

APPROVED

By Olivia Yu at 1:19 pm, Mar 08, 2018

NMOCD approves of the proposed delineation plan for 1RP-4191. See email correspondence for additional delineation sample locations.

**1RP-4191
DELINEATION PLAN
State GA #1
Produced Water Spill
Lea County, New Mexico**


Latitude: N33° 01' 12.09"
Longitude: W-103° 18' 39.25"

LAI Project No. 17-0175-20


February 2, 2018

Prepared for:
Legacy Reserves Operating, LP
303 West Wall Street, Suite 1300
Midland, Texas 79701

Prepared by:
Larson & Associates, Inc.
507 North Marienfeld Street, Suite 205
Midland, Texas 79701



Mark J. Larson, P.G.
Certified Professional Geologist #10490



Sarah R. Johnson
Staff Geologist

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1.0 INTRODUCTION

Larson & Associates, Inc. (LAI) has prepared this delineation plan on behalf of Legacy Reserves Operating, LP (Legacy) for submittal to the New Mexico Oil Conservation (OCD) District 1 and the State Land Office (SLO) for a produced water spill at the State GA #1 (Site) located in Unit F (SE/4, NW/4), Section 16, Township 15 South, Range 36 East in Lea County New Mexico. The geodetic position is North 33° 01' 12.09" and West -103° 18' 39.25". Figure 1 presents a topographic map. Figure 2 presents an aerial map.

1.1 Background

The spill occurred on July 17, 2012, due to a corroded fitting on the gun barrel tank that ruptured and released approximately 90 barrels (bbl) of produced water. No liquids were recovered. The fluids breached the firewall and migrated northwest on the lease road and pooled onto the State GA #6 location. A small amount of fluids affected the nearby pasture to the east of the Site. The lease road and location were scraped of contaminated soil and hauled to an approved landfill. The initial C-141 was submitted on July 18, 2012 and assigned remediation permit number 1RP-4191. Appendix A presents the initial C-141.

On July 24 and August 30, 2012, personnel from Talon LPE (Talon) visited the Site for the purpose of documenting the spill and collecting soil samples. Talon focused around the area of the tank battery and omitted the lease road and area south of the tank battery where liquid pool. On July 24, 2012, Talon collected soil samples at three (3) locations (S-1, S-2 and S-3) from ground surface and 0.5 feet below ground surface (bgs). A sample was collected from 1 foot bgs at location S-1. On August 30, 2012, Talon used a drilling rig to collect soil samples at 2, 4, 6, 8 and 10 feet bgs, at three (3) locations (B-1, B-2, and B-3). Cardinal Laboratories (Cardinal), Hobbs, New Mexico, analyzed the samples for benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH), including gasoline range organics (GRO) and diesel range organics (DRO) by EPA SW-846 Methods 8021B and 8015M, respectively, and chloride by titration method SM4500CL-B. Appendix B presents the Talon investigation summary and analysis.

BTEX and TPH exceeded the OCD recommended remediation action levels of 50 milligrams per kilogram (mg/Kg) and 1,000 mg/Kg, respectively, in samples S-1 from ground surface. Chloride was highest in the shallow samples (S-1, S-2 and S-3) and decreased below 600 mg/Kg in sample B-1, 6 feet (258 mg/Kg) and B-3, 4 feet (256 mg/Kg). No records were found to demonstrate horizontal delineation or remediation was performed.

1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 3,915 feet above mean sea level (msl);
- The topography slopes gradually towards the southeast;
- There are no surface water features within 1,000 feet of the Site;
- The soils are designated as "Kimbrough-Lea complex, 0 to 3 percent slopes", consisting of 0 to 3 inches of gravelly loam underlain by 3 to 10 inches of loam;
- The surface geology is the Ogallala Formation (lower Pliocene to middle Miocene)- alluvial and eolian deposits, and petrocalcic soils of the southern High Plains;

- Groundwater occurs in the Ogallala formation at approximately 75 feet below ground surface (bgs) (1981);
- The nearest freshwater well is located in Unit F (SE/4, NW/4), Section 16, Township 15 South, Range 36 East, approximately 0.20 miles southwest of the Site.

1.3 Recommended Remediation Action Levels

The recommended remediation action levels (RRAL) were calculated for benzene, BTEX and TPH based on the following criteria established by the OCD in “*Guidelines for Remediation of Leaks, Spills and Releases*, pp. 6-7, August 13, 1993”:

Criteria	Result	Score
Depth-to-Groundwater	50 – 99 Feet	10
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1,000 Horizontal Feet	0

The following RRAL apply to the release ranking score: 10

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 1,000 mg/Kg

Depth to groundwater between 50 and 100 feet bgs require vertical delineation for chloride to 600 milligrams per kilogram (mg/Kg) and maintained a minimum 5 feet farther in depth.

