on March 4, 2015. The treated soil stockpile was blended prior being backfilled. See [Appendix IV](#) for complete report of laboratory results.

### Laboratory Results

See [Appendix IV](#) for complete report of laboratory results.

March 2, 2016

| Sample ID | BTEX<br>(mg/kg) | Chlorides<br>(mg/kg) | TPH (mg/kg)<br>GRO | TPH (mg/kg)<br>DRO |
|-----------|-----------------|----------------------|--------------------|--------------------|
| SP-1      | 0.581           | --                   | 55.5               | 4540               |
| SP-2      | <0.300          | --                   | 10.7               | 4460               |
| SP-3      | 0.994           | --                   | 51.7               | 1810               |
| SP-4      | 0.664           | --                   | <50                | 5300               |
| SP-5      | 0.616           | --                   | 16.6               | 1500               |
| SP-6      | <0.300          | --                   | <10                | 242                |
| SP-7      | <0.300          | --                   | <10                | 1820               |
| SP-8      | 1.17            | --                   | 96.5               | 3570               |
| SP-9      | <0.300          | --                   | <50                | 4180               |
| SP-10     | 1.02            | --                   | 85.6               | 3500               |

--Analyte Not Tested

### Conclusions

Ground water in the project vicinity is greater than 180-feet below land surface. Based on the depth to groundwater, it is unlikely that the impacts identified from this release will pose a threat to groundwater now that the proposed remediation activities are complete.

Total petroleum hydrocarbon (TPH) levels as high as 68,150 mg/kg were reduced to a range of 242 mg/kg to 5,300 mg/kg during the on-site remediation process.

## Closure

On behalf of Devon Energy we respectfully request that no further actions be required and that closure with respect to this release be granted. A Final C-141 is also attached in [Appendix V](#).

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

Kimberly M. Wilson  
Project Manager



David J. Adkins  
District Manager

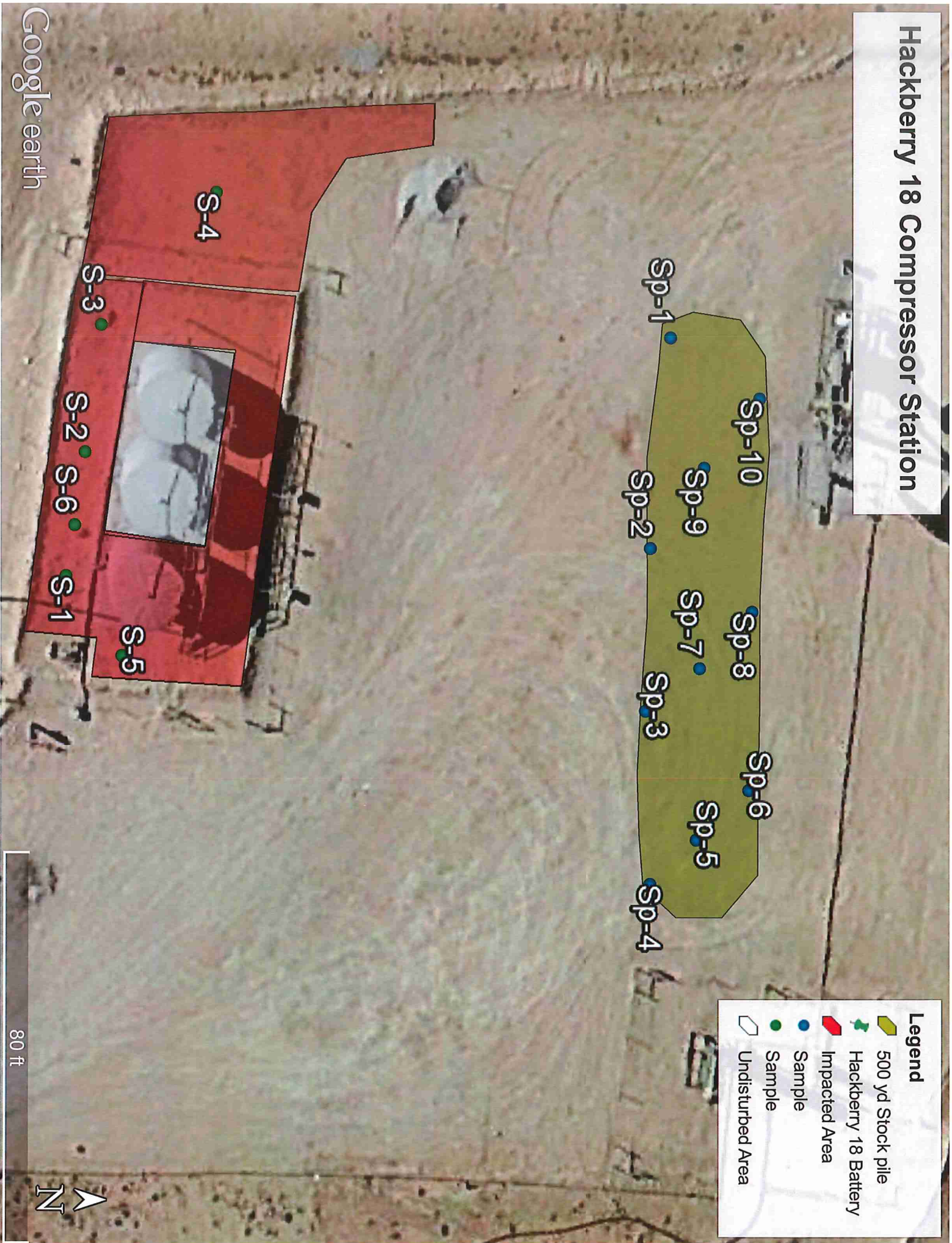
## Attachments:

