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 JUN 26 2009

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 X Final Report				
Name of Co				perating, LLC		Contact Matt Eagleston					
		hlake, Texas 76	Celephone No. (817) 416-1946								
Facility Nar	ne South	Red Lake	II Unit C	Central Battery	F	acility Typ	e Produced Wa	ater Tan	iks		
Surface Ow	ner Stat	te of New M	Mineral O	wner	State of No	ew Mexico		Lease N	io. NMNM109695	X	
300150	0658			LOCA	TION	OF REI	LEASE				
Unit Letter	Section	Fownship	Range	Feet from the		South Line   Feet from the   East/West Line   County					
"I"	35	175	27E	2,125	South		150	East		Eddy	
	······································	L	atitude	32.78898° Nort	.h	Loi	ngitude -104.2	4337° W	Vest		
				NAT	URE	OF REL		***************************************			
Type of Relea	ase Produc	ed Water					Release 200 bbls	1		Recovered 5 bbls cr	ude oil; 150
Source of Re	lanca Store	oc Tank					bls crude oil four of Occurrence		bbls water	llour of Discovery	
Source of Re	icase mai	ige rank				11/02/07 (2			11/02/07		
Was Immedia	ite Notice C					If YES, To				37	
		Y	es 🗌 N	lo 🛛 Not Requi	ired						ļ
By Whom?						Date and I-			<del></del>		
Was a Water	course Reac			71 N.		If YES, Vo	lume Impacting t	he Water	course.		
				₫ No							
If a Watercor	irse was lm	pacted, Descr	ibe Fully.*								
malfunctione were repaired	d causing the and the fac	e storage tanl lility was rest	cs to overf arted.	low, Following in	itial rest	onse activiti	es, including the	recovery	of free lie	ating and a high leve quids, the electrical n	nalfunctions
the gypsum of 2,239 cubic yrisk-based significant purchased na	Describe Area Affected and Cleanup Action Taken. A soil investigation was completed and analytical results indicated soil impact was not present below the gypsum cap. Excavation of the impacted soil was initiated and soil samples were collected and submitted to the laboratory for analysis. Approximately 2,239 cubic yards of impacted soil was transported to Lea Land Landfill (Permit #NM-01-0035) for disposal. With NMOCD Artesia Office approval a risk-based site closure was employed, utilizing a polyethylene liner. Following the installation of the liner the excavation was backfilled with locally purchased native soil. A <i>Remediation Summary and Site Closure Request</i> dated January 2009 was submitted to the NMOCD Artesia Office and contains additional details and documentation not contained in this document.										
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases, which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.											
Signature: Matt Eagleston  Printed Name: Matt Eagleston							OIL CONSERVATION DIVISION  Approved by District Supervisor:				
Title Preside	,	<del></del>				Approval Dat	6-29-09	<b>7</b> E	xpiration	Date: V/K	
E-mail Addre	ss: meagle	ston@fairway		- 1	Conditions of Approval:			2RP-0125	,		
Date: 2/	25/0	7	Phone:	(817) 416-1946		·		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		<u></u>	

## Basin Environmental Service Technologies, LLC

2800 Plains Highway
P. O. Box 301
Lovington, New Mexico 88260
cdstanley@basin-consulting.com
Office: (575) 396-2378 Fax: (575) 396-1429



'JUN 26 2009

## REMEDIATION SUMMARY

#### **AND**

#### SITE CLOSURE REQUEST

Fairway Resources Operating, LLC

South Red Lake II Unit Central Battery

Eddy County, New Mexico UNIT "I" (NE/SE), Section 35, Township 17S, Range 27E Latitude 32.78898° North, Longitude 104.24337° West

#### 2RP-125

Prepared For:

Fairway Resources Operating, LLC 538 Silicon Drive, Suite 101 Southlake, Texas 76092

Prepared By:
Basin Environmental Service Technologies, LLC

February 2009

Curt D. Stanley

Project Manager

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#### INTRODUCTION AND BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Fairway Resources Operating, LLC (Fairway), has prepared this Remediation Summary and Site Closure Request for the release site known as South Red Lake II Unit Central Battery. The legal description of the release site is NE ¼ SE ¼ (Unit Letter I), Section 35, Township 17 South, Range 27 East in Eddy County, New Mexico. The property is owned by the New Mexico State Land Office (SLO). The release site GPS coordinates are 32.78898° North and 104.24337° West. A Site Location and Site Map are provided as Figures 1 and 2, respectively. The Release Notification and Corrective Action (Form C-141) is provided as Appendix E.

The Eddy County Soil Survey (2004) indicates the release site soil type is Reeves-Gypsum land complex with 0-3% slopes and Largo – Stoney land complex with 0-25% slopes. Visual observation indicates the area surrounding the release site is in active oil and gas production.