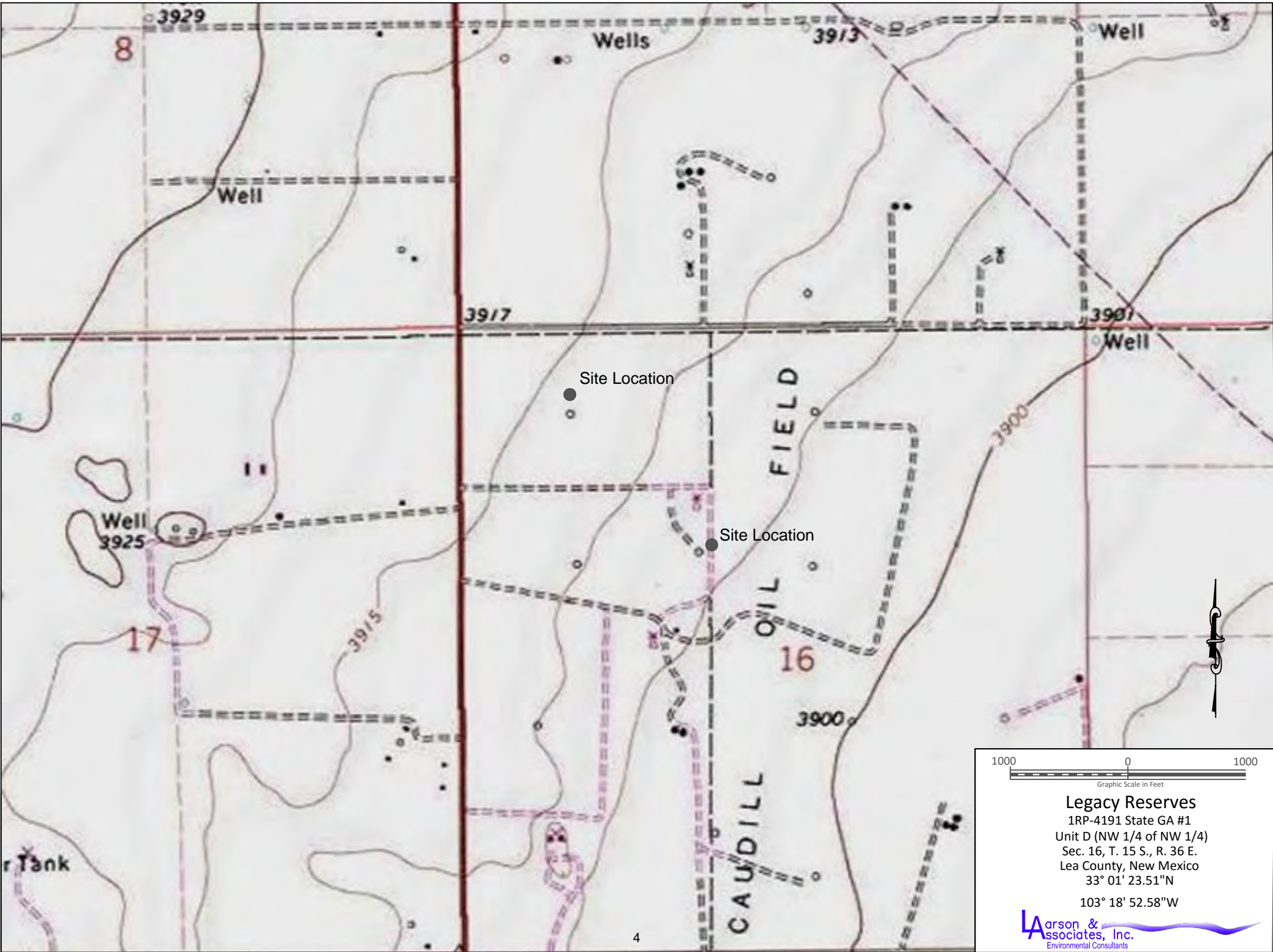
2.0 DELINEATION PLAN

LAI proposes to collect soil samples at three (3) locations within the contaminated area at State GA #1. The samples will be collected at 1 foot intervals to approximately 4 feet bgs and 2 foot intervals to approximately 12 feet bgs using direct push technology (DPT) depending on subsurface conditions. Additional samples will be collected in each cardinal direction (north, south, east and west) of the spill, as well as one (1) sample on the lease road, at the same depth intervals for horizontal delineation. The soil samples will be delivered under chain of custody and preservation to Permian Basin Environmental Lab (PBEL) in Midland, Texas, and analyzed for BTEX, total petroleum hydrocarbons (TPH), including gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO) and chloride by EPA SW-846 Method 8021B, 8015M and 300 respectively. Pending laboratory results, further delineation will be determined to reach cleanup level standards. Figure 2 presents an aerial map showing proposed soil sample locations. Appendix C presents photographs.

3.0 REMEDIATION PLAN

Legacy will include a remediation plan in the delineation report to be submitted to the OCD upon receipt of the laboratory report.

