

Febuary 23, 2011

AMARILLO 92I North Bivins Amarillo. Texas 79107 Phone 806.467.0607 Fax 806.467.0622

Mr. Mike Bratcher
NMOCD District 2
1301 West Grand Avenue
Artesia, NM 88210

MAR 04 2011

NMOCD ARTESIA

ARTESIA

408 West Texas Ave. Artesia, New Mexico 88210 Phone 575,746.8768 Fax 575.746.8905

Subject: Soil Assessment and Remediation Work Plan

Legacy Reserves Operating, LP South Red Lake Unit No.1 release

AUSTIN

9II West Anderson Lane Suite 202 Austin, Texas 78757 Phone 5I2.989.3428 Fax 5I2.989.3487

Dear Mr. Bratcher,

HOBBS

318 East Taylor Street Hobbs, New Mexico 88240 Phone 575.393.4261 Fax 575.393.4658 Legacy Reserves Operating, LP has contracted Talon/LPE (Talon) to perform soil assessment and remediation services for the referenced West Red Lake Unit No. 1 release. Talon's proposed work plan to perform soil assessment and remediation activities consists of the following:

MIDLAND

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

Incident Date

February 8, 2011

SAN ANTONIO

17170 Jordan Rd Suite 102 Selma, Texas 78154 Phone 210.265.8025 Fax 210.568.2191

Background Information

The South Red Lake Unit No. 1 is located approximately eleven (11) miles southeast of Artesia, New Mexico. The legal location for the site is Section 36, Township 17 South and Range 27 East in Eddy County, New Mexico. More Specifically the latitude and longitude for the release are 32,796005 North and -104,23543 West.

TULSA 525 South Main Street Suite 535 Tulsa, Oklahoma 74103 Phone 918.742,0871

Fax 918.382.0232

This site lies on undulating plains and low hills consisting of wind worked sandy deposits. Drainage courses in this area are normally dry. The local surface and shallow geology includes silty soils under lain by sand stone and caliche layers, providing an impermeable barrier to the migration of fluids in the area of the release. The New Mexico State Engineer's web site indicates the nearest ground water data to be in S10-T18S-R27E. The ground water in Section 10 is reported to be at an average depth of 50' below ground surface (bgs).

ENVIRONMENTAL CONSULTING

ENGINEERING DRILLING

CONSTRUCTION SPILL MANAGEMENT GENERAL CONTRACTING 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'

Toll Free: 866.742.0742 www.talonlpe.com

Incident Description

On February 8, 2011 the flow line located west of the South Red Lake Unit No. 1 location ruptured. The flow line was subsequently taken out of service and repaired. Twenty-five (25) barrels of produced water and hydrocarbons were released. Two (2) barrels of mixed fluids were recovered. The impacted area is located on a hillside approximately two hundred seventy feet (270') due north of the South Red Lake Unit No. 1 location. The flow path on the hillside is estimated to be four hundred seventy (470) feet long by six (6) feet wide. The release terminated on the No Bluff 36 State Com. No. 9, a producing well location which is operated by Lime Rock Resources, LLC. The pooling area on the location was estimated to be approximately forty feet (40') by forty long by forty feet (40') wide.

Sampling Activities

On February 9, 2011 Talon personnel mobilized to the site to begin site assessment and soil sampling for the construction of a work plan. Grab soil samples were collected utilizing a hand auger. The soil samples labeled S-1 were collected from a worst-case location within the flow path. The soil samples labeled S-2 were collected from the pooling area on the No Bluff 36 State Com. No. 9 location.

Soils samples were collected by Talon personnel wearing clean nitrile gloves. The samples were placed in laboratory provided glassware, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were tested for volatile organics pursuant to EPA Method 8021B; Total Petroleum Hydrocarbons (TPH) per EPA Method 8015M; and Total Chlorides via Method SM4500Cl-B. The complete laboratory report dated 2/11/11 is attached hereto in Appendix II; and the resulting data is summarized below.

