



February 27, 2014

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

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

ARTESIA  
408 West Texas Ave.  
Artesia, New Mexico 88210  
Phone 575.746.8768  
Fax 575.746.8905

Subject: **Soil Assessment and Remediation Work Plan**  
Oxy USA Inc.  
Goodnight 27 Federal #3H  
API: 30-015-39220 – 2RP-2625

HOBBS  
318 East Taylor Street  
Hobbs, New Mexico 88240  
Phone 575.393.4261  
Fax 575.393.4658

Dear Mr. Bratcher,

Oxy USA Inc., (Oxy) has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

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

### **Background Information**

The Goodnight 27 Federal No. 3H is located approximately 22 miles southeast of Carlsbad, New Mexico. The legal location for this release is Unit Letter M, Section 27, Township 23 South and Range 29 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.2712468 North and - 103.98000 West. A site plan is presented in Appendix I.

OKLAHOMA CITY  
7700 North Hudson Avenue  
Suite 10  
Oklahoma City, Oklahoma 73116  
Phone 405.486.7030  
Fax 806.467.0622

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services, the soil in this area is made up of Simona-Bippus land complex soils with 0 to 5 percent slopes. The local surface and shallow geology, Quaternary Age sedimentary deposits, is comprised of alluvium and eolian sands which includes silty soils underlain by dense caliche layers. Drainage courses in this area are normally dry. The New Mexico State Engineer web site indicates the nearest ground water data to be in S28-T23S-R29E. The ground water in Section 28 is reported to be a depth of 18' below ground surface (bgs). The referenced groundwater data is presented in Appendix II.

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

The ranking for this site is 20 based on the following:

ENVIRONMENTAL CONSULTING	Depth to ground water	<50'
ENGINEERING	Wellhead Protection Area	>1000'
DRILLING	Distance to surface water body	>1000'
CONSTRUCTION		
SPILL MANAGEMENT		
GENERAL CONTRACTING		

## Incident Description

The stuffing box blew out on the wellhead due to cold weather causing a release of 5 barrels of oil. No fluids were recovered. All fluids remained on location surrounding the wellhead. Talon mobilized personnel to conduct a site assessment and soil sampling activities utilizing a hand auger. Further delineation was subsequently required with a backhoe within the impacted areas. The results of our soil sampling activities are summarized in the tables below.

## Laboratory Results

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

December 23, 2014

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0'	<0.300	352	<10	251
	0.5	0.627	464	<10	695
S-2	0	177	9330	1990	4880
	0.5'	58.3	9860	864	2650
S-3	0'	12.7	1960	438	5740
	0.5'	0.927	832	<10	35.7

February 6, 2015 from backhoe

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	1'	--	--	<10	<10
	2'	--	--	<10	<10
	3'	--	--	<10	<10
S-2	1'	<0.300	1020	<10	<10
	2'	<0.300	1960	<10	<10
	3'	<0.300	2720	<10	<10


Based upon the site ranking of 20, NMOCD Recommended Remedial Action Levels (RRAL's) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 100 mg/kg for TPH and 1,000 mg/kg for Chlorides.

### **Proposed Remedial Actions**


- The impacted area surrounding the wellhead in the vicinity of S-1 and S-2 will be hand-excavated to a depth of 1-foot deep taking care as to not disturb the integrity of the well-casing. The impacted area in the vicinity of S-3 will also be hand-excavated to a depth of 0.5-foot deep.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The excavated area surrounding the wellhead will be backfilled with new caliche and re-contoured to match the surrounding location.