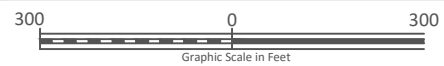
Figures





Legend

- Spill Area
- Proposed Sample Location



Legacy Reserves
1RP-4191 State GA #1
Unit D (NW 1/4 of NW 1/4)
Sec. 16, T. 15 S., R. 36 E.
Lea County, New Mexico
33° 01' 23.51"N
103° 18' 52.58"W



Figure 2 - Aerial Map Showing Proposed Sample Locations

Appendix A

Initial C-141

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

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company - Legacy Reserves Operating, LP	Contact: Berry Johnson
Address - PO Box 10848, Midland, TX 79702-7848	Telephone No. : 432-689-5200
Facility Name - State GA #6 /	Facility Type: Oil well

Surface Owner:	Mineral Owner:	Lease No. API # 30-025-03687
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LOCATION OF RELEASE

Unit Letter D	Section 16	Township 15S	Range 36E	Feet from the 660'	North/South Line North	Feet from the 990'	East/West Line West	County Lea
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Latitude 33.02298 N Longitude -103.31441 W

NATURE OF RELEASE

Type of Release: Produced Fluids	Volume of Release 90 bbls	Volume Recovered -0- bbls
Source of Release : Gun Barrel failure	Date and Hour of Occurrence 7/17/2012	Date and Hour of Discovery 7/17/2012
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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.*
A nipple on the gun barrel eroded and blew out of the stock tank causing a release of 90 barrels of produced fluids.

Describe Area Affected and Cleanup Action Taken.* The affected area was inside the bermed battery and flowed south down lease road, the release then pooled onto the State GA#6 location. There was a small amount of fluids that flowed off location into pasture, 25'x25'. The impacted areas on the lease road and location were immediately scraped. The contaminated soil was stockpiled on location. Talon/LPE has been contracted to complete site assessment and work plan activities.

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 federal, state, or local laws and/or regulations.

Signature: Sharon Bowersock	Approv	APPROVED
Printed Name: Sharon Bowersock		
Title: Eng/Regulatory Tech	Approval Date: 2/25/16	Expiration Date:
E-mail Address:	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/18/2012 Phone: 432-689-5200		

* Attach Additional Sheets If Necessary

491

Appendix B
Talon Investigation Summary &
Analysis



AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



App Number: pKJ1605632985

1RP - 4191

LEGACY RESERVES OPERATING, LP

2/25/2016

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

State of New Mexico
Energy Minerals and Natural Resources
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1220 South St. Francis Dr.
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Form C-141
Revised October 10, 2003

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District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company - Legacy Reserves Operating, LP	Contact: Berry Johnson
Address - PO Box 10848, Midland, TX 79702-7848	Telephone No. : 432-689-5200
Facility Name - State GA #6 /	Facility Type: Oil well

Surface Owner:	Mineral Owner:	Lease No. API # 30-025-03687
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LOCATION OF RELEASE

Unit Letter D	Section 16	Township 15S	Range 36E	Feet from the 660'	North/South Line North	Feet from the 990'	East/West Line West	County Lea
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	-----------------------	------------------------	---------------

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Source of Release : Gun Barrel failure	Date and Hour of Occurrence 7/17/2012	Date and Hour of Discovery 7/17/2012
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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.*
A nipple on the gun barrel eroded and blew out of the stock tank causing a release of 90 barrels of produced fluids.

Describe Area Affected and Cleanup Action Taken.* The affected area was inside the bermed battery and flowed south down lease road, the release then pooled onto the State GA#6 location. There was a small amount of fluids that flowed off location into pasture, 25'x25'. The impacted areas on the lease road and location were immediately scraped. The contaminated soil was stockpiled on location. Talon/LPE has been contracted to complete site assessment and work plan activities.

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 federal, state, or local laws and/or regulations.

Signature: Sharon Bowersock	APPROVED	
Printed Name: Sharon Bowersock		
Title: Eng/Regulatory Tech	Approval Date: 2/25/16 Expiration Date:	
E-mail Address:	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/18/2012 Phone: 432-689-5200		

* Attach Additional Sheets If Necessary

491



October 30, 2012

HOBBS OCD

OCT 31 2012

RECEIVED

Mr. Geoffrey Leking
NMOCD District I
1625 N. French Dr.
Hobbs, NM 88240

Subject: Soil Assessment and Remediation Work Plan
Legacy Reserves Operating, LP
State GA No. 1
Tank Battery Release
API # 30-025-03682

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 575.746.8905

AUSTIN
911 West Anderson Lane
Suite 202
Austin, Texas 78757
Phone 512.989.3428
Fax 512.989.3487

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

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

SAN ANTONIO
11 Commercial Place
Schertz, Texas 78154
Phone 210.265.8025
Fax 210.568.2191

TULSA
525 South Main Street
Suite 535
Tulsa, Oklahoma 74103
Phone 918.742.0871
Fax 918.382.0232

ENVIRONMENTAL CONSULTING
ENGINEERING
DRILLING
CONSTRUCTION
SPILL MANAGEMENT
GENERAL CONTRACTING

Toll Free: 866.742.0742
www.talonlpe.com

Dear Mr. Leking,

Legacy Reserves Operating, LP has contracted Talon/LPE (Talon) to perform soil assessment and remediation services for the State GA No. 6 referenced Tank Battery Release. Talon's site assessment, soil sampling results and proposed work plan to perform remediation activities consist of the following:

Incident Date

July 17, 2012

Background Information

The State GA No. 1 is located approximately seven (7) miles northeast of Lovington, New Mexico. The legal location for the site is Section 16, Township 15 South and Range 36 East in Lea County, New Mexico. More specifically, the latitude and longitude for the release are 33.019359 North and -103.3111749 West.