Appendix I Site Plan  
Appendix II Groundwater Data & Regulatory Stipulations  
Appendix III Initial C-141's  
Appendix IV Laboratory Results  
Appendix V Final C-141

**APPENDIX I**

**SITE MAP**

# Hackberry 18 Compressor Station



**APPENDIX II**  
**GROUNDWATER DATA**  
**REGULATOR'S STIPULATIONS**



# 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               | POD  |           | Q Q Q |    |    |     | Rng | X      | Y        | Distance | Depth | Depth | Water  |
|--------------------------|------|-----------|-------|----|----|-----|-----|--------|----------|----------|-------|-------|--------|
|                          | Code | Sub-basin | 64    | 16 | 4  | Sec |     |        |          |          | Well  | Water | Column |
| <a href="#">CP 00873</a> | ED   |           | 1     | 1  | 19 | 19S | 31E | 601772 | 3613147* | 1124     | 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):** 602851

**Northing (Y):** 3613465

**Radius:** 3000

\*UTM location was derived from PLSS - see Help

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

## Kimberly M. Wilson

---

**From:** Bratcher, Mike, EMNRD [mike.bratcher@state.nm.us]  
**Sent:** Tuesday, December 15, 2015 9:35 AM  
**To:** David Adkins; Patterson, Heather, EMNRD; stucker@blm.gov; Jim Amos  
**Cc:** brett.fulks@dmv.com; Lynn Smith; Kimberly M. Wilson  
**Subject:** RE: Proposed work plan, Devon Hackberry 18

RE: Devon Energy \* Hackberry 18 Fed 1 \* 30-015-29780 \* O-18-19s-31e  
**2RP-3272** \* Date of release: 9/14/2015

David,

Your proposal for remediation of the above referenced release is approved. It is OCD's understanding that excavated material from the 4/14/15 release (**2RP-2959**) is still stockpiled on location, and that this material will be included in the proposed treatment process. In the event the proposed remedy is ineffective, alternative remedial actions will be required. Federal sites will require like approval from BLM. Please notify the OCD District 2 office once remedial activities have been scheduled.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Mike Bratcher  
NMOCD District 2  
811 S. First Street  
Artesia, NM 88210  
O: 575-748-1283 X108  
C: 575-626-0857  
F: 575-748-9720

---

**From:** David Adkins [mailto:dadkins@talonlpe.com]  
**Sent:** Monday, December 14, 2015 5:30 PM  
**To:** Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD; stucker@blm.gov; Jim Amos  
**Cc:** brett.fulks@dmv.com; Lynn Smith; Kimberly M. Wilson  
**Subject:** Proposed work plan, Devon Hackberry 18

All,

Attached please find our proposed remediation plan for the above referenced project. We're proposing on-site remediation using a soil shredder with spray applications of hydrogen peroxide along with confirmation sample analysis. We have several of these working successfully in Texas and the technology is approved by the TXRRC and TCEQ. A link to a YouTube video is provided below. Please right click on the link and then select open hyperlink to see a soil shredder at work.

<https://www.youtube.com/watch?v=fbR4gxM9a5o>

Let us know if you have any questions. We are respectfully requesting permission to use this technology and we hope that you would be able to visit the project once the process is underway.

## Kimberly M. Wilson

---

**From:** Tucker, Shelly [stucker@blm.gov]  
**Sent:** Tuesday, December 15, 2015 12:13 PM  
**To:** David Adkins  
**Cc:** Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD; Jim Amos; brett.fulks@dmv.com; Lynn Smith; Kimberly M. Wilson  
**Subject:** Re: Proposed work plan, Devon Hackberry 18

BLM accepts/approves the proposed work plan and concurs with the NMOCD stipulation...if this action is ineffective, further remedial action will be required.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

*Shelly J Tucker*

Environmental Protection Specialist  
Bureau of Land Management

620 E. Greene St  
Carlsbad, NM 88220

575.234.5905 - Direct  
575.361.0084 - Cellular

[stucker@blm.gov](mailto:stucker@blm.gov)



The **BLM acceptance/approval does not** relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment or if the location fails to reclaim properly. In such an event that the location does not revegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until the contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state or local laws/regulations.

**Confidentiality Warning:** This message along with any attachments are intended only for use of the individual or entity to which it is addressed and may contain information that is privileged or confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

On Tue, Dec 15, 2015 at 9:44 AM, David Adkins <[dadkins@talonlpe.com](mailto:dadkins@talonlpe.com)> wrote:



Thanks Mike!!

