



SOIL REMEDIATION WORK PLAN

EXCAVATION, SOIL SHREDDING AND MONITORING

AMARILLO
921 North Bivins
Amarillo, Texas 79107
Phone 806.467.0607
Fax 806.467.0622

ARTESIA
408 West Texas Ave.
Artesia, New Mexico 88210
Phone 575.746.8768
Fax 575.748.8905

HOBBS
318 East Taylor Street
Hobbs, New Mexico 88241
Phone 505.393.4261
Fax 505.393.4658

MIDLAND
2901 State Highway 349
Midland, Texas 79706
Phone 432.522.2133
Fax 432.522.2180

OKLAHOMA CITY
430 West Wilshire, Suite 10
Oklahoma City, Oklahoma 73116
Phone 405.486.7030
Fax 806.467.0622

SAN ANTONIO
13111 Lookout Way
San Antonio, Texas 78233
Phone 210.265.8025
Fax 210.568.2191

Project Name:

**HACKBERRY 18 FEDERAL NO.1
EDDY COUNTY, NEW MEXICO
API#30-015-29789
2RP-3272**

Prepared For:

**Mr. Brett Fulks
Senior Environmental Coordinator
DEVON ENERGY CORPORATION
6488 Seven Rivers Highway
Artesia, New Mexico 88210**

Prepared by:



**408 W. Texas Avenue
Artesia, New Mexico, 88210**

November 2015

ENVIRONMENTAL CONSULTING
ENGINEERING
DRILLING
CONSTRUCTION
SPILL MANAGEMENT
GENERAL CONTRACTING

Toll Free: 866.742.0742
www.talonlpe.com

November 19, 2015

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

Subject: **Soil Assessment and Remediation Work Plan (Revised)**
Devon Energy Corporation
Hackberry 18 Federal No. 1
API # 30-015-29780 (2RP-3272)

Dear Mr. Bratcher,

Devon Energy has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the referenced Hackberry 18 Federal No. 1 location. The results of our soil assessment and proposed remediation activities consist of the following tasks.

Incident Date

The release occurred on September 14, 2015

Background 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 location site maps attached 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. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology, Quaternary Age sedimentary deposits, is comprised of loamy alluvium and eolian sands which includes silty soils underlain by clay loam and hard caliches. Drainage courses in this area are normally dry. 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.

The ranking for this site is **0** based on the as following:

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

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, micro-blazed and treated with a high nitrogen fertilizer). The battery was shut in and a vacuum truck was immediately called to the location. A total of 397 barrels of oil and 68 barrels of produced water were recovered. Talon mobilized personnel to conduct a site assessment and collected soil samples utilizing a hand auger within the impacted area. Laboratory results from the soil sampling events at this location are summarized in the tables below.

Laboratory Results

See Appendix III for complete report of laboratory results.

Table 1 Initial release, June 23, 2015, Figure 1.

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0	16.3	96	330	15700
	1	66.4	80	936	5880
	2	84.9	80	1430	6660
	3	356	48	3750	9170
	4	607	32	3980	8240
	5	65.2	--	437	1420
	6	ND	--	ND	ND
S-2	0	10.3	ND	1410	40900
	1	536	128	1530	3590
	2	547	32	1930	3500
	3	649	--	4160	6270
	4	1.33	--	15.5	15.6
	5	0.357	--	ND	ND
S-3	0	4.09	192	207	26500
	1	2.81	80	153	2070

Table 2 Release date September 14, 2015, Figure 2

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-4	0'	620	64	6450	61700
	1'	<0.300	<16	<10	20.8
	2'	<0.300	<16	<10	<10
	3'	<0.300	<16	<10	<10
	4'	<0.300	32	<10	<10

Based upon the site ranking of **0**, NMOCD Recommended Remedial Action Levels (RRAL's) are 50 mg/kg for BTEX, 10 mg for Benzene, and 5,000 mg/kg for TPH. The chloride standard is considered to be 1,000 mg/kg.

On-site Soil Remediation

The project objective will be to minimize remediation and site restoration expenses by reducing the hydrocarbon concentrations in the soil below established regulatory action limits. On-site remediation of the impacted material will reduce or eliminate the need for additional trucking and offsite disposal costs.

The hydrocarbon impacted soil will be excavated and mechanically aerated with a soil shredder. The production rate of the shredder is highly dependent upon the site and soil conditions. However typical production rates of 40-60 cubic yards per hour can be expected.