Sample	Depth (ft)	Total BTEX	<u>TPH</u>	Chlorides (mg/kg)
S-1	0-ft	3.038	5,679	10,800 mg/kg
S-1	0.5'	ND*	74.4	4,400
S-2	0'	58.47	36,010	5,360
S-2	0.25'**	0.562	217.2	544

^{*}ND Not Detected within laboratory method detection limits

^{**} Refusal encountered with hand auger

On February 14, 2011 Talon personnel returned to the site with a breaker bar and post hole implement to collect additional soil samples from sample location S-1. Additionally, composite soil sample (S-3) was collected upgradient from the release to determine current background conditions. An abandoned tank battery and a closed production pit were observed directly up gradient of the release, as well as areas of chloride stained soils at land surface. The laboratory report dated 2/18/10 is also attached in Appendix II and summarized below.

<u>Sample</u>	Depth (ft)	Total BTEX	<u>TPH</u>	Chlorides (mg/kg)
S-1 S-1	1-ft 1.25'*	ND ND	284 309	1,170 mg/kg 896
Upgradient	0'	ND	471	5,600

^{*}Refusal encountered

For this site's ranking, New Mexico Oil Conservation District action level criteria for BTEX are 50 mg/kg, Benzene is 10 mg/kg and TPH is 1,000 mg/kg. The chloride remediation standard is considered to be 1,000 mg/kg.

Summary and Conclusions

- Ground water in the project vicinity is 50-feet below land surface per the New Mexico State Engineer Database.
- A dense, hard rock barrier was encountered at 1.0' below land surface.
- Based upon the results of the laboratory data obtained for this investigation, the vertical impacts (above remedial action levels) from this release appear to be confined to 1.25-feet below land surface within the flow path and 0.25-feet deep on the adjacent well location.
- Upgradient sampling and testing have indicated that background levels of petroleum hydrocarbons and chlorides are present in the area.
- Based on the depth to groundwater, the shallow confining layer encountered and the contamination levels detected in the soil; it is unlikely that the impacts identified from this release will pose a threat to groundwater.

Proposed Remedial Actions

- The impacted soil will be excavated and transported to an NMOCD approved solid waste disposal facility for disposal. The affected soil within the flow path of the release will removed to a depth of 1.25-feet deep. The impacted soil on the adjacent well location will be scraped to a depth of 0.25-feet and the location repaired.
- The excavated area will be backfilled back to grade using new material transported from a local borrow pit. The backfill material will be contoured to match the surrounding terrain and the area will be seeded with an approved seed mixture.
- A closure report detailing all site activities, analytical data and a final C-141 Form will be provided to the NMOCD.

Should you have any questions or if further information is required, please do not hesitate to contact us at 575.746.8768.