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,



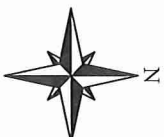
Kimberly M. Wilson  
Project Manager



David J. Adkins  
District Manager

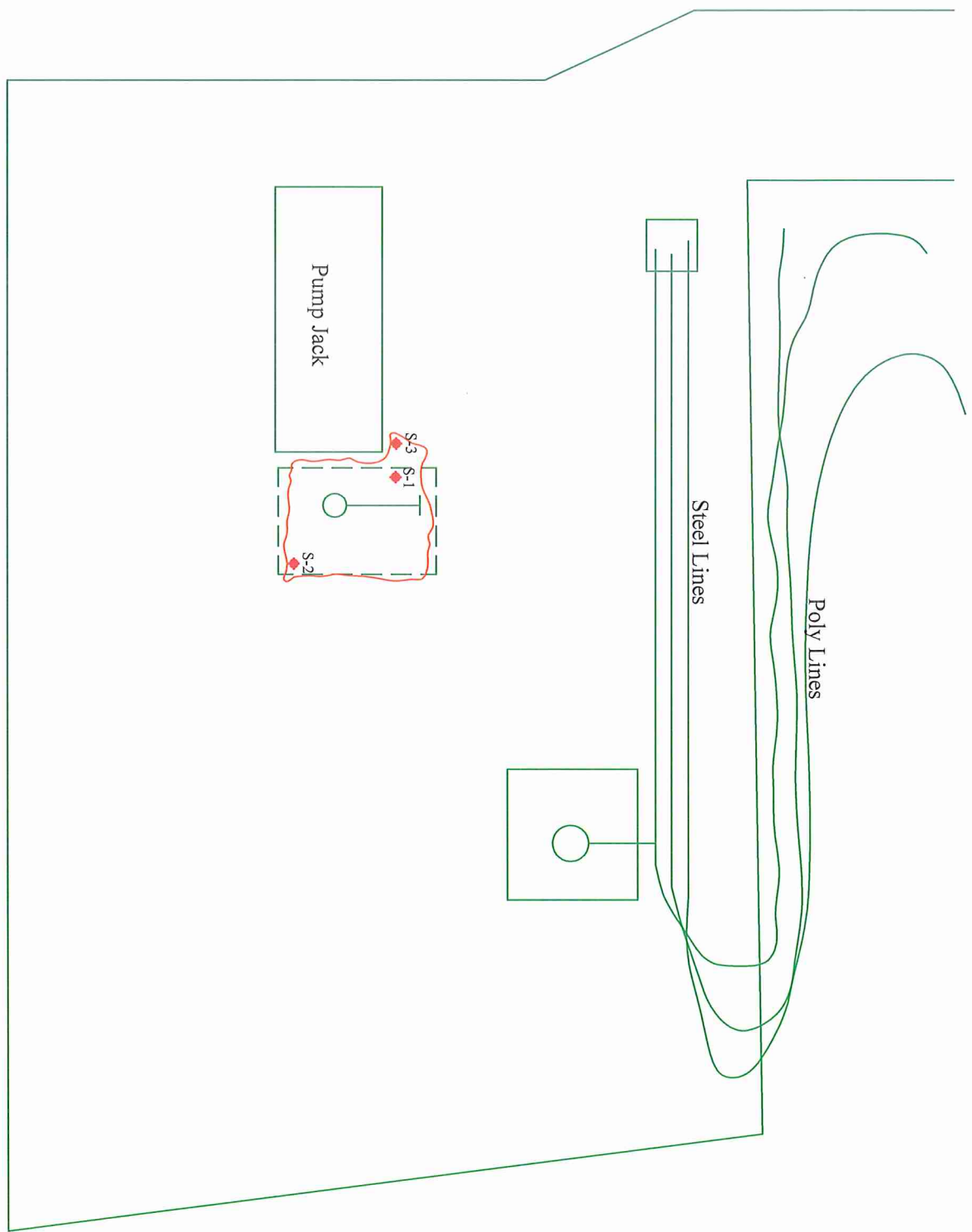
## **APPENDIX I**

### **SITE MAP**



**Legend**

- ◆ - Sample Location
- ~ - Impacted Area



Date: 12/22/2014

Scale: 1" = 30'