On November 2, 2007, an electrical malfunction at the South Red Lake II Unit Central Battery caused an injection pump to stop operating; the electrical malfunction resulted in the facility storage tanks filling to capacity. A malfunction in the storage tank high level alarm caused the storage tanks to overflow. The Release Notification and Corrective Action (Form C-141) indicates 200 barrels (BBL) of produced water and 10 BBL of crude oil were released as a result of the malfunctions. The Form C-141 indicates 150 BBL of produced water and 5 BBL of crude oil were recovered during initial response activities. The release net loss was 50 BBL of produced water and 5 BBL of crude oil.

On February 6, 2008, Fairway submitted a Proposed Response Plan to the New Mexico Oil Conservation Division (NMOCD) – Artesia District Office. The Plan detailed remediation activities designed to progress the site toward on NMOCD approved site closure. On February 7, 2008, the NMOCD approved the Proposed Response Plan submitted by Fairway. NMOCD correspondence is provided as Appendix A.

#### NMOCD SITE CLASSIFICATION

As described in Section 3A of the Guidelines for Remediation of Leaks, Spills and Releases (NMOCD, 1993), the following characteristics are used to determine the site soil ranking criteria, which influences the site-specific clean-up standards applicable for this site. The depth to groundwater is between 50 - 100 feet from the base of the impacted zone, resulting in ten (10) points being assigned to the site as a result of this criterion.

The water well database, maintained by the New Mexico Office of the State Engineer (NMOSE), was accessed to determine the location and type of nearby registered water wells in the area. The database indicated there are no water wells less than 1,000 feet from the release, resulting in zero (0) points being assigned to this site as a result of this criterion.

There is no surface water body located within 1,000 feet of the site. Based on the NMOCD ranking system zero (0) points will be assigned to the site as a result of the criterion. The Guidelines indicate the South Red Lake II Unit Central Battery release site has a ranking score of

ten (10). Based on this score, the soil remediation levels for a site with a ranking score of ten (10) points are as follows:

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

The NMOCD chloride clean-up concentration levels are site specific.

#### SUMMARY OF RECENT FIELD ACTIVITIES

In March 2008, initial excavation activities commenced at the South Red Lake II Unit Central Battery. Impacted soil was excavated by Gandy Corporation (Gandy) of Lovington, New Mexico, to a depth of approximately eight (8) to ten (10) feet below ground surface (bgs). The impacted soil was stockpiled on site pending transportation to an NMOCD approved landfill. Approximately 1,809 cubic yards (cy) of soil was transported to an NMOCD approved facility for disposal.

In April 2008, Fairway approached Basin and requested assistance in horizontally and vertically delineating the release site. Following an initial site assessment, Basin recommended advancing soil borings to thoroughly investigate the horizontal and vertical extent of impact at the site.

On May 1, 2008, an air rotary drill rig was mobilized to advance seven (7) soil borings (SB-1 through SB-7) at the release site. The soil borings were advanced to a maximum depth of twenty-five (25) feet bgs and soil samples were collected at five (5) foot drilling intervals.

Soil boring SB-1 was advanced east of the initial South Red Lake II Unit Central Battery excavation. The soil boring was advanced to a depth of twenty-five (25) feet bgs. The analytical results indicated the benzene concentration was less than the laboratory MDL of 0.001 mg/Kg in the soil sample collected at ten (10) feet bgs. The analytical results indicated the BTEX concentration was less than the laboratory MDL of 0.002 mg/Kg in the soil sample collected at ten (10) feet bgs. Soil samples from the five (5) and ten (10) foot drilling intervals were selected for TPH analysis. The analytical results indicated TPH concentrations in both the five (5) and ten (10) soil samples was less the laboratory MDL of 17.2 mg/Kg and 18.1 mg/Kg, respectively. Soil samples from the five (5), ten (10), fifteen (15) and twenty-five (25) foot intervals were selected for chloride analysis. The analytical results indicated chloride concentrations ranged from less than the laboratory MDL of 5 mg/Kg at five (5) and ten (10) feet bgs to 226 mg/Kg at fifteen (15) feet bgs. These results indicate benzene, BTEX, TPH and chloride concentrations were below NMOCD regulatory clean-up levels in this soil boring. Soil boring logs are included as Appendix B. A summary of Concentrations of Benzene, BTEX, TPH and Chlorides in Soil is provided as Table 1 and laboratory reports are provided as Appendix C.

Soil boring SB-2 was advanced west of the initial South Red Lake II Unit Central Battery excavation. The soil boring was advanced to a depth of twenty-five (25) feet bgs. The analytical results indicated the benzene concentration was less than the laboratory MDL of 0.001 mg/Kg in soil samples collected at five (5) and ten (10) feet bgs. The analytical results indicated the BTEX

concentration ranged from less than the laboratory MDL of 0.002 mg/Kg at ten (10) feet bgs to 0.0362 mg/Kg at five (5) feet bgs. Soil samples from the five (5), ten (10), and fifteen (15) foot drilling intervals were selected for TPH analysis. The analytical results indicated TPH concentrations ranged from less the laboratory MDL of 16.9 mg/Kg at fifteen (15) feet bgs to 1,191 mg/Kg at five (5) feet bgs. Soil samples from the five (5), ten (10), fifteen (15) and twenty-five (25) foot intervals were selected for chloride analysis