**APPENDIX III**  
**INITIAL C-141'S**

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

# NM OIL CONSERVATION

ARTESIA DISTRICT

APR 17 2015

Form C-141  
Revised August 8, 2011

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

RECEIVED

## Release Notification and Corrective Action

*NAB 1511033543*

|                                                      |  |                                                    |                                       |
|------------------------------------------------------|--|----------------------------------------------------|---------------------------------------|
| <b>OPERATOR</b>                                      |  | <input checked="" type="checkbox"/> Initial Report | <input type="checkbox"/> Final Report |
| Name of Company Devon Energy Production <i>LD137</i> |  | Contact Rudy Zuniga, Production Foreman            |                                       |
| Address 6488 Seven Rivers Hwy Artesia, NM 88220      |  | Telephone No. 575-390-5435                         |                                       |
| Facility Name Hackberry 18 Fed 1                     |  | Facility Type Gas                                  |                                       |
| Surface Owner Federal                                |  | Mineral Owner Federal                              |                                       |
|                                                      |  | API No. 30-015-29780                               |                                       |

## LOCATION OF RELEASE

|                  |               |                 |              |                       |                         |                        |                       |                |
|------------------|---------------|-----------------|--------------|-----------------------|-------------------------|------------------------|-----------------------|----------------|
| Unit Letter<br>O | Section<br>18 | Township<br>19S | Range<br>31E | Feet from the<br>660' | North/South Line<br>FSL | Feet from the<br>1980' | East/West Line<br>FEL | County<br>Eddy |
|------------------|---------------|-----------------|--------------|-----------------------|-------------------------|------------------------|-----------------------|----------------|

Latitude: 32.3929923°

Longitude: 103.5439365°

## NATURE OF RELEASE

|                                                                                                                                          |                                                                                                         |                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Type of Release Spill of oil                                                                                                             | Volume of Release 45.5bbls                                                                              | Volume Recovered 45bbls                              |
| Source of Release 2-Phase Separator                                                                                                      | Date and Hour of Occurrence<br>April 14, 2015 10:00AM                                                   | Date and Hour of Discovery<br>April 14, 2015 10:00AM |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br>Jeff Robertson, BLM<br>Mike Bratcher, OCD                                           |                                                      |
| By Whom? Lynn Smith, Asst. Production Foreman                                                                                            | Date and Hour<br>Jeff Roberson, BLM April 14, 2015 3:17 PM<br>Mike Bratcher, OCD April 14, 2015 3:20 PM |                                                      |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                        | If YES, Volume Impacting the Watercourse<br>N/A                                                         |                                                      |

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

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

On April 14, 2015 10:00 AM the Lease Operator arrived at the Hackberry 18 Fed 1 and discovered the separator at the Sirius 17 Fed 6H had been swamped sending fluid to the Hackberry Compressor Stations gas separator and then to the oil tank at the Hackberry 18 Fed 1 running the oil tank over spilling 45bbls oil in unlined containment and 1/2bbl oil mist in to pasture.

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

The affected area was 45bbls in an unlined containment and a 1/2bbl mist in to a 80'x30' area Southwest of location in to the pasture. All 45bbls in unlined containment were recovered by vac truck. The contaminated dirt on location will be removed and filled with fresh dirt and the pasture will be raked and pressure washed with Dawn soap.

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

|                                              |                                                                                                           |                                   |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------|
| Signature: <i>Sheila Fisher</i>              | <b>OIL CONSERVATION DIVISION</b>                                                                          |                                   |
| Printed Name: Sheila Fisher                  | Signed By <i>Mike Bratcher</i><br>Approved by Environmental Specialist:                                   |                                   |
| Title: Field Admin Support                   | Approval Date: <i>4/20/15</i>                                                                             | Expiration Date: <i>N/A</i>       |
| E-mail Address: <i>Sheila.Fisher@dvn.com</i> | Conditions of Approval:                                                                                   |                                   |
| Date: 4/17/15 Phone: 575.748.1829            | Remediation per O.C.D. Rules & Guidelines<br>SUBMIT REMEDIATION PROPOSAL NO<br>LATER THAN: <i>5/20/15</i> |                                   |
|                                              |                                                                                                           | Attached <input type="checkbox"/> |

\* Attach Additional Sheets If Necessary

*2RD 2959*

# NM OIL CONSERVATION

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

ARTESIA DISTRICT  
Form C-141  
Revised August 8, 2011  
SEP 16 2015  
Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.  
**RECEIVED**

## Release Notification and Corrective Action

NAB1526537306 OPERATOR ☒ Initial Report ☐ Final Report

|                                                      |                            |
|------------------------------------------------------|----------------------------|
| Name of Company Devon Energy Production <u>16137</u> | Contact Rudy Zuniga        |
| Address 6488 Seven Rivers Hwy Artesia, NM 88220      | Telephone No. 575-390-5435 |
| Facility Name Hackberry 18 Fed 1                     | Facility Type Oil          |

|                       |                       |                      |
|-----------------------|-----------------------|----------------------|
| Surface Owner Federal | Mineral Owner Federal | API No. 30-015-29780 |
|-----------------------|-----------------------|----------------------|

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| O           | 18      | 19S      | 31E   | 660           | South            | 1980          | East           | Eddy   |

Latitude: N 32°65'49.53"

Longitude: W 103°90'65.32"