Drawn By: TJS

Goodnight 27 Federal #3H  
Oxy - NM - North  
Eddy County, New Mexico  
Figure 1 - 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
<a href="#">C 01627</a>	C	ED		1	4	4	28	23S	29E	595649	3570959*	450	170		
<a href="#">C 02707</a>	C	ED				2	28	23S	29E	595535	3571868*	1221	40	18	22
<a href="#">C 02797</a>		ED				2	3	22	23S	29E	596540	3572895*	2187	200	
<a href="#">C 02721</a>		ED				2	3	21	23S	29E	594915	3572879*	2403	150	
<a href="#">C 03587 POD1</a>	CUB	ED		1	4	3	29	23S	29E	593338	3570754	2716	99	44	55

Average Depth to Water: **31 feet**

Minimum Depth: **18 feet**

Maximum Depth: **44 feet**

Record Count: 5

UTMNAD83 Radius Search (in meters):

**Easting (X):** 596054

**Northing (Y):** 3570762

**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.

# NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 16 2014

Form C-141

Revised August 8, 2011

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

Submittal Copy to appropriate District Office in accordance with 19.15.29 NMAC.

RECEIVED

## Release Notification and Corrective Action

NAB435049621		OPERATOR	<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company: OXY USA INC		Contact: Chris Jones		
Address: 102 S. Main St. Carlsbad, NM 88220		Telephone No.: 575-628-4121		
Facility Name: Goodnight 27 Federal #3H		Facility Type: Well		

Surface Owner: Federal	Mineral Owner:	API No.: 30-015-39220 Lease No.: NMNM-105557
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## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	27	23S	29E	962'	South	364'	West	Eddy

Latitude 32.2712468 N Longitude -103.98000 W

## NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 5 bbls Oil	Volume Recovered: 0 bbls
Source of Release: Stuffing Box	Date and Hour of Occurrence 12/12/2014	Date and Hour of Discovery 12/12/2014
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* The stuffing box blew out on the wellhead due to cold weather causing a release of 5 barrels of oil. No fluids were recovered. Talon/LPE was contracted to perform an initial site assessment and soil sampling.		
Describe Area Affected and Cleanup Action Taken.* The area affected is around the wellhead measuring approximately 10'x20'.		
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: Chris Jones <small>Digitally signed by Chris Jones DN: cn=Chris Jones, o, ou, email=cjones888@yahoo.com, c=US; Date: 2014.12.16 07:20:27 -0600</small>	OIL CONSERVATION DIVISION	
Printed Name: Chris Jones	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: HES Specialist	Approval Date: 12/16/14	Expiration Date: N/A
E-mail Address: Christopher.Jones@oxy.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines <input type="checkbox"/> Attached <input type="checkbox"/>	
Date: 12/15/2014 Phone: 575-628-4121	SUBMIT REMEDIATION PROPOSAL NO	

\* Attach Additional Sheets If Necessary

LATER THAN: 11615 2RP-2665



**APPENDIX III**  
**LABORATORY RESULTS**



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

December 23, 2014

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: GOODNIGHT 27 FED #3

Enclosed are the results of analyses for samples received by the laboratory on 12/18/14 16:11.

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  
DAVID ADKINS  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received:	12/18/2014	Sampling Date:	12/16/2014
Reported:	12/23/2014	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

### Sample ID: S-1 0' (H403882-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/23/2014	ND	1.87	93.4	2.00	4.37	
Toluene*	<0.050	0.050	12/23/2014	ND	1.85	92.3	2.00	4.87	
Ethylbenzene*	<0.050	0.050	12/23/2014	ND	1.68	83.9	2.00	8.18	
Total Xylenes*	<0.150	0.150	12/23/2014	ND	4.99	83.1	6.00	9.33	
Total BTEX	<0.300	0.300	12/23/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	352	16.0	12/22/2014	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	<10.0	10.0	12/23/2014	ND	183	91.3	200	0.177	
DRO >C10-C28	251	10.0	12/23/2014	ND	195	97.4	200	2.52	