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 Kimbrough-Lea land complex. The local surface and shallow geology, Quaternary and Tertiary Age sedimentary deposits, is comprised of calcareous-loamy alluvium and calcareous-loamy eolian sands which includes silty soils underlain by sedimentary rock and hard caliche. Drainage courses in this area are normally dry. The New Mexico State Engineer web site indicates the nearest ground water data to be in S16-T15S-R36E. The ground water in Section 8 is reported to be at depth of 68' below ground surface (bgs). The referenced groundwater data is presented in Appendix I.

The ranking for this site is 10 based on the as following:

Depth to ground water	50-100'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Incident Description

On July 17, 2011, the nipple on the gun barrel eroded causing a release of 90 barrels of produced fluids. The gun barrel was taken out of service. No fluids were recovered. The impacted area was inside the bermed battery and flowed south along the lease road. The release then pooled onto the State GA #1 location. A small amount of fluids measuring approximately 25-feet long by 25-wide also flowed off the lease road into the pasture. The impacted areas on the lease road and location were immediately scraped and placed on plastic on the location. A site plan is attached.

Sampling Activities

On July 17, 2012 Talon mobilized personnel to begin soil sampling for the construction of a work plan. Grab soil samples were collected utilizing a hand auger from the surface of the impacted areas.

On August 21, 2011 Talon returned to the release site to collect additional soil samples utilizing a drill rig to obtain vertical delineation samples. Grab samples were collected to a depth of 10 feet below land surface.

The soil samples were collected by Talon personnel wearing clean nitrile gloves. The samples were placed into a laboratory provided sample containers, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were tested for TPH (Total Petroleum Hydrocarbons) using EPA Method 8015M, and volatile organics (BTEX) using EPA Method 8021B. The chlorides were analyzed per SM4500CLB. The complete laboratory reports are attached as Appendix II.

Analytical Results

Analytical results received from Cardinal Laboratories are summarized below:

July 24, 2012

<u>Sample</u>	<u>Depth</u>	<u>BTEX</u>	<u>Chlorides</u>	<u>TPH (mg/kg)</u>
S-1	0'	100.62	3200	6850
	1'	104.675	3000	2890
S-2	0'	1.246	11600	609.9
	0.5'	<0.150	4960	24.8
S-3	0'	0.293	21600	<10
	0.5'	<0.150	3040	<10

August 30, 2012

<u>Sample</u>	<u>Depth</u>	<u>BTEX</u>	<u>Chlorides</u>	<u>TPH (mg/kg)</u>
B-1	2'	<0.150	1070	<10
	4'	<0.150	1960	<10
	6'	<0.150	528	<10
	8'	<0.150	160	<10
	10'	<0.150	64	<10
B-2	2'	<0.150	416	10.9
	4'	<0.150	128	<10
	6'	<0.150	160	<10
	8'	<0.150	96	<10
	10'	<0.150	32	<10
B-3	2'	<0.150	1890	30.3
	4'	<0.150	256	<10
	6'	<0.150	336	<10
	8'	<0.150	160	<10
	10'	<0.150	272	<10

Summary

- Ground water in the project vicinity is 68-feet below land surface according to the New Mexico State Engineers Database.
- Based on the depth to groundwater, it is unlikely that the impacts identified from this release will pose a threat to groundwater after proposed remediation activities are complete.

Proposed Remedial Actions

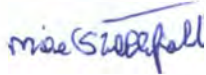
- The impacted soil at sample location B-1 along the lease road will be excavated to a depth of approximately 4-feet deep. The impacted soil in the vicinity of sample point B-3 will be excavated to a depth of approximately 3-feet deep. The impacted soil will be transported to an NMOCD approved solid waste disposal facility.
- The excavation depths will be continuously monitored by testing for chlorides using the field titration method.
- Confirmation samples will be collected from the bottom and sidewalls of the excavated areas and presented to the OCD for permission to complete excavation activities.

- The excavated area will be backfilled to grade using new material transported from a local borrow pit. The lease road will be repaired and the area will be contoured to match the surrounding location.
- A final report documenting all field activities and lab reports will be provided to the NMOCD Artesia Office including Form C-141.

If we can provide additional information or be of further assistance please contact our office at 575.746.8768.