The impacted material will be loaded into the hopper with a backhoe or loader. The material will then be processed through a series of conveyors and screens to break up the soil into smaller particles. The material will be ejected from the shredder in a wide flat stream onto the shredding belt. As the material exits the shredder a series of spray bars will apply a relatively even coating of the selected remedial solution (a hydrogen peroxide solution in this case). The treated material will accumulate in elongated stockpiles behind the shredder. For optimal results, the stockpiles should be left in place undisturbed for 3-5 days when chemical oxidants are applied and 14-21 days for microbial compounds.

Proposed Remedial Actions

- The previously impacted area within the battery was already excavated (and stockpiled on site) to a depth of 4-feet deep and treated with microblaze. This excavated area (now impacted again), the remainder of the battery and the flow path on the location will be excavated an additional 1-foot deep to address the impacts from the most recent release. See Figure 2.
- All excavated material will be treated on-site utilizing a soil shredding machine and spray applications of hydrogen peroxide as described above.
- Confirmation samples will be 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 will be given advance notice of the sampling event. Analytical results will be forwarded to the NMOCD and BLM for review.
- Upon regulatory agency approval of the confirmation samples, the excavation will be backfilled with the treated soil and the battery containment berms will be re-constructed.

- The location will be backfilled and re-contoured to match the surrounding area.
- A final closure report documenting all remedial actions and analytical results will be provided to the NMOCD Artesia Office and the BLM along with a Final C-141 Form.

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,

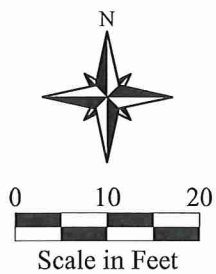
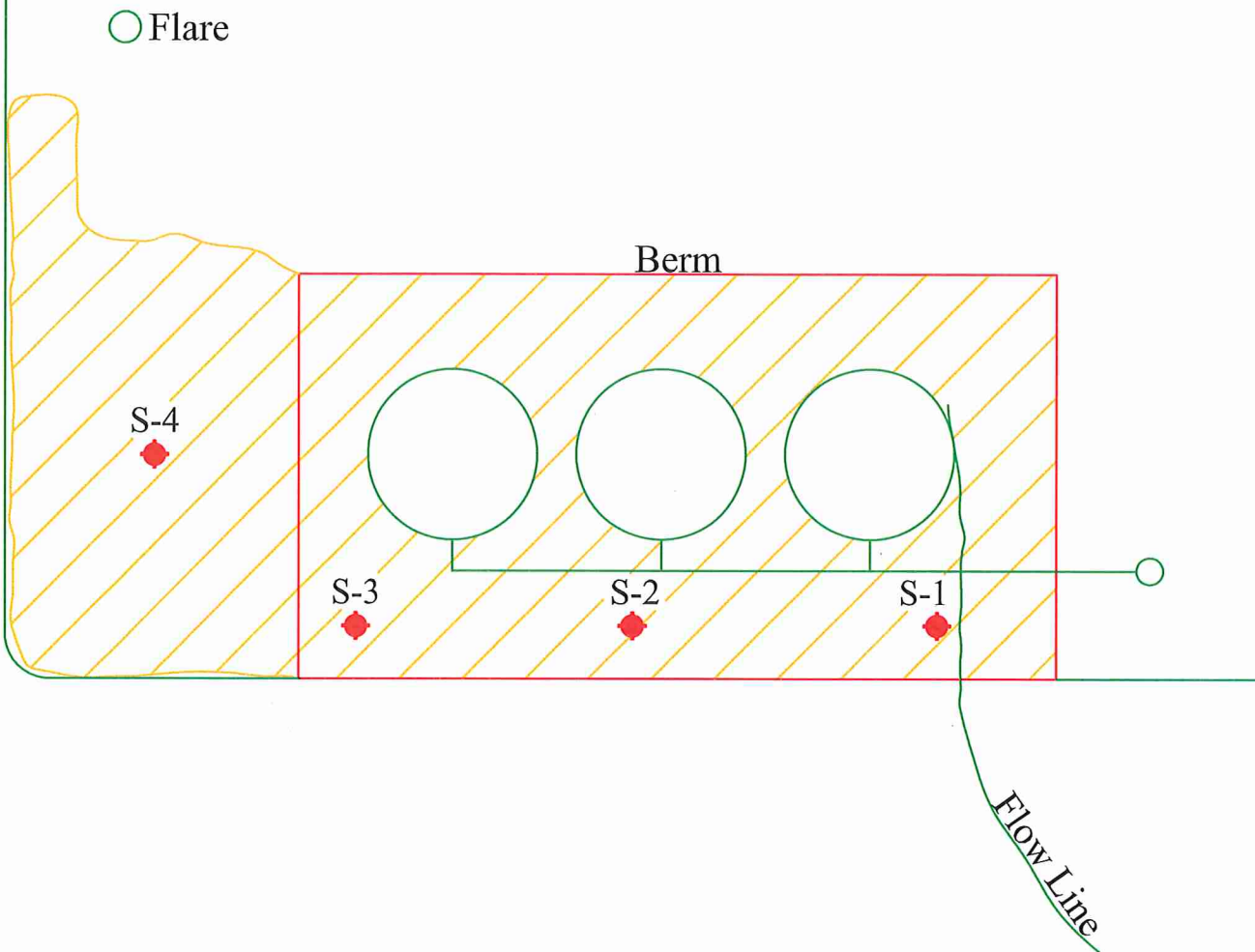
TALON/LPE