Surrogate: 1-Chlorooctane 86.6 % 47.2-157

Surrogate: 1-Chlorooctadecane 91.3 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/18/2014	Sampling Date:	12/16/2014
Reported:	12/23/2014	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

**Sample ID: S-1 .5' (H403882-02)**

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/23/2014	ND	1.87	93.4	2.00	4.37	
<b>Toluene*</b>	<b>0.136</b>	0.050	12/23/2014	ND	1.85	92.3	2.00	4.87	
<b>Ethylbenzene*</b>	<b>0.082</b>	0.050	12/23/2014	ND	1.68	83.9	2.00	8.18	
<b>Total Xylenes*</b>	<b>0.409</b>	0.150	12/23/2014	ND	4.99	83.1	6.00	9.33	
<b>Total BTEX</b>	<b>0.627</b>	0.300	12/23/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID 107 % 61-154

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>464</b>	16.0	12/22/2014	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	<10.0	10.0	12/23/2014	ND	183	91.3	200	0.177	
<b>DRO &gt;C10-C28</b>	<b>695</b>	10.0	12/23/2014	ND	195	97.4	200	2.52	

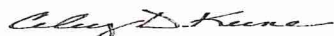
Surrogate: 1-Chlorooctane 83.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 88.4 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 12/18/2014  
Reported: 12/23/2014  
Project Name: GOODNIGHT 27 FED #3  
Project Number: 70060838601  
Project Location: EDDY COUNTY, NM

Sampling Date: 12/16/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Kathy Perez

**Sample ID: S-2 0' (H403882-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>3.86</b>	2.00	12/23/2014	ND	1.87	93.4	2.00	4.37	
<b>Toluene*</b>	<b>57.8</b>	2.00	12/23/2014	ND	1.85	92.3	2.00	4.87	
<b>Ethylbenzene*</b>	<b>20.1</b>	2.00	12/23/2014	ND	1.68	83.9	2.00	8.18	
<b>Total Xylenes*</b>	<b>95.4</b>	6.00	12/23/2014	ND	4.99	83.1	6.00	9.33	
<b>Total BTEX</b>	<b>177</b>	12.0	12/23/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 107 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>9330</b>	16.0	12/22/2014	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
<b>GRO C6-C10</b>	<b>1990</b>	50.0	12/23/2014	ND	183	91.3	200	0.177	
<b>DRO &gt;C10-C28</b>	<b>4880</b>	50.0	12/23/2014	ND	195	97.4	200	2.52	

Surrogate: 1-Chlorooctane 153 % 47.2-157

Surrogate: 1-Chlorooctadecane 119 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	12/18/2014	Sampling Date:	12/16/2014
Reported:	12/23/2014	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

**Sample ID: S-2 .5' (H403882-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.703	0.500	12/23/2014	ND	1.87	93.4	2.00	4.37	
Toluene*	15.0	0.500	12/23/2014	ND	1.85	92.3	2.00	4.87	
Ethylbenzene*	7.00	0.500	12/23/2014	ND	1.68	83.9	2.00	8.18	
Total Xylenes*	35.5	1.50	12/23/2014	ND	4.99	83.1	6.00	9.33	
Total BTEX	58.3	3.00	12/23/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	9860	16.0	12/22/2014	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	864	10.0	12/23/2014	ND	183	91.3	200	0.177	
DRO >C10-C28	2650	10.0	12/23/2014	ND	195	97.4	200	2.52	

Surrogate: 1-Chlorooctane 122 % 47.2-157

Surrogate: 1-Chlorooctadecane 110 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

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

Received:	12/18/2014	Sampling Date:	12/16/2014
Reported:	12/23/2014	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