## NATURE OF RELEASE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                            |                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Type of Release Spill<br>Oil and Produced water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Volume of Release<br>400 oil and 70 produced water                                                         | Volume Recovered<br>397 oil and 68 produced water |
| Source of Release<br>2 phase separator on the Sirius 17 Fed 3 overflowed into the tank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Date and Hour of Occurrence<br>9/14/2015 @ 9:30 am                                                         | Date and Hour of Discovery<br>9/14/2015 @ 9:30 am |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | If YES, To Whom?<br>BLM Jim Amos<br>OCD Mike Bratcher                                                      |                                                   |
| By Whom?<br>Lynn Smith                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Date and Hour<br>9/14/2015 4:03 pm<br>9/15/2015 7:40 am                                                    |                                                   |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | If YES, Volume Impacting the Watercourse                                                                   |                                                   |
| If a Watercourse was Impacted, Describe Fully.*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                            |                                                   |
| Describe Cause of Problem and Remedial Action Taken.*<br>On September 14, 2015 lease operator went to the Hackberry 18 Fed 1 and noticed the tanks were overflowing. The 2 phase separator at the Sirius 17 Fed 8 was swamped and was sending the fluid to the Hackberry 18 Fed 1 compressor. 400 bbls of oil and 70 bbls of produced water spilled into unlined containment. Standard Trucking was called to recover 397 bbls of oil and 68 bbls of produced water.                                                                                                                                                                                                                                                                                                                                                           |                                                                                                            |                                                   |
| Describe Area Affected and Cleanup Action Taken.*<br>The spill affected a 44'x80' area. Talon will do the cleanup for the remained of the 5 bbls.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                            |                                                   |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. |                                                                                                            |                                                   |
| Signature: <u>Corina Moya</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | OIL CONSERVATION DIVISION                                                                                  |                                                   |
| Printed Name: Corina Moya                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Signed By <u>Mike Bratcher</u><br>Approved by Environmental Specialist:                                    |                                                   |
| Title: Field Admin Support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Approval Date: <u>9/22/15</u>                                                                              | Expiration Date: <u>N/A</u>                       |
| E-mail Address: <u>corina.moya@dvn.com</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Conditions of Approval:                                                                                    |                                                   |
| Date: <u>9/16/2015</u> Phone: <u>575.746.5559</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Remediation per O.C.D. Rules & Guidelines<br>SUBMIT REMEDIATION PROPOSAL NO<br>LATER THAN: <u>10/22/15</u> |                                                   |

\* Attach Additional Sheets If Necessary

2RP-3272

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

NM OIL CONSERVATION  
ARTESIA DISTRICT

JAN 14 2016

Form C-141  
Revised August 8, 2011

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

RECEIVED

Release Notification and Corrective Action

NAB 1601930235

|                                                 |  |                                                    |                                       |
|-------------------------------------------------|--|----------------------------------------------------|---------------------------------------|
| <b>OPERATOR</b>                                 |  | <input checked="" type="checkbox"/> Initial Report | <input type="checkbox"/> Final Report |
| Name of Company Devon Energy Production Company |  | Contact Rudy Zuniga, Production Foreman            |                                       |
| Address 6488 Seven Rivers Hwy Artesia, NM 88210 |  | Telephone No. 575-390-5435                         |                                       |
| Facility Name Hackberry 18 Fed 1                |  | Facility Type Oil                                  |                                       |
| Surface Owner Federal                           |  | Mineral Owner Federal                              | API No 30-015-29780                   |

LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| O           | 18      | 19S      | 31E   | 660           | South            | 1980          | East           | Eddy   |

Latitude: N 32°65'49.53"

Longitude: W 103°00'65.32"

NATURE OF RELEASE

|                                                                                                                                          |                                                                 |                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------|
| Type of Release Spill Produced water                                                                                                     | Volume of Release 132 BBLS                                      | Volume Recovered 132 BBLS                         |
| Source of Release<br>Water tank                                                                                                          | Date and Hour of Occurrence<br>1/08/2016 @ 10:30pm              | Date and Hour of Discovery<br>1/08/2016 @ 10:30pm |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br>OCD-Mike Bratcher<br>BLM Jim Amos           |                                                   |
| By Whom? Lolo Martinez, Production Operator                                                                                              | Date and Hour<br>OCD- 1/8/16 @ 10:35pm<br>BLM- 1/8/16 @ 10:30pm |                                                   |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                        | If YES, Volume Impacting the Watercourse<br>N/A                 |                                                   |

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

Describe Cause of Problem and Remedial Action Taken.\*

Due to cold weather pressure caused the Separator to vent into water tank, causing the water tank to implode resulting in a release. The well was immediately shut in to prevent further release.

Describe Area Affected and Cleanup Action Taken.\*

132 BBLS of produced water was released from the water tank into the surrounding containment and onto the pad. The approximate area affected was 100ft x 30ft running in a Southern direction from the water tank. Approximately 125 BBLS produced water was released in the containment and 7 BBLS escaped containment but remained on pad. None of the released fluid left pad. The released produced water combined with the standing snow melt on location. Vacuum truck recovered 132 BBLS of produced water; this recovered amount includes some snow melt. 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 NMOC 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 NMOC 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, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|                                                     |                                                                                                        |                      |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------|
| Signature: Sarah Gallegos-Troublefield              | <b>OIL CONSERVATION DIVISION</b>                                                                       |                      |
| Printed Name: Sarah Gallegos-Troublefield           | Approved by Environmental Specialist: <i>[Signature]</i>                                               |                      |
| Title: Field Admin Support                          | Approval Date: 1/15/16                                                                                 | Expiration Date: N/A |
| E-mail Address: Sarah.Gallegos-Troublefield@dmv.com | Conditions of Approval:<br>Remediation per O.C.D. Rules & Guidelines Attached <input type="checkbox"/> |                      |
| Date: 1/13/2016 Phone: 575.748.1864                 | SUBMIT REMEDIATION PROPOSAL NO<br>LATER THAN: 1/18/16                                                  |                      |