Respectfully submitted,

mike & Tubblefield

Mike Stubblefield Project Manager

David J. Adkins District Manager

APPENDIX I GROUNDWATER DATA INITIAL C-141 FORM



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters) Sub QQQ **Depth Depth Water** Y Distance Well WaterColumn ___X **POD Number** basin Use County 64 16 4 Sec Tws Rng 570871 RA 04561 PRO ED 26 · 17S 27E 3630142* 2424 250 RA 03917 PRO LE **18S** 27E 569019 3625660* 3370 130 50 80 RA 01493 **IRR** ED 2 1 27 **17S** 27E 876 568468 3630529* 4134 27E RA 04554 PRO ED 23 17S 569859 3631947* 4470 220 40 180 RA 04048 OBS LE **18S** 27E 570841 3623030* 4858 2096 L 01370 REPAR-1 DOM 3623355* LE 2 4 15 **18S** 27E 569328 5017 96 58 38 RA 03714 PRO CH 2 08 **18S** 27E 566212 3625253* 5971 381 RA 03661 PRO ED 2 3 32 **17S** 27E 565186 3628038* 6416 330 140 190 RA 03664 DOM CH 2 3 32 **17S** 27E 565186 3628038* 400 6416 100 300 RA 01716 S COM 3 **17S** 27E 566953 1200 3632420* 6531 RA 04114 DOM 1 F 4 3 16 **17S** 27E 566953 3632420* 1042 260 782 6531 RA 04153 DOM CH 4 3 16 **17S** 27E 566953 3632420* 6531 1220 175 1045 **RA 07844 EXPL EXP** FD 16 **17S** 27E 566854 3632521* 6673 1300 180 1120 RA 07844 **EXP** ED 3 16 17S 27E 3632420* 1300 566753 6675 180 1120 RA 06560 20 DOM CH 2 **17S** 27E 565757 3632217* 7306 133 80 53 L 07643 DOM LE **17S** 28E 578979 3628574* 7417 120 53 67 27E RA 03694 DOM ED 300 **17S** 565854 3632721* 7545 90 210 RA 03816 DOM CH 17 17S 27E 565854 3632721* 7545 945 931 14 RA 07774 STK 3 2 1 7606 ED 11 17S 27E 569933 3635251* 100 50 50 ED RA 06531 DOM 1 **17S** 27E 565747 3632821* 7691 200 RA 04320 DOM ED 3 17 17S 27E 565053 3632719* 8170 120 50 70 RA 08823 DOM 3 **17S** 27E 17 564745 3633019* 8597 348 60 288 RA 04211 **PRO** CH 3 1 28 **18S** 27E 8870 120 100 566512 3620562* 20 RA 05989 **PRO** ED 3 2 4 01 **18S** 26E 8929 8 562774 3626466* 72 64 RA 04298 OBS 19 ED **18S** 27E 564082 3622523* 9201 92 RA 04786 DOM ED 2 **17S** 27E 3 18 564133 3633277* 9242 138 111 27 RA 06635 2 2 2 DOM ED 18 17S 27E 564531 3633852* 9286 325 60 265 RA 02966 DOM ED . 4 05 17S 27E 566117 3635707* 9597 80 30 50 RA 06091 **PRO** ED 1 2 3 29 **18S** 27E 9933 73 565211 3620222* 90 17 *UTM location was derived from PLSS - see Help

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

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

Form C-141

Revised October 10, 2003

side of form

30-015-			Rel	ease Notific	catio	n and Co	orrective A	ction	1			
Kmw						OPERA'				al Report		Final Repor
		Legacy Rese 0848, Midla					ugh Rogers; pu No. 575.605.15		ease open	ator		
		Red Lake U		7102-7848	-+		e Production \					
Surface Ow				Mineral (Dwner				Lease 1	No. 307863		
						N OF REI	LEASE			10. 50700.	<u></u>	
Unit Letter	Section 36	Township 17S	Range 27E	Feet from the 660'		South Line	Feet from the 1650'	East/V WL	Vest Line	County Eddy		·
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				NAT	URE	OF RELI						
Type of Rele Source of Re						+	Release 25 bbls			Recovered 2		
Source of Re	tease - rupt	area now me	,			2/8/11, am	our of Occurrence	e	2/8/11, pr	Hour of Disc n	covery	
Was Immedia	ate Notice C		Yes 🗌	No Not Re	equired	If YES, To	Whom? cation to Mike Br	atcher,				
By Whom? !			LPE				our 2/9/11 @ 15:					
Was a Water	course Reac		Yes ⊠	No		If YES, Vo	lume Impacting the	ne Wate	rcourse.			
If a Watercou	irse was Imp	pacted, Descri	be Fully.*	no impact to wa	terway	1			RE	CEIV	ED	
									}	EB 11 2		
Describe Cau	se of Proble	m and Remed	lial Action	Taken.*				····	NMO	CD ART	ESIA	
Frozen poly f	low line rup	tured. Line re	epaired acc	complished same	day.					-		~ ;
Describe Area	Affected a	nd Cleanup A	ction Take	en.*						······		
Downhill flow and C-141 sub	v path appro omitted 2/9/	oximately 400 II. Remedial	' x 6'. 2 b action wo	bs recovered sam ork plan will be go	e day as enerated	release. Talo based on labo	on/LPE on site for oratory analytical	initial : results.	sampling 2	/9/11, notific	ation to	NMOCD
regulations all public health o should their op	operators a or the environerations ha ment. In ad-	re required to onment. The a ve failed to ad dition, NMOO	report and acceptance lequately in CD acceptance	I/or file certain re e of a C-141 repor investigate and re	lease no nt by the mediate	tifications and NMOCD man contamination	mowledge and un d perform correcti rked as "Final Re n that pose a threa the operator of re	ive action port" do at to gro	ons for rele es not relic und water,	ases which neve the opera surface water	nay enda itor of lister, huma	anger ability an health
Signature:		re le	う		.		OIL CONS	ERVA	ATION I	DIVISIO	<u> </u>	
Printed Name:	David J. A	dkins			A	pproved by D	Disgigt Suppyison	4/4	Beson	Mar_		
Title: District	Manager Ta	alon/LPE, Age	ent for Leg	gacy Reserves	A	pproval Date:	2/17/11	E	xpiration D	ate:		
E-mail Addres	s: dadkins@	talonlpe.con	1	,	c	onditions of A		nt			_	
Date: 2/9/1	Į	Phone: 575.	5.746.8768 .441.4835		•	Guidelines. S	ation per OCD SUBMIT REME	DIATI		Attached		
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APPENDIX II LABORATORY RESULTS