### Sample ID: S-3 0' (H403882-05)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	12/23/2014	ND	1.87	93.4	2.00	4.37	
Toluene*	<b>0.954</b>	0.500	12/23/2014	ND	1.85	92.3	2.00	4.87	
Ethylbenzene*	<b>1.50</b>	0.500	12/23/2014	ND	1.68	83.9	2.00	8.18	
Total Xylenes*	<b>10.2</b>	1.50	12/23/2014	ND	4.99	83.1	6.00	9.33	
Total BTEX	<b>12.7</b>	3.00	12/23/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 108 % 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	<b>1960</b>	16.0	12/22/2014	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	<b>438</b>	50.0	12/23/2014	ND	183	91.3	200	0.177	
DRO >C10-C28	<b>5740</b>	50.0	12/23/2014	ND	195	97.4	200	2.52	

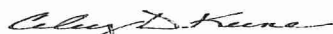
Surrogate: 1-Chlorooctane 138 % 47.2-157

Surrogate: 1-Chlorooctadecane 131 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	12/18/2014	Sampling Date:	12/16/2014
Reported:	12/23/2014	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

**Sample ID: S-3 .5' (H403882-06)**

BTEX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/23/2014	ND	1.87	93.4	2.00	4.37		
Toluene*	0.208	0.050	12/23/2014	ND	1.85	92.3	2.00	4.87		
Ethylbenzene*	0.111	0.050	12/23/2014	ND	1.68	83.9	2.00	8.18		
Total Xylenes*	0.608	0.150	12/23/2014	ND	4.99	83.1	6.00	9.33		
Total BTEX	0.927	0.300	12/23/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 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	832	16.0	12/22/2014	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	<10.0	10.0	12/23/2014	ND	183	91.3	200	0.177	
DRO >C10-C28	35.7	10.0	12/23/2014	ND	195	97.4	200	2.52	

Surrogate: 1-Chlorooctane 90.2 % 47.2-157

Surrogate: 1-Chlorooctadecane 87.7 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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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 Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

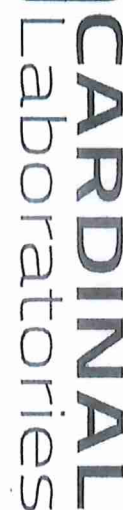
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Celey D. Keene, Lab Director/Quality Manager





# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <b>Talon/LPE</b>				P.O. #: <b>0P5617774</b>			
Project Manager: <b>D Adkins</b>				Company: <b>CRS</b>			
Address: <b>408 W. Texas Ave.</b>				Attn: <b>Chris Jones</b>			
City: <b>Artesia</b>		State: <b>NM</b>		zip: <b>88210</b>		Address:	
Phone #: <b>575-746-8768</b>		Fax #: <b>575-746-8905</b>		City:		State:	
Project #: <b>20060838601</b>		Project Owner: <b>CRS</b>		Zip:		Phone #:	
Project Name: <b>Goodnight 27 Fed #3</b>		Project Location: <b>Eddy</b>		Fax #:		Sample Name:	
Sample Name: <b>UG-Base 20</b>		FOR LAB USE ONLY		MATRIX		PRESERV. SAMPLING	
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS	
<b>11403882</b> 1 2 3 4 5 6		S-1.0		X		GROUNDWATER	
		S-1.5		X		WASTEWATER	
		S-2.0		X		SOIL	
		S-2.5		X		OIL	
		S-3.0		X		SLUDGE	
		S-3.5		X		OTHER :	
				ACID/BASE:		ICE / COOL	
				OTHER :		DATE	
						TIME	
				12-16-14 1:00		X	
				12-16-14 1:15		X	
				12-16-14 1:24		X	
				12-16-14 1:30		X	
				12-16-14 1:38		X	
				1:42		X	
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Relinquished By: <b>[Signature]</b> Re-requested By: <b>[Signature]</b>				Sample Condition: Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <b>CRS</b>				CHECKED BY: <b>[Signature]</b> (Initials)			
REMARKS: <b>OP5617774</b> <b>W0# 1164339</b> <b>Trail 0101608</b> <b>Element 2019</b>				Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: <b>084 codes</b>			



February 06, 2015

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: GOODNIGHT 27 FED #3

Enclosed are the results of analyses for samples received by the laboratory on 02/05/15 11:00.