\* Attach Additional Sheets If Necessary

2RP-3502

# NM OIL CONSERVATION

ARTESIA DISTRICT

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

Form C-141  
Revised August 8, 2011  
APR 17 2015  
Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.  
**RECEIVED**

## Release Notification and Corrective Action

*NAB 1511033543*

|                                                      |  |                                                    |                                       |
|------------------------------------------------------|--|----------------------------------------------------|---------------------------------------|
| <b>OPERATOR</b>                                      |  | <input checked="" type="checkbox"/> Initial Report | <input type="checkbox"/> Final Report |
| Name of Company Devon Energy Production <i>LD137</i> |  | Contact Rudy Zuniga, Production Foreman            |                                       |
| Address 6488 Seven Rivers Hwy Artesia, NM 88220      |  | Telephone No. 575-390-5435                         |                                       |
| Facility Name Hackberry 18 Fed 1                     |  | Facility Type Gas                                  |                                       |
| Surface Owner Federal                                |  | Mineral Owner Federal                              | API No. 30-015-29780                  |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| O           | 18      | 19S      | 31E   | 660'          | FSL              | 1980'         | FEL            | Eddy   |

Latitude: 32.3929923'

Longitude: 103.5439365'

## NATURE OF RELEASE

|                                                                                                                                          |                                                                                                         |                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Type of Release Spill of oil                                                                                                             | Volume of Release 45.5bbls                                                                              | Volume Recovered 45bbls                              |
| Source of Release 2-Phase Separator                                                                                                      | Date and Hour of Occurrence<br>April 14, 2015 10:00AM                                                   | Date and Hour of Discovery<br>April 14, 2015 10:00AM |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br>Jeff Robertson, BLM<br>Mike Bratcher, OCD                                           |                                                      |
| By Whom? Lynn Smith, Asst. Production Foreman                                                                                            | Date and Hour<br>Jeff Roberson, BLM April 14, 2015 3:17 PM<br>Mike Bratcher, OCD April 14, 2015 3:20 PM |                                                      |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                        | If YES, Volume Impacting the Watercourse<br>N/A                                                         |                                                      |

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

Describe Cause of Problem and Remedial Action Taken.\*

On April 14, 2015 10:00 AM the Lease Operator arrived at the Hackberry 18 Fed 1 and discovered the separator at the Sirius 17 Fed 6H had been swamped sending fluid to the Hackberry Compressor Stations gas separator and then to the oil tank at the Hackberry 18 Fed 1 running the oil tank over spilling 45bbls oil in unlined containment and 1/2bbl oil mist in to pasture.

Describe Area Affected and Cleanup Action Taken.\*

The affected area was 45bbls in an unlined containment and a 1/2bbl mist in to a 80'x30' area Southwest of location in to the pasture. All 45bbls in unlined containment were recovered by vac truck. The contaminated dirt on location will be removed and filled with fresh dirt and the pasture will be raked and pressure washed with Dawn soap.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|                                       |                                                                                                           |                             |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------|
| Signature: <i>Sheila Fisher</i>       | <b>OIL CONSERVATION DIVISION</b>                                                                          |                             |
| Printed Name: Sheila Fisher           | Signed By <i>[Signature]</i><br>Approved by Environmental Specialist:                                     |                             |
| Title: Field Admin Support            | Approval Date: <i>4/20/15</i>                                                                             | Expiration Date: <i>N/A</i> |
| E-mail Address: Sheila.Fisher@dmn.com | Conditions of Approval:                                                                                   |                             |
| Date: 4/17/15 Phone: 575.748.1829     | Remediation per O.C.D. Rules & Guidelines<br>SUBMIT REMEDIATION PROPOSAL NO<br>LATER THAN: <i>5/20/15</i> |                             |

\* Attach Additional Sheets If Necessary

*2RD 2959*

**APPENDIX IV**

**LABORATORY RESULTS**

January 19, 2016

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: HACKBERRY 18 FED. NO. 1

Enclosed are the results of analyses for samples received by the laboratory on 01/18/16 14:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 01/18/2016  
Reported: 01/19/2016  
Project Name: HACKBERRY 18 FED. NO. 1  
Project Number: 700794.158.01  
Project Location: EDDY CTY

Sampling Date: 01/15/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-5 0.25' (H600093-01)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 256    | 16.0            | 01/18/2016 | ND              | 432 | 108        | 400           | 3.77 |           |

**Sample ID: S-6 0.25' (H600093-02)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 144    | 16.0            | 01/18/2016 | ND              | 432 | 108        | 400           | 3.77 |           |

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

**Notes and Definitions**

|     |                                                                                                                                                                |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ND  | Analyte NOT DETECTED at or above the reporting limit                                                                                                           |
| RPD | Relative Percent Difference                                                                                                                                    |
| **  | Samples not received at proper temperature of 6°C or below.                                                                                                    |
| *** | Insufficient time to reach temperature.                                                                                                                        |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

---

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\* = Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager





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

---

March 02, 2016

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: HACKBERRY 18 FED. NO. 1

Enclosed are the results of analyses for samples received by the laboratory on 02/25/16 9:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | 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,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 02/25/2016  
 Reported: 03/02/2016  
 Project Name: HACKBERRY 18 FED. NO. 1  
 Project Number: 700794.158.01  
 Project Location: EDDY CO., NM

 Sampling Date: 02/24/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP - 1 (H600420-01)**

| 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           | 02/25/2016 | ND              | 1.94 | 97.1       | 2.00          | 1.27 |           |
| Toluene*       | <b>0.076</b> | 0.050           | 02/25/2016 | ND              | 1.90 | 95.2       | 2.00          | 1.75 |           |
| Ethylbenzene*  | <b>0.195</b> | 0.050           | 02/25/2016 | ND              | 1.74 | 87.0       | 2.00          | 1.71 |           |
| Total Xylenes* | <b>0.311</b> | 0.150           | 02/25/2016 | ND              | 5.33 | 88.8       | 6.00          | 1.06 |           |
| Total BTEX     | <b>0.581</b> | 0.300           | 02/25/2016 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PIE) 114 % 73.6-140

| 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   | <b>55.5</b> | 50.0            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |      |
| DRO >C10-C28 | <b>4540</b> | 50.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |      |

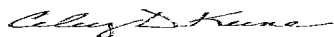
Surrogate: 1-Chlorooctane 106 % 35-147

Surrogate: 1-Chlorooctadecane 173 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

|                   |                         |                     |               |
|-------------------|-------------------------|---------------------|---------------|
| Received:         | 02/25/2016              | Sampling Date:      | 02/24/2016    |
| Reported:         | 03/02/2016              | Sampling Type:      | Soil          |
| Project Name:     | HACKBERRY 18 FED. NO. 1 | Sampling Condition: | Cool & Intact |
| Project Number:   | 700794.158.01           | Sample Received By: | Jodi Henson   |
| Project Location: | EDDY CO., NM            |                     |               |

**Sample ID: SP - 2 (H600420-02)**

| BTEX 8021B     |        |                 | mg/kg      |              | Analyzed By: MS |            |               |      |           |  |
|----------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank | BS              | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 02/25/2016 | ND           | 1.94            | 97.1       | 2.00          | 1.27 |           |  |
| Toluene*       | <0.050 | 0.050           | 02/25/2016 | ND           | 1.90            | 95.2       | 2.00          | 1.75 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 02/25/2016 | ND           | 1.74            | 87.0       | 2.00          | 1.71 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 02/25/2016 | ND           | 5.33            | 88.8       | 6.00          | 1.06 |           |  |
| Total BTEX     | <0.300 | 0.300           | 02/25/2016 | ND           |                 |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 73.6-140

| TPH 8015M    |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|--------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte      | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10   | 10.7   | 10.0            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | 4460   | 10.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

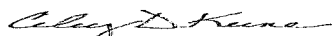
Surrogate: 1-Chlorooctane 94.9 % 35-147

Surrogate: 1-Chlorooctadecane 160 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

|                   |                         |                     |               |
|-------------------|-------------------------|---------------------|---------------|
| Received:         | 02/25/2016              | Sampling Date:      | 02/24/2016    |
| Reported:         | 03/02/2016              | Sampling Type:      | Soil          |
| Project Name:     | HACKBERRY 18 FED. NO. 1 | Sampling Condition: | Cool & Intact |
| Project Number:   | 700794.158.01           | Sample Received By: | Jodi Henson   |
| Project Location: | EDDY CO., NM            |                     |               |

**Sample ID: SP - 3 (H600420-03)**

| BTEX 8021B     |        |                 | mg/kg      |              | Analyzed By: MS |            |               |      |           |
|----------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank | BS              | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 02/25/2016 | ND           | 1.94            | 97.1       | 2.00          | 1.27 |           |
| Toluene*       | 0.071  | 0.050           | 02/25/2016 | ND           | 1.90            | 95.2       | 2.00          | 1.75 |           |
| Ethylbenzene*  | 0.312  | 0.050           | 02/25/2016 | ND           | 1.74            | 87.0       | 2.00          | 1.71 |           |
| Total Xylenes* | 0.612  | 0.150           | 02/25/2016 | ND           | 5.33            | 88.8       | 6.00          | 1.06 |           |
| Total BTEX     | 0.994  | 0.300           | 02/25/2016 | ND           |                 |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PIE) 136 % 73.6-140

| TPH 8015M    |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|--------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte      | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10   | 51.7   | 10.0            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | 1810   | 10.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

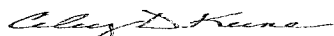
Surrogate: 1-Chlorooctane 96.4 % 35-147

Surrogate: 1-Chlorooctadecane 114 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

|                   |                         |                     |               |
|-------------------|-------------------------|---------------------|---------------|
| Received:         | 02/25/2016              | Sampling Date:      | 02/24/2016    |
| Reported:         | 03/02/2016              | Sampling Type:      | Soil          |
| Project Name:     | HACKBERRY 18 FED. NO. 1 | Sampling Condition: | Cool & Intact |
| Project Number:   | 700794.158.01           | Sample Received By: | Jodi Henson   |
| Project Location: | EDDY CO., NM            |                     |               |