February 18, 2011

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: SOUTH RED LAKE UNIT #1

Enclosed are the results of analyses for samples received by the laboratory on 02/16/11 9:05.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated 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 (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



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

Received:

02/16/2011

Sampling Date:

02/14/2011

Reported:

02/18/2011

Sampling Type:

Soil

SOUTH RED LAKE UNIT #1

Sampling Condition:

Cool & Intact

Project Name: Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY SEC. 36-T17S.R27E

Sample ID: S-1 1' (H100309-01)

BTEX 8021B	mg,	/kg	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/16/2011	ND	1.99	99.4	2.00	9.57	
Toluene*	<0.050	0.050	02/16/2011	ND	2.06	103	2.00	9.30	
Ethylbenzene*	<0.050	0.050	02/16/2011	ND	2.12	106	2.00	9.86	
Total Xylenes*	<0.150	0.150	02/16/2011	ND	6.30	105	6.00	10.1	
		% 70-130)						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: LR					
Analyte	yte Result Reporting Limit		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1170	16.0	02/16/2011	ND	416	104	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	02/16/2011	ND	214	107	200	3.06	
DRO >C10-C28			02/16/2011	ND	224	112	200	3.74	
Surrogate: 1-Chlorooctane	115 !	% 70-130							
Surrogate: 1-Chlorooctadecane	112 9	% 70-130)						

Cardinal Laboratories

*=Accredited Analyte

any other cause whatsoever shall be deemed walved 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 subsklieries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such



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

Received:

02/16/2011

Sampling Date:

02/14/2011

Reported:

02/18/2011

Sampling Type:

Soil

Project Name:

SOUTH RED LAKE UNIT #1

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY SEC. 36-T17S.R27E

Sample ID: S-1 1.25' (H100309-02)

BTEX 8021B	mg/	kg	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/16/2011	ND	1.99	99.4	2.00	9.57	
Toluene*	<0.050	0.050	02/16/2011	ND	2.06	103	2.00	9.30	
Ethylbenzene*	<0.050	0.050	02/16/2011	ND	2.12	106	2.00	9.86	
Total Xylenes*	<0.150	0.150	02/16/2011	ND	6.30	105	6.00	10.1	
Surrogate: 4-Bromofluorobenzene (PIL	98.3	% 70-130							
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: LR					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	02/16/2011	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	02/16/2011	ND	214	107	200	3.06	
DRO >C10-C28	228 309 50.0		02/16/2011	ND	224	112	200	3.74	
Surrogate: 1-Chlorooctane	115 9	% 70-130	i						
Surrogate: 1-Chlorooctadecane	115	% 70-130							

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 negigence and any other cause whistoever 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 or profits incrured by client, its subclidaries, affiliaties or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims 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.