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  
DAVID ADKINS  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received:	02/05/2015	Sampling Date:	02/03/2015
Reported:	02/06/2015	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: S-1 1' (H500331-01)**

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	02/06/2015	ND	183	91.5	200	3.10	
DRO >C10-C28	<10.0	10.0	02/06/2015	ND	184	91.9	200	0.981	
<i>Surrogate: 1-Chlorooctane</i>									
	106 %	47.2-157							
<i>Surrogate: 1-Chlorooctadecane</i>									
	87.0 %	52.1-176							

**Sample ID: S-1 2' (H500331-02)**

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	02/06/2015	ND	183	91.5	200	3.10	
DRO >C10-C28	<10.0	10.0	02/06/2015	ND	184	91.9	200	0.981	
<i>Surrogate: 1-Chlorooctane</i>									
	107 %	47.2-157							
<i>Surrogate: 1-Chlorooctadecane</i>									
	87.1 %	52.1-176							

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/05/2015	Sampling Date:	02/03/2015
Reported:	02/06/2015	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: S-1 3' (H500331-03)**

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	02/06/2015	ND	183	91.5	200	3.10	
DRO >C10-C28	<10.0	10.0	02/06/2015	ND	184	91.9	200	0.981	
<i>Surrogate: 1-Chlorooctane</i>									
	110 %	47.2-157							
<i>Surrogate: 1-Chlorooctadecane</i>									
	91.7 %	52.1-176							

**Sample ID: S-1 4' (H500331-04)**

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	02/06/2015	ND	183	91.5	200	3.10	
DRO >C10-C28	<10.0	10.0	02/06/2015	ND	184	91.9	200	0.981	
<i>Surrogate: 1-Chlorooctane</i>									
	106 %	47.2-157							
<i>Surrogate: 1-Chlorooctadecane</i>									
	84.2 %	52.1-176							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 02/05/2015  
Reported: 02/06/2015  
Project Name: GOODNIGHT 27 FED #3  
Project Number: 70060838601  
Project Location: EDDY COUNTY, NM

Sampling Date: 02/03/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S-2 1' (H500331-05)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2015	ND	1.89	94.3	2.00	1.55	
Toluene*	<0.050	0.050	02/05/2015	ND	1.81	90.5	2.00	1.50	
Ethylbenzene*	<0.050	0.050	02/05/2015	ND	1.73	86.7	2.00	0.928	
Total Xylenes*	<0.150	0.150	02/05/2015	ND	5.16	86.1	6.00	0.612	
Total BTX	<0.300	0.300	02/05/2015	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 103 % 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	1020	16.0	02/06/2015	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/06/2015	ND	183	91.5	200	3.10	
DRO >C10-C28	<10.0	10.0	02/06/2015	ND	184	91.9	200	0.981	

Surrogate: 1-Chlorooctane 109 % 47.2-157

Surrogate: 1-Chlorooctadecane 89.0 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/05/2015	Sampling Date:	02/03/2015
Reported:	02/06/2015	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: S-2 2' (H500331-06)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2015	ND	1.89	94.3	2.00	1.55	
Toluene*	<0.050	0.050	02/05/2015	ND	1.81	90.5	2.00	1.50	
Ethylbenzene*	<0.050	0.050	02/05/2015	ND	1.73	86.7	2.00	0.928	
Total Xylenes*	<0.150	0.150	02/05/2015	ND	5.16	86.1	6.00	0.612	
Total BTEx	<0.300	0.300	02/05/2015	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.4 % 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	1960	16.0	02/06/2015	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/06/2015	ND	183	91.5	200	3.10	
DRO >C10-C28	<10.0	10.0	02/06/2015	ND	184	91.9	200	0.981	