Kimberly M. Wilson
Project Manager

David J. Adkins
District Manager

APPENDIX I

SITE MAP



Legend	
	- Sample Location
	- Pipeline
	- Impacted Area



Date: 11/23/2015

Scale: 1" = 20'

Drawn By: TJS

Hackberry 18 Fed 1
Devon Energy Corporation
Eddy County, New Mexico
Figure 2 - Site Plan

APPENDIX II
GROUNDWATER DATA
INITIAL C-141



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 Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00873			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.

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

OPERATOR <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 O	Section 18	Township 19S	Range 31E	Feet from the 660'	North/South Line FSL	Feet from the 1980'	East/West Line FEL	County Eddy
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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 April 14, 2015 10:00AM	Date and Hour of Discovery April 14, 2015 10:00AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Jeff Robertson, BLM Mike Bratcher, OCD	
By Whom? Lynn Smith, Asst. Production Foreman	Date and Hour Jeff Roberson, BLM April 14, 2015 3:17 PM Mike Bratcher, OCD April 14, 2015 3:20 PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse N/A	

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

Describe Cause of Problem and Remedial Action Taken.*

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

* Attach Additional Sheets If Necessary

2RD 2959

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

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	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°55'49.53"

Longitude: W 103°00'55.32"

NATURE OF RELEASE

Type of Release Spill Oil and Produced water	Volume of Release 400 oil and 70 produced water	Volume Recovered 397 oil and 68 produced water
Source of Release 2 phase separator on the Sirius 17 Fed 3 overflowed into the tank	Date and Hour of Occurrence 9/14/2015 @ 9:30 am	Date and Hour of Discovery 9/14/2015 @ 9:30 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM Jim Amos OCD Mike Bratcher	
By Whom? Lynn Smith	Date and Hour 9/14/2015 4:03 pm 9/15/2015 7:40 am	
Was a Watercourse Reached? <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.*

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.*

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>[Signature]</u>	
Title: Field Admin Support	Approved by Environmental Specialist:	
E-mail Address: corina.moya@dvn.com	Approval Date: <u>9/22/15</u>	Expiration Date: <u>N/A</u>
Date: 9/16/2015 Phone: 575.746.5559	Conditions of Approval:	Attached <input type="checkbox"/>
Remediation per O.C.D. Rules & Guidelines		
SUBMIT REMEDIATION PROPOSAL NO		
LATER THAN: <u>10/22/15</u>		

* Attach Additional Sheets If Necessary

2RP-3272

APPENDIX III
LABORATORY RESULTS



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

September 21, 2015

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 09/18/15 13:45.

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.