**Sample ID: SP - 4 (H600420-04)**

| BTEX 8021B     |        |                 | mg/kg      |              | Analyzed By: MS |            |               |      |           |  |
|----------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank | BS              | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 02/25/2016 | ND           | 1.94            | 97.1       | 2.00          | 1.27 |           |  |
| Toluene*       | 0.065  | 0.050           | 02/25/2016 | ND           | 1.90            | 95.2       | 2.00          | 1.75 |           |  |
| Ethylbenzene*  | 0.173  | 0.050           | 02/25/2016 | ND           | 1.74            | 87.0       | 2.00          | 1.71 |           |  |
| Total Xylenes* | 0.427  | 0.150           | 02/25/2016 | ND           | 5.33            | 88.8       | 6.00          | 1.06 |           |  |
| Total BTEX     | 0.664  | 0.300           | 02/25/2016 | ND           |                 |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.6-140

| 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            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | 5300   | 50.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

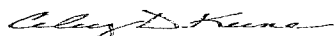
Surrogate: 1-Chlorooctane 105 % 35-147

Surrogate: 1-Chlorooctadecane 186 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

|                   |                         |                     |               |
|-------------------|-------------------------|---------------------|---------------|
| Received:         | 02/25/2016              | Sampling Date:      | 02/24/2016    |
| Reported:         | 03/02/2016              | Sampling Type:      | Soil          |
| Project Name:     | HACKBERRY 18 FED. NO. 1 | Sampling Condition: | Cool & Intact |
| Project Number:   | 700794.158.01           | Sample Received By: | Jodi Henson   |
| Project Location: | EDDY CO., NM            |                     |               |

**Sample ID: SP - 5 (H600420-05)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 02/25/2016 | ND              | 1.94 | 97.1       | 2.00          | 1.27 |           |
| Toluene*       | 0.065  | 0.050           | 02/25/2016 | ND              | 1.90 | 95.2       | 2.00          | 1.75 |           |
| Ethylbenzene*  | 0.171  | 0.050           | 02/25/2016 | ND              | 1.74 | 87.0       | 2.00          | 1.71 |           |
| Total Xylenes* | 0.380  | 0.150           | 02/25/2016 | ND              | 5.33 | 88.8       | 6.00          | 1.06 |           |
| Total BTEX     | 0.616  | 0.300           | 02/25/2016 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.6-140

| TPH 8015M    |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|--------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte      | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10   | 16.6   | 10.0            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | 1500   | 10.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

Surrogate: 1-Chlorooctane 104 % 35-147

Surrogate: 1-Chlorooctadecane 117 % 28-171

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 02/25/2016  
Reported: 03/02/2016  
Project Name: HACKBERRY 18 FED. NO. 1  
Project Number: 700794.158.01  
Project Location: EDDY CO., NM

Sampling Date: 02/24/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP - 6 (H600420-06)**

| 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           | 02/25/2016 | ND              | 1.94 | 97.1       | 2.00          | 1.27 |           |
| Toluene*       | <0.050 | 0.050           | 02/25/2016 | ND              | 1.90 | 95.2       | 2.00          | 1.75 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 02/25/2016 | ND              | 1.74 | 87.0       | 2.00          | 1.71 |           |
| Total Xylenes* | <0.150 | 0.150           | 02/25/2016 | ND              | 5.33 | 88.8       | 6.00          | 1.06 |           |
| Total BTX      | <0.300 | 0.300           | 02/25/2016 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 73.6-140

| 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            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | 242    | 10.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

Surrogate: 1-Chlorooctane 94.5 % 35-147

Surrogate: 1-Chlorooctadecane 82.3 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 02/25/2016  
 Reported: 03/02/2016  
 Project Name: HACKBERRY 18 FED. NO. 1  
 Project Number: 700794.158.01  
 Project Location: EDDY CO., NM

 Sampling Date: 02/24/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP - 7 (H600420-07)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 02/25/2016 | ND              | 1.94 | 97.1       | 2.00          | 1.27 |           |
| Toluene*       | <0.050 | 0.050           | 02/25/2016 | ND              | 1.90 | 95.2       | 2.00          | 1.75 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 02/25/2016 | ND              | 1.74 | 87.0       | 2.00          | 1.71 |           |
| Total Xylenes* | <0.150 | 0.150           | 02/25/2016 | ND              | 5.33 | 88.8       | 6.00          | 1.06 |           |
| Total BTEX     | <0.300 | 0.300           | 02/25/2016 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 73.6-140

| 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            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | 1820   | 10.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

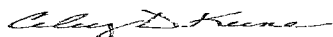
Surrogate: 1-Chlorooctane 99.1 % 35-147

Surrogate: 1-Chlorooctadecane 106 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 02/25/2016  
 Reported: 03/02/2016  
 Project Name: HACKBERRY 18 FED. NO. 1  
 Project Number: 700794.158.01  
 Project Location: EDDY CO., NM