Respectfully submitted,

TALON/LPE

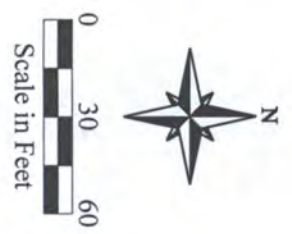
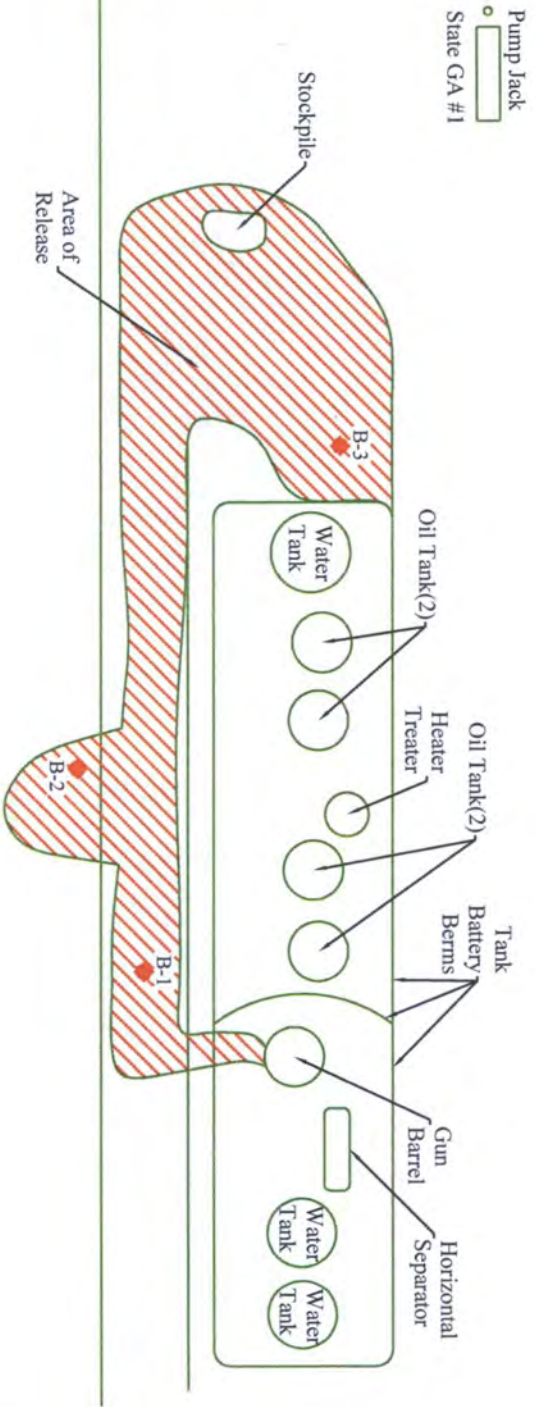
A handwritten signature in blue ink that reads "Mike Stubblefield".

Mike Stubblefield
Project Manager

A handwritten signature in blue ink that reads "David J. Adkins".

David J. Adkins
District Manager

SITE MAP



Legend

- ◆ - Sample Location
- Release Area



Date: 10/05/2012
 Scale: 1" = 60'
 Drawn By: TJS

State GA Tank Battery
 Legacy Reserves Operating, LP
 Lea County, New Mexico
 Figure 1 - Site Plan

APPENDIX I
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 Code	Subbasin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 03275	L		LE	2	1	1	16	15S	36E	657429	3655188*	200	110	68	42
L 03126	L		LE	4	3	3	09	15S	36E	657423	3655390*	280	90	65	25
L 10983	L		LE	2	4	4	08	15S	36E	657019	3655584*	448	184		

Average Depth to Water: **66 feet**

Minimum Depth: **65 feet**

Maximum Depth: **68 feet**

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 657229

Northing (Y): 3655188

Radius: 500

*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.

APPENDIX II
LABORATORY RESULTS



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

July 24, 2012

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STATE GA NO. 6

Enclosed are the results of analyses for samples received by the laboratory on 07/18/12 12:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received: 07/18/2012
Reported: 07/24/2012
Project Name: STATE GA NO. 6
Project Number: NONE GIVEN
Project Location: SEC. 16 - T15S - R36 E

Sampling Date: 07/17/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S - 1 0' (H201640-01)

BTX 8021B		mg/kg		Analyzed By: AP				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.06	0.250	07/18/2012	ND	1.91	95.7	2.00	0.781	
Toluene*	12.4	0.250	07/18/2012	ND	1.94	97.1	2.00	2.18	
Ethylbenzene*	9.56	0.250	07/18/2012	ND	1.98	99.0	2.00	1.91	
Total Xylenes*	77.6	0.750	07/18/2012	ND	5.99	99.9	6.00	2.45	

Surrogate: 4-Bromofluorobenzene (PIE) 163 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	07/19/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1790	10.0	07/18/2012	ND	166	83.1	200	7.23	
DRO >C10-C28	5060	10.0	07/18/2012	ND	171	85.7	200	6.06	

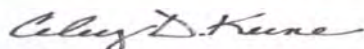
Surrogate: 1-Chlorooctane 118 % 65.2-140

Surrogate: 1-Chlorooctadecane 103 % 63.6-154

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

Received: 07/18/2012
Reported: 07/24/2012
Project Name: STATE GA NO. 6
Project Number: NONE GIVEN
Project Location: SEC. 16 - T15S - R36 E

Sampling Date: 07/17/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S - 1 1' BGS (H201640-02)