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: 09/18/2015
 Reported: 09/21/2015
 Project Name: HACKBERRY 18 FED. NO. 1
 Project Number: 700794.025.01
 Project Location: S18-T19S-R31E

 Sampling Date: 09/17/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: S-4 0' (H502465-01)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	6.31	5.00	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	141	5.00	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	113	5.00	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	361	15.0	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	620	30.0	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 134 % 85.6-137

Chloride, SM4500Cl-B		mg/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/21/2015	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	6450	200	09/19/2015	ND	204	102	200	3.89		
DRO >C10-C28	61700	200	09/19/2015	ND	215	107	200	7.00		

Surrogate: 1-Chlorooctane 401 % 47.2-157

Surrogate: 1-Chlorooctadecane 1080 % 52.1-176

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: 09/18/2015
Reported: 09/21/2015
Project Name: HACKBERRY 18 FED. NO. 1
Project Number: 700794.025.01
Project Location: S18-T19S-R31E

Sampling Date: 09/17/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Celey D. Keene

Sample ID: S-4 1' (H502465-02)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/21/2015	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	09/21/2015	ND	204	102	200	3.89	
DRO >C10-C28	20.8	10.0	09/21/2015	ND	215	107	200	7.00	

Surrogate: 1-Chlorooctane 79.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 81.9 % 52.1-176

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

Analytical Results For:

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

 Received: 09/18/2015
 Reported: 09/21/2015
 Project Name: HACKBERRY 18 FED. NO. 1
 Project Number: 700794.025.01
 Project Location: S18-T19S-R31E

 Sampling Date: 09/17/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: S-4 2' (H502465-03)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	0.053	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 103 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/21/2015	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	09/21/2015	ND	204	102	200	3.89	
DRO >C10-C28	<10.0	10.0	09/21/2015	ND	215	107	200	7.00	


Surrogate: 1-Chlorooctane 62.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 75.7 % 52.1-176

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: 09/18/2015
 Reported: 09/21/2015
 Project Name: HACKBERRY 18 FED. NO. 1
 Project Number: 700794.025.01
 Project Location: S18-T19S-R31E

 Sampling Date: 09/17/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: S-4 3' (H502465-04)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 85.6-137

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/21/2015	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	09/21/2015	ND	204	102	200	3.89	
DRO >C10-C28	<10.0	10.0	09/21/2015	ND	215	107	200	7.00	

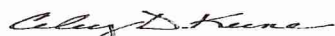
Surrogate: 1-Chlorooctane 69.2 % 47.2-157

Surrogate: 1-Chlorooctadecane 81.9 % 52.1-176

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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: 09/18/2015
 Reported: 09/21/2015
 Project Name: HACKBERRY 18 FED. NO. 1
 Project Number: 700794.025.01
 Project Location: S18-T19S-R31E

 Sampling Date: 09/17/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: S-4 4' (H502465-05)

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	09/21/2015	ND	4.07	102	4.00	2.73	
Toluene*	<0.050	0.050	09/21/2015	ND	4.58	114	4.00	2.48	
Ethylbenzene*	<0.050	0.050	09/21/2015	ND	4.50	112	4.00	1.47	
Total Xylenes*	<0.150	0.150	09/21/2015	ND	14.1	117	12.0	0.675	
Total BTEX	<0.300	0.300	09/21/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID 104 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/21/2015	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	09/21/2015	ND	204	102	200	3.89	
DRO >C10-C28	<10.0	10.0	09/21/2015	ND	215	107	200	7.00	


Surrogate: 1-Chlorooctane 65.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 70.5 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

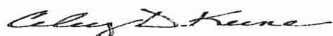
Notes and Definitions

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

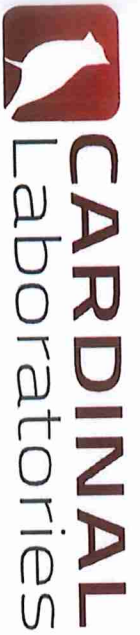
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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO

ANALYSIS REQUEST

Company Name: Talon/LPE

Project Manager: K. Wilson

Address: 408 W. Texas Ave.

City: Artesia

Phone #: 575-746-8768

Project #:

Project Name: Hackberry 18Ced #1

Project Location:

Sampler Name: S. Hittacell

FOR LAB USE ONLY

P.O. #:

Company: Talon/LPE

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

MATRIX

PRESERV

SAMPLING

Lab I.D.

Sample I.D.

H502445

5-4 0'

3-4 1'

3-4 2'

5-4 3'

5-4 4'

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

TPH

BTEX

Chlorides

11:42

11:44

11:46

11:48

11:50

11:52

Relinquished By:

Date: 9/18/15

Time: 1:45

Received By:

Signature

Relinquished By:

Date:

Time:

Received By:

Signature

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition

Cool Intact

CHECKED BY:

(Initials)

REMARKS:

Phone Result:

Fax Result:

Yes No

Add'l Phone #:

Add'l Fax #:

RUSH

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

June 25, 2015

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 06/24/15 11:05.