 Sampling Date: 02/24/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP - 8 (H600420-08)**

| BTEX 8021B     |              | mg/kg           | Analyzed By: MS |              |      |            |               |      |           |
|----------------|--------------|-----------------|-----------------|--------------|------|------------|---------------|------|-----------|
| Analyte        | Result       | Reporting Limit | Analyzed        | Method Blank | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050       | 0.050           | 02/25/2016      | ND           | 1.94 | 97.1       | 2.00          | 1.27 |           |
| Toluene*       | <b>0.067</b> | 0.050           | 02/25/2016      | ND           | 1.90 | 95.2       | 2.00          | 1.75 |           |
| Ethylbenzene*  | <b>0.447</b> | 0.050           | 02/25/2016      | ND           | 1.74 | 87.0       | 2.00          | 1.71 |           |
| Total Xylenes* | <b>0.654</b> | 0.150           | 02/25/2016      | ND           | 5.33 | 88.8       | 6.00          | 1.06 |           |
| Total BTEX     | <b>1.17</b>  | 0.300           | 02/25/2016      | ND           |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PIE) 138 % 73.6-140

| TPH 8015M    |             | mg/kg           | Analyzed By: MS |              |     |            |               |      |           |
|--------------|-------------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte      | Result      | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10   | <b>96.5</b> | 50.0            | 02/25/2016      | ND           | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | <b>3570</b> | 50.0            | 02/25/2016      | ND           | 224 | 112        | 200           | 3.37 |           |

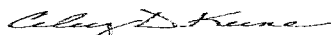
Surrogate: 1-Chlorooctane 115 % 35-147

Surrogate: 1-Chlorooctadecane 140 % 28-171

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**Analytical Results For:**

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

|                   |                         |                     |               |
|-------------------|-------------------------|---------------------|---------------|
| Received:         | 02/25/2016              | Sampling Date:      | 02/24/2016    |
| Reported:         | 03/02/2016              | Sampling Type:      | Soil          |
| Project Name:     | HACKBERRY 18 FED. NO. 1 | Sampling Condition: | Cool & Intact |
| Project Number:   | 700794.158.01           | Sample Received By: | Jodi Henson   |
| Project Location: | EDDY CO., NM            |                     |               |

**Sample ID: SP - 9 (H600420-09)**

| BTEX 8021B     |              | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result       | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050       | 0.050           | 02/25/2016 | ND              | 1.94 | 97.1       | 2.00          | 1.27 |           |
| Toluene*       | <b>0.052</b> | 0.050           | 02/25/2016 | ND              | 1.90 | 95.2       | 2.00          | 1.75 |           |
| Ethylbenzene*  | <b>0.110</b> | 0.050           | 02/25/2016 | ND              | 1.74 | 87.0       | 2.00          | 1.71 |           |
| Total Xylenes* | <0.150       | 0.150           | 02/25/2016 | ND              | 5.33 | 88.8       | 6.00          | 1.06 |           |
| Total BTEX     | <0.300       | 0.300           | 02/25/2016 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 73.6-140

| TPH 8015M    |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|--------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte      | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10   | <50.0       | 50.0            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | <b>4180</b> | 50.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

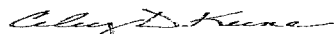
Surrogate: 1-Chlorooctane 92.7 % 35-147

Surrogate: 1-Chlorooctadecane 147 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

|                   |                         |                     |               |
|-------------------|-------------------------|---------------------|---------------|
| Received:         | 02/25/2016              | Sampling Date:      | 02/24/2016    |
| Reported:         | 03/02/2016              | Sampling Type:      | Soil          |
| Project Name:     | HACKBERRY 18 FED. NO. 1 | Sampling Condition: | Cool & Intact |
| Project Number:   | 700794.158.01           | Sample Received By: | Jodi Henson   |
| Project Location: | EDDY CO., NM            |                     |               |

**Sample ID: SP - 10 (H600420-10)**

| BTEX 8021B     |              | mg/kg           |            | Analyzed By: MS |      |            |               |        |           |
|----------------|--------------|-----------------|------------|-----------------|------|------------|---------------|--------|-----------|
| Analyte        | Result       | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD    | Qualifier |
| Benzene*       | <0.050       | 0.050           | 02/26/2016 | ND              | 2.06 | 103        | 2.00          | 0.0598 |           |
| Toluene*       | <b>0.108</b> | 0.050           | 02/26/2016 | ND              | 2.03 | 101        | 2.00          | 0.159  |           |
| Ethylbenzene*  | <b>0.373</b> | 0.050           | 02/26/2016 | ND              | 1.82 | 90.8       | 2.00          | 0.254  |           |
| Total Xylenes* | <b>0.540</b> | 0.150           | 02/26/2016 | ND              | 5.58 | 92.9       | 6.00          | 0.718  |           |
| Total BTEX     | <b>1.02</b>  | 0.300           | 02/26/2016 | ND              |      |            |               |        |           |

Surrogate: 4-Bromofluorobenzene (PIE) 135 % 73.6-140

| TPH 8015M    |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|--------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte      | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10   | <b>85.6</b> | 10.0            | 02/25/2016 | ND              | 208 | 104        | 200           | 3.32 |           |
| DRO >C10-C28 | <b>3500</b> | 10.0            | 02/25/2016 | ND              | 224 | 112        | 200           | 3.37 |           |

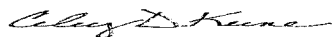
Surrogate: 1-Chlorooctane 123 % 35-147

Surrogate: 1-Chlorooctadecane 133 % 28-171

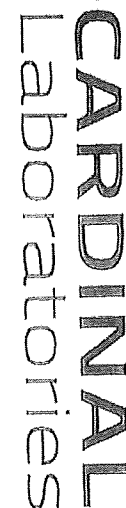
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Celey D. Keene, Lab Director/Quality Manager



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## **APPENDIX V**

### **FINAL C-141**