BTX 8021B			mg/kg					Analyzed By: AP		S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	0.705	0.250	07/18/2012	ND	1.91	95.7	2.00	0.781			
Toluene*	6.87	0.250	07/18/2012	ND	1.94	97.1	2.00	2.18			
Ethylbenzene*	10.5	0.250	07/18/2012	ND	1.98	99.0	2.00	1.91			
Total Xylenes*	86.6	0.750	07/18/2012	ND	5.99	99.9	6.00	2.45			

Surrogate: 4-Bromofluorobenzene (PIC) 231 % 89.4-126

Chloride, SM4500Cl-B			mg/kg					Analyzed By: HM		S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	3000	16.0	07/19/2012	ND	416	104	400	0.00			
TPH 8015M			mg/kg					Analyzed By: AM		S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	1170	10.0	07/18/2012	ND	166	83.1	200	7.23			
DRO >C10-C28	1720	10.0	07/18/2012	ND	171	85.7	200	6.06			

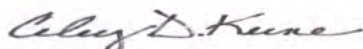
Surrogate: 1-Chlorooctane 141 % 65.2-140

Surrogate: 1-Chlorooctadecane 116 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/18/2012
Reported: 07/24/2012
Project Name: STATE GA NO. 6
Project Number: NONE GIVEN
Project Location: SEC. 16 - T15S - R36 E

Sampling Date: 07/17/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S - 2 0' (H201640-03)

BTEX 8021B			mg/kg							Analyzed By: AP	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	07/18/2012	ND	1.91	95.7	2.00	0.781			
Toluene*	0.153	0.050	07/18/2012	ND	1.94	97.1	2.00	2.18			
Ethylbenzene*	0.127	0.050	07/18/2012	ND	1.98	99.0	2.00	1.91			
Total Xylenes*	0.966	0.150	07/18/2012	ND	5.99	99.9	6.00	2.45			

Surrogate: 4-Bromofluorobenzene (PIE) 116 % 89.4-126

Chloride, SM4500Cl-B			mg/kg							Analyzed By: HM	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	11600	16.0	07/19/2012	ND	416	104	400	0.00			

TPH 8015M			mg/kg							Analyzed By: AM	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	10.9	10.0	07/18/2012	ND	166	83.1	200	7.23			
DRO >C10-C28	599	10.0	07/18/2012	ND	171	85.7	200	6.06			

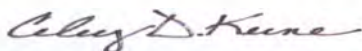
Surrogate: 1-Chlorooctane 74.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 103 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/18/2012
Reported: 07/24/2012
Project Name: STATE GA NO. 6
Project Number: NONE GIVEN
Project Location: SEC. 16 - T15S - R36 E

Sampling Date: 07/17/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S - 2 0.5' BGS (H201640-04)

BTX 8021B			mg/kg							Analyzed By: AP	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	07/18/2012	ND	1.91	95.7	2.00	0.781			
Toluene*	<0.050	0.050	07/18/2012	ND	1.94	97.1	2.00	2.18			
Ethylbenzene*	<0.050	0.050	07/18/2012	ND	1.98	99.0	2.00	1.91			
Total Xylenes*	<0.150	0.150	07/18/2012	ND	5.99	99.9	6.00	2.45			

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4960	16.0	07/19/2012	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/18/2012	ND	166	83.1	200	7.23		
DRO >C10-C28	24.8	10.0	07/18/2012	ND	171	85.7	200	6.06		

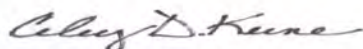
Surrogate: 1-Chlorooctane 81.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 111 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/18/2012
Reported: 07/24/2012
Project Name: STATE GA NO. 6
Project Number: NONE GIVEN
Project Location: SEC. 16 - T15S - R36 E

Sampling Date: 07/17/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S - 3 0' (H201640-05)

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	07/23/2012	ND	1.80	90.0	2.00	3.13	
Toluene*	<0.050	0.050	07/23/2012	ND	1.83	91.5	2.00	0.431	
Ethylbenzene*	0.055	0.050	07/23/2012	ND	1.91	95.6	2.00	0.110	
Total Xylenes*	0.238	0.150	07/23/2012	ND	5.74	95.7	6.00	0.699	

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	21600	16.0	07/19/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: AM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/18/2012	ND	166	83.1	200	7.23	
DRO >C10-C28	<10.0	10.0	07/18/2012	ND	171	85.7	200	6.06	

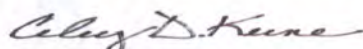
Surrogate: 1-Chlorooctane 77.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 104 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/18/2012
Reported: 07/24/2012
Project Name: STATE GA NO. 6
Project Number: NONE GIVEN
Project Location: SEC. 16 - T15S - R36 E

Sampling Date: 07/17/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S - 3 0.5' BGS (H201640-06)

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	07/23/2012	ND	1.80	90.0	2.00	3.13			
Toluene*	<0.050	0.050	07/23/2012	ND	1.83	91.5	2.00	0.431			
Ethylbenzene*	<0.050	0.050	07/23/2012	ND	1.91	95.6	2.00	0.110			
Total Xylenes*	<0.150	0.150	07/23/2012	ND	5.74	95.7	6.00	0.699			