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.

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: 06/24/2015
Reported: 06/25/2015
Project Name: HACKBERRY 18 FED. NO. 1
Project Number: 700794.158.01
Project Location: EDDY CTY.

Sampling Date: 06/23/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Amanda Ponce

Sample ID: S-1 0' (H501637-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	06/24/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	0.280	0.200	06/24/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	0.633	0.200	06/24/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	15.4	0.600	06/24/2015	ND	5.65	94.2	6.00	11.3	
Total BTX	16.3	1.20	06/24/2015	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 149 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	06/25/2015	ND	400	100	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	330	100	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	15700	100	06/24/2015	ND	194	96.8	200	2.54		

Surrogate: 1-Chlorooctane 138 % 47.2-157

Surrogate: 1-Chlorooctadecane 567 % 52.1-176

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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: 06/24/2015
Reported: 06/25/2015
Project Name: HACKBERRY 18 FED. NO. 1
Project Number: 700794.158.01
Project Location: EDDY CTY.

Sampling Date: 06/23/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Amanda Ponce

Sample ID: S-1 1' (H501637-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	06/24/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	0.869	0.200	06/24/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	2.73	0.200	06/24/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	62.8	0.600	06/24/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	66.4	1.20	06/24/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 125 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/25/2015	ND	400	100	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	936	50.0	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	5880	50.0	06/24/2015	ND	194	96.8	200	2.54		


Surrogate: 1-Chlorooctane 188 % 47.2-157

Surrogate: 1-Chlorooctadecane 193 % 52.1-176

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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: 06/24/2015
Reported: 06/25/2015
Project Name: HACKBERRY 18 FED. NO. 1
Project Number: 700794.158.01
Project Location: EDDY CTY.

Sampling Date: 06/23/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Amanda Ponce

Sample ID: S-1 2' (H501637-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.646	0.200	06/24/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	14.2	0.200	06/24/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	2.73	0.200	06/24/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	67.2	0.600	06/24/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	84.9	1.20	06/24/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 142 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/25/2015	ND	400	100	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	1430	50.0	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	6660	50.0	06/24/2015	ND	194	96.8	200	2.54		

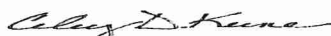
Surrogate: 1-Chlorooctane 200 % 47.2-157

Surrogate: 1-Chlorooctadecane 209 % 52.1-176

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:	06/24/2015	Sampling Date:	06/23/2015
Reported:	06/25/2015	Sampling Type:	Soil
Project Name:	HACKBERRY 18 FED. NO. 1	Sampling Condition:	Cool & Intact
Project Number:	700794.158.01	Sample Received By:	Amanda Ponce
Project Location:	EDDY CTY.		

Sample ID: S-1 3' (H501637-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	7.25	2.00	06/25/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	135	2.00	06/25/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	33.1	2.00	06/25/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	180	6.00	06/25/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	356	12.0	06/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 125 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/25/2015	ND	400	100	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	3750	50.0	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	9170	50.0	06/24/2015	ND	194	96.8	200	2.54		

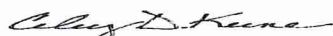
Surrogate: 1-Chlorooctane 197 % 47.2-157

Surrogate: 1-Chlorooctadecane 227 % 52.1-176

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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: 06/24/2015
Reported: 06/25/2015
Project Name: HACKBERRY 18 FED. NO. 1
Project Number: 700794.158.01
Project Location: EDDY CTY.

Sampling Date: 06/23/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Amanda Ponce

Sample ID: S-1 4' (H501637-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	14.2	2.00	06/25/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	247	2.00	06/25/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	116	2.00	06/25/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	231	6.00	06/25/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	607	12.0	06/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 126 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/25/2015	ND	400	100	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	3980	50.0	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	8240	50.0	06/24/2015	ND	194	96.8	200	2.54		

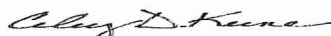
Surrogate: 1-Chlorooctane 290 % 47.2-157

Surrogate: 1-Chlorooctadecane 210 % 52.1-176

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: 06/24/2015
Reported: 06/25/2015
Project Name: HACKBERRY 18 FED. NO. 1
Project Number: 700794.158.01
Project Location: EDDY CTY.