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

Received:

02/16/2011

Sampling Date:

02/14/2011

Reported:

Sampling Type:

Soil

Project Name:

02/18/2011

Sampling Condition:

Cool & Intact

Project Number:

SOUTH RED LAKE UNIT #1 NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY SEC. 36-T17S.R27E

Sample ID: UP GRADE (H100309-03)

BTEX 8021B	mg,	'kg	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/16/2011	ND	1.99	99.4	2.00	9.57	
Toluene*	<0.050	0.050	02/16/2011	ND	2.06	103	2.00	9.30	
Ethylbenzene*	<0.050	0.050	02/16/2011	ND	2.12	106	2.00	9.86	
Total Xylenes*	<0.150	0.150	02/16/2011	ND	6.30	105	6.00	10.1	
Surrogate: 4-Bromofluorobenzene (PIL	94.5	% 70-130)						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: LR					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	02/16/2011	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	02/16/2011	ND	214	107	200	3.06	
DRO >C10-C28	471 50.0		02/16/2011	ND	224	112	200	3.74	
Surrogate: 1-Chlorooctane	103 5	% 70-130)	,					
Surrogate: 1-Chlorooctadecane	99.3	% 70-130	•						

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any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of 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 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 anomalal of Cardinal Laboratories.



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

Cardinal Laboratories *=Accredited Analyte

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Celey D. Kune

RDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(505) 393-2326 FAX (505) 393-2476

Company Name	Talon/LPE										BI	LL TO						ANA	LYSIS	RE	QUE	<u> </u>			
Project Manager									P.O.	#:															
Address:	408 W Texas	gue.							Con	npa	ny:										i 1	i l		-	
City:	Ject Manager: O Adkins Jess: 408 W Tekas Aug. Jess: 408 W Tekas Aug. Jess: 408 W Tekas Aug. Jest: 575-746-8168 Fax#: 575-746-9905 Ject #: Project Owner: Legacy Res. Ject Name: South Red Lake Unit # 1 Ject Location: Eddy County Sec. 36-T175-R27E MANUSE ONLY Ject Name: O. Ad Kins ALARUSE ONLY JOS				,		_	Attr	<u>:</u>					1									.		
Phone #:	575-746-8168	Fax#: 575-	746	.99	05			_	Add	res	s:													.	
Project #:		Project Owner	: 46	gac	y RE	۶.		_	City	r:															l li
		Unit #1						_	Stat	e:		Zip:						1						. 1	
Project Location	: Eddy County s	CC. 36-T17	5 - 1	327	E			_	Pho	ne	#:														
Sampler Name:	O. Adkins							_	Fax			·							}]		1	
FOR LAR USE ONLY			٠.			MA.	TRIX	(PRE	SERV	SAMPLI	NG				1							1	
Lab I.D.	Sample I.	D	(G)RAB OR (C)OM	# CONTAINERS	GROUNDWATER	SOIL	OIL	SLUDGE	отнек:	ACID/BASE:	ICE / COOL	DATE	TIME	TPH	BTEK	cktorides									
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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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February 11, 2011

DAVID ATKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: LEGACY S. RED LAKE UNIT #1

Enclosed are the results of analyses for samples received by the laboratory on 02/10/11 10:40.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method SW-846 8260

Benzene, Toluene, Ethyl Benzene, and Total Xylenes

Method TX 1005

Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated 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 (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



TALON LPE DAVID ATKINS 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To: (5)

(575) 745-8905

Received:

02/10/2011

Sampling Date:

02/09/2011

Reported:

02/11/2011

Sampling Type:

Soil

Project Name:

LEGACY S. RED LAKE UNIT #1

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NM

Sample ID: S-1 @ 0.25' (H100267-01)

BTEX 8021B	mg/	kg	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	0.067	0.050	02/10/2011	ND	2.22	111	2.00	21.6	
Toluene*	0.264	0.050	02/10/2011	ND	2.22	111	2.00	22.9	
Ethylbenzene*	0.757	0.050	02/10/2011	ND	2.27	114	2.00	23.4	
Total Xylenes*	1.95	0.150	02/10/2011	ND	6.68	111	6.00	23.0	
Surrogate: 4-Bromofluorobenzene (PIL	94.4 %	6 70-130		,					
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10800	16.0	02/10/2011	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	279	100	02/11/2011	ND	201	101	200	1.33	
DRO >C10-C28	0-C28 5400 100		02/11/2011	ND	199	99.7	200	2.54	
Surrogate: 1-Chlorooctane	97.1 9	6 70-130							
Surrogate: 1-Chlorooctadecane	107 %	6 70-130							

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*=Accredited Analyte

recose. Forth: descriptions 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 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.