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3040	16.0	07/19/2012	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/18/2012	ND	166	83.1	200	7.23		
DRO >C10-C28	<10.0	10.0	07/18/2012	ND	171	85.7	200	6.06		

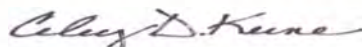
Surrogate: 1-Chlorooctane 77.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 103 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

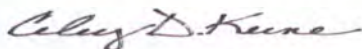
Notes and Definitions

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.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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



Company Name: Talon/LPE		P.O. #:		BILL TO		ANALYSIS REQUEST											
Project Manager: Mike Stubbiefield		Company: Talon/LPE															
Address: 408 West Talon Ave.		Attn:															
City: Artesia		Address:															
Phone #: 575-441-7254		City:															
Project #:		State:															
Project Name: State GA No. 6		Phone #:															
Project Location: Sec. 16, T15S, R36E		Fax #:															
Sampler Name: Mike Stubbiefield																	
FOR LAB USE ONLY		MATRIX		PRESERV.		SAMPLING											
		GROUNDWATER		ACID/BASE		DATE		TIME									
		SLUDGE		OTHER:													
		OIL		ICE / COOL													
		SOIL		OTHER:													
		# CONTAINERS															
		(G)RAB OR (C)OMP.															
Lab I.D.		Sample I.D.															
H2D1040		1 5' 10"		✓		7/17/12		5:00P		/		8015M T01		/		Total Cheloider	
2 5' 11" eq		✓		✓		7/17/12		5:12P		/		8015M T02		/		/	
3 5' 20"		✓		✓		7/17/12		5:15P		/		/		/		/	
4 5' 20.5' bgs		✓		✓		7/17/12		5:20P		/		/		/		/	
5 5' 30"		✓		✓		7/17/12		5:30P		/		/		/		/	
6 5' 30.5' bgs		✓		✓		7/17/12		5:36P		/		/		/		/	

Relinquished By: Michael S. Corbett
 Date: 7/18/2012
 Time: 12:25
 Relinquished By: Michael S. Corbett
 Date: _____
 Time: _____
 Received By: Michael S. Corbett
 Date: _____
 Time: _____
 Phone Result: ☐ Yes ☐ No
 Fax Result: ☐ Yes ☐ No
 Add'l Phone #: _____
 Add'l Fax #: _____
 REMARKS: _____
 Sample Condition:
 Cool ☐ Yes ☐ No
 Intact ☒ Yes ☐ No
 50
 CHECKED BY: (Initials)
 Delivered By: (Circle One)
 Sampler - UPS - Bus - (Other)

Page 9 of 9



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]



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

August 30, 2012

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STATE GA #1

Enclosed are the results of analyses for samples received by the laboratory on 08/23/12 17:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 1 2' (H202027-01)

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIC) 97.7 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1070	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

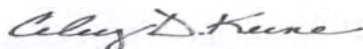
Surrogate: 1-Chlorooctane 85.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 100 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 1 4' (H202027-02)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13		
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70		
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08		
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19		

Surrogate: 4-Bromofluorobenzene (PIE) 99.7 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

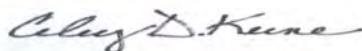
Surrogate: 1-Chlorooctane 80.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 1 6' (H202027-03)

BTX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIC) 97.2 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

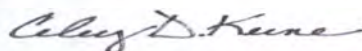
Surrogate: 1-Chlorooctane 89.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 1 8' (H202027-04)

BTX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIE) 99.1 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

Surrogate: 1-Chlorooctane 100 % 65.2-140

Surrogate: 1-Chlorooctadecane 116 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 1 10' (H202027-05)

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13		
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70		
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08		
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19		

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 89.4-126

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	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

Surrogate: 1-Chlorooctane 92.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

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Analytical Results For:

TALON LPE
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ARTESIA NM, 88210
Fax To: (575) 745-8905

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 2 2' (H202027-06)

BTX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIC) 98.1 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	10.9	10.0	08/28/2012	ND	198	98.8	200	1.52	

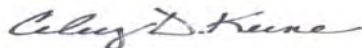
Surrogate: 1-Chlorooctane 87.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 2 4' (H202027-07)

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIE) 96.6 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

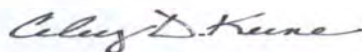
Surrogate: 1-Chlorooctane 90.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

 Received: 08/23/2012
 Reported: 08/30/2012
 Project Name: STATE GA #1
 Project Number: 701047.055
 Project Location: 16-15S-36E

 Sampling Date: 08/21/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: B - 2 6' (H202027-08)

BTX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIE) 96.6 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

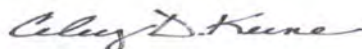
Surrogate: 1-Chlorooctane 85.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.0 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 2 8' (H20207-09)

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIL) 96.9 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

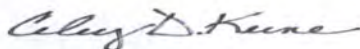
Surrogate: 1-Chlorooctane 96.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 2 10' (H202027-10)