Sampling Date: 06/23/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Amanda Ponce

Sample ID: S-2 0' (H501637-06)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.821	0.200	06/25/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	4.39	0.200	06/25/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	1.35	0.200	06/25/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	3.68	0.600	06/25/2015	ND	5.65	94.2	6.00	11.3	
Total BTX	10.3	1.20	06/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 61-154

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/25/2015	ND	400	100	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	1410	100	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	40900	100	06/24/2015	ND	194	96.8	200	2.54		

Surrogate: 1-Chlorooctane 241 % 47.2-157

Surrogate: 1-Chlorooctadecane 1220 % 52.1-176

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Analytical Results For:

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

 Received: 06/24/2015
 Reported: 06/25/2015
 Project Name: HACKBERRY 18 FED. NO. 1
 Project Number: 700794.158.01
 Project Location: EDDY CTY.

 Sampling Date: 06/23/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Amanda Ponce

Sample ID: S-2 1' (H501637-07)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	24.6	2.00	06/25/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	251	2.00	06/25/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	95.3	2.00	06/25/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	165	6.00	06/25/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	536	12.0	06/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	06/25/2015	ND	400	100	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	1530	50.0	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	3590	50.0	06/24/2015	ND	194	96.8	200	2.54		

Surrogate: 1-Chlorooctane 172 % 47.2-157

Surrogate: 1-Chlorooctadecane 144 % 52.1-176

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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: 06/24/2015
 Reported: 06/25/2015
 Project Name: HACKBERRY 18 FED. NO. 1
 Project Number: 700794.158.01
 Project Location: EDDY CTY.

 Sampling Date: 06/23/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Amanda Ponce

Sample ID: S-2 2' (R) (H501637-08)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	26.7	2.00	06/25/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	254	2.00	06/25/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	97.7	2.00	06/25/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	169	6.00	06/25/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	547	12.0	06/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/25/2015	ND	400	100	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	1930	50.0	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	3500	50.0	06/24/2015	ND	194	96.8	200	2.54		

Surrogate: 1-Chlorooctane 179 % 47.2-157

Surrogate: 1-Chlorooctadecane 147 % 52.1-176

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Analytical Results For:

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

 Received: 06/24/2015
 Reported: 06/25/2015
 Project Name: HACKBERRY 18 FED. NO. 1
 Project Number: 700794.158.01
 Project Location: EDDY CTY.

 Sampling Date: 06/23/2015
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Amanda Ponce

Sample ID: S-3 0' (H501637-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.341	0.050	06/25/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	1.71	0.050	06/25/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	0.569	0.050	06/25/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	1.47	0.150	06/25/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	4.09	0.300	06/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	06/25/2015	ND	400	100	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	207	100	06/24/2015	ND	183	91.7	200	1.49		
DRO >C10-C28	26500	100	06/24/2015	ND	194	96.8	200	2.54		

Surrogate: 1-Chlorooctane 110 % 47.2-157

Surrogate: 1-Chlorooctadecane 1090 % 52.1-176

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

Received: 06/24/2015
Reported: 06/25/2015
Project Name: HACKBERRY 18 FED. NO. 1
Project Number: 700794.158.01
Project Location: EDDY CTY.

Sampling Date: 06/23/2015
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Amanda Ponce

Sample ID: S-3 1' (R) (H501637-10)

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	06/25/2015	ND	1.92	95.9	2.00	9.98	
Toluene*	0.158	0.050	06/25/2015	ND	1.95	97.4	2.00	10.6	
Ethylbenzene*	0.194	0.050	06/25/2015	ND	2.04	102	2.00	10.2	
Total Xylenes*	2.46	0.150	06/25/2015	ND	5.65	94.2	6.00	11.3	
Total BTEX	2.81	0.300	06/25/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 61-154

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/25/2015	ND	400	100	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	153	50.0	06/24/2015	ND	183	91.7	200	1.49	
DRO >C10-C28	2070	50.0	06/24/2015	ND	194	96.8	200	2.54	

Surrogate: 1-Chlorooctane 107 % 47.2-157

Surrogate: 1-Chlorooctadecane 145 % 52.1-176

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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101 East Marland, Hobbs, NM 88240

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

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Survey

HACKBERRY 18 FEDERAL #001

Google earth

Google earth

feet
meters

200

80



SANITIA FEE ENERGY RESOURCES

HACKBERRY 18^{1/2} FED. #1

NM LC 069464-A

660' FSL & 1980' FEL

SEC. 18, T19S, R31E

EDDY COUNTY, NEW MEXICO

CA #NMNM194536

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