TALON LPE DAVID ATKINS 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received:

02/10/2011

Sampling Date:

02/09/2011

Reported:

02/11/2011

Sampling Type:

Soil

Project Name:

LEGACY S. RED LAKE UNIT #1

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NM

Sample ID: S-1 @ 0.5' (H100267-02)

BTEX 8021B	mg/	kg	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/10/2011	ND	2.22	111	2.00	21.6	
Toluene*	<0.050	0.050	02/10/2011	ND	2.22	111	2.00	22.9	
Ethylbenzene*	<0.050	0.050	02/10/2011	ND	2.27	114	2.00	23.4	
Total Xylenes*	<0.150	0.150	02/10/2011	ND	6.68	111	6.00	23.0	•
Surrogate: 4-Bromofluorobenzene (PIL	90.6	% 70-130							
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: HM			ı		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	02/10/2011	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/11/2011	ND	201	101	200	1.33	
DRO >C10-C28	74.4	10.0	02/11/2011	ND	199	99.7	200	2.54	
Surrogate: 1-Chlorooctane	95.5	% 70-130							
Surrogate: 1-Chlorooctadecane	88.4	% 70-130							

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

Received:

02/10/2011

02/11/2011

Reported: Project Name: LEGACY S. RED LAKE UNIT #1

Project Number:

NONE GIVEN

Project Location:

EDDY COUNTY, NM

Sampling Date:

Sampling Type:

02/09/2011 Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: S-2 @ 0' (H100267-03)

BTEX 8021B	mg,	/kg	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/10/2011	ND	2.22	111	2.00	21.6	
Toluene*	3.47	0.050	02/10/2011	ND	2.22	111	2.00	22.9	
Ethylbenzene*	17.9	0.050	02/10/2011	ND	2.27	114	2.00	23.4	
Total Xylenes*	37.1	0.150	02/10/2011	ND	6.68	111	6.00	23.0	
Surrogate: 4-Bromofluorobenzene (PIL			l						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: HM					ü
Analyte	Result	Result Reporting Limit		Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5360	16.0	02/10/2011	ND	448	112	400	3.64	
TPH 8015M	mg/	'kg	Analyze	d By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3210	100	02/11/2011	ND	201	101	200	1.33	
DRO >C10-C28			02/11/2011	ND	199	99.7	200	2.54	
Surrogate: 1-Chlorooctane	96.3	% 70-130	ı						
Surrogate: 1-Chlorooctadecane	90.2	% 70-130	1						

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TALON LPE DAVID ATKINS 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received:

02/10/2011

Reported:

02/11/2011

Project Name: Project Number:

Project Location:

LEGACY S. RED LAKE UNIT #1

NONE GIVEN

EDDY COUNTY, NM

Sampling Date:

02/09/2011

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: S-2 @ 0.25' (H100267-04)

BTEX 8021B	mg	/kg	Analyze	d By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/10/2011	ND	2.22	111	2.00	21.6	
Toluene*	<0.050	0.050	02/10/2011	ND	2.22	111	2.00	22.9	
Ethylbenzene*	0.153	0.050	02/10/2011	ND	2.27	114	2.00	23.4	
Total Xylenes*	0.409	0.150	02/10/2011	ND	6.68	111	6.00	23.0	
Surrogate: 4-Bromofluorobenzene (PIL	99.1	% 70-130)						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM			· · · · · · · · · · · · · · · · · · ·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	02/10/2011	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: AB		100			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	25.2	10.0	02/11/2011	ND	201	101	200	1.33	
DRO >C10-C28	192	10.0	02/11/2011	ND	199	99.7	200	2.54	
Surrogate: 1-Chlorooctane	89.8	% 70-130)						
Surrogate: I-Chlorooctadecane	84.5	% 70-130)						

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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 recorded excess in full with united accounts of the samples and account of the samples identified above.



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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Celey & Keine

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 (505) 393-2326 FAX (505) 393-2476

Relinquished By:

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Please Rush anolysis. TX

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Delivered By: (Circle One)

Sample Condition CHECKED BY:

Cool Intact (initials)

Yes Yes

No No No

Received By:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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