BTEX 8021B			mg/kg							Analyzed By: AP	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	08/30/2012	ND	1.64	82.1	2.00	2.13			
Toluene*	<0.050	0.050	08/30/2012	ND	1.67	83.7	2.00	2.70			
Ethylbenzene*	<0.050	0.050	08/30/2012	ND	1.74	87.2	2.00	3.08			
Total Xylenes*	<0.150	0.150	08/30/2012	ND	5.53	92.1	6.00	3.19			

Surrogate: 4-Bromofluorobenzene (PIC) 98.1 % 89.4-126

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	08/27/2012	ND	416	104	400	0.00			

TPH 8015M			mg/kg							Analyzed By: MS	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52			
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52			

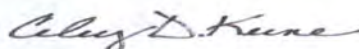
Surrogate: 1-Chlorooctane 91.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 3 2' (H202027-11)

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIL) 95.3 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1890	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	30.3	10.0	08/28/2012	ND	198	98.8	200	1.52	

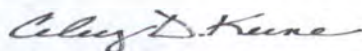
Surrogate: 1-Chlorooctane 86.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 100 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 3 4' (H202027-12)

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIL) 96.3 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

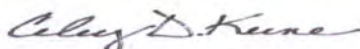
Surrogate: 1-Chlorooctane 96.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 117 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 3 6' (H202027-13)

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIL) 98.2 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

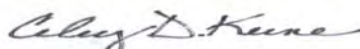
Surrogate: 1-Chlorooctane 89.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 98.1 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/23/2012
Reported: 08/30/2012
Project Name: STATE GA #1
Project Number: 701047.055
Project Location: 16-15S-36E

Sampling Date: 08/21/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: B - 3 8' (H202027-14)

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13	
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70	
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08	
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19	

Surrogate: 4-Bromofluorobenzene (PIC) 97.9 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/27/2012	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52	
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52	

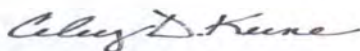
Surrogate: 1-Chlorooctane 83.1 % 65.2-140

Surrogate: 1-Chlorooctadecane 97.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:08/23/2012
Reported:08/30/2012
Project Name:STATE GA #1
Project Number:701047.055
Project Location:16-15S-36E

Sampling Date:08/21/2012
Sampling Type:Soil
Sampling Condition:Cool & Intact
Sample Received By:Jodi Henson

Sample ID: B - 3 10' (H202027-15)

BTEx 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2012	ND	1.64	82.1	2.00	2.13		
Toluene*	<0.050	0.050	08/29/2012	ND	1.67	83.7	2.00	2.70		
Ethylbenzene*	<0.050	0.050	08/29/2012	ND	1.74	87.2	2.00	3.08		
Total Xylenes*	<0.150	0.150	08/29/2012	ND	5.53	92.1	6.00	3.19		

Surrogate: 4-Bromofluorobenzene (PIE) 97.5 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	08/27/2012	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/28/2012	ND	197	98.3	200	2.52		
DRO >C10-C28	<10.0	10.0	08/28/2012	ND	198	98.8	200	1.52		

Surrogate: 1-Chlorooctane 83.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 96.7 % 63.6-154

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Celest D. Keene

Celest D. Keene, Lab Director/Quality Manager

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Celest D. Keene

Celest D. Keene, Lab Director/Quality Manager



CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Talon LPE

Project Manager: David Perkins

Address: 408 W. Texas

City: Alamogordo State: NM Zip: 88310

Phone #: 575-746-8768 Fax #: 575-746-8905

Project #: 701047-055 Project Owner: Leopold

Project Name: State #1

Project Location: 16-155-36E

Sampler Name: Kimberly M. Wilson

FOR LAB USE ONLY

Lab I.D. Sample I.D.

H2D2027

(G)RAB OR (C)OMP.
CONTAINERS
GROUNDWATER
WASTEWATER
SOIL
OIL
SLUDGE
OTHER :
ACID/BASE:
ICE / COOL
OTHER :

MATRIX

PRESERV

SAMPLING

DATE TIME

BETX
TPH
Chlorides

ANALYSIS REQUEST

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Relinquished By:

Date: 8/23/12 Received By:

Relinquished By: Kimberly M. Wilson

Date: 8/23/12

Received By: Kimberly M. Wilson

Delivered By: (Circle One)

Date: 8/23/12

Received By: Kimberly M. Wilson

Sampler - UPS - Bus - Other

Date: 8/23/12

Received By: Kimberly M. Wilson

CHECKED BY:

Phone Result:

Fax Result:

ANALYSIS REQUEST



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]

Appendix C

Photographs



Site Location



Site Prior to Remediation Viewing West, September 14, 2017



Site Prior to Remediation Viewing East, September 14, 2017



Site Prior to Remediation Viewing South, September 14, 2017



Site Prior to Remediation Viewing North, September 14, 2017



Site Location



Site Prior to Remediation Viewing West, September 14, 2017



Site Prior to Remediation Viewing South, September 14, 2017



Site Prior to Remediation Viewing North, September 14, 2017