Surrogate: 1-Chlorooctane 105 % 47.2-157

Surrogate: 1-Chlorooctadecane 84.6 % 52.1-176

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received:	02/05/2015	Sampling Date:	02/03/2015
Reported:	02/06/2015	Sampling Type:	Soil
Project Name:	GOODNIGHT 27 FED #3	Sampling Condition:	Cool & Intact
Project Number:	70060838601	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: S-2 3' (H500331-07)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/05/2015	ND	1.89	94.3	2.00	1.55	
Toluene*	<0.050	0.050	02/05/2015	ND	1.81	90.5	2.00	1.50	
Ethylbenzene*	<0.050	0.050	02/05/2015	ND	1.73	86.7	2.00	0.928	
Total Xylenes*	<0.150	0.150	02/05/2015	ND	5.16	86.1	6.00	0.612	
Total BTX	<0.300	0.300	02/05/2015	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 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	2720	16.0	02/06/2015	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/06/2015	ND	183	91.5	200	3.10	
DRO >C10-C28	<10.0	10.0	02/06/2015	ND	184	91.9	200	0.981	

Surrogate: 1-Chlorooctane 109 % 47.2-157

Surrogate: 1-Chlorooctadecane 85.4 % 52.1-176

Cardinal Laboratories

\*=Accredited Analyte

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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
	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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

ANALYSIS REQUEST

Company Name: Talon/LPE  
Project Manager: P.O. #:  
Address: 408 W. Texas Ave. Company: 0245  
City: Artesia State: NM Zip: 88210 Attn: Charles  
Phone #: 575-746-8768 Fax #: 575-746-8905 Address:  
Project #: 7050838601 Project Owner: City:  
Project Name: Goodlight 27 Fed #3 State: Zip:  
Project Location: Edley, G. Boerke Phone #:  
Sample Name: Edley, G. Boerke Fax #:

FOR LAB USE ONLY  
Lab I.D. Sample I.D.  
H500331  
1 S-1 1'  
2 S-1 2'  
3 S-1 3'  
4 S-1 4'  
5 S-2 1'  
6 S-2 2'  
7 S-2 3'  
(G)RAB OR (C)OMP.  
# CONTAINERS  
GROUNDWATER  
WASTEWATER  
SOIL  
OIL  
SLUDGE  
OTHER :  
ACID/BASE:  
ICE / COOL  
OTHER :  
DATE TIME  
2-3-15 12:20 X  
2-3-15 12:24 X  
2-3-15 12:30 X  
2-3-15 12:33 X  
2-3-15 11:44 X  
2-3-15 11:48 X  
2-3-15 11:50 X  
MATRIX  
PRESERV  
SAMPLING  
1 PH  
BTEZ  
Total chlorides

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	1 PH	BTEZ	Total chlorides
H500331	1 S-1 1'												2-3-15 12:20	X			
	2 S-1 2'												2-3-15 12:24	X			
	3 S-1 3'												2-3-15 12:30	X			
	4 S-1 4'												2-3-15 12:33	X			
	5 S-2 1'												2-3-15 11:44	X			
	6 S-2 2'												2-3-15 11:48	X			
	7 S-2 3'												2-3-15 11:50	X			

PLEASE NOTE: Liability and Damages. Cardinal's liability and defense exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits, incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Date: 2/3/15 Received By: Charles Henderson  
Time: 11:00  
Relinquished By: Date: Received By:  
Time: Date: Received By:  
Delivered By: (Circle One) Sample Condition: Cool ☒ Intact ☐ Yes ☐ No ☐ No  
Sampler - UPS - Bus - Other: 12  
CHECKED BY: (Initials) JH  
REMARKS: UO # 095617774  
Project # 1164339  
Task # 01010608  
element 2019

\* Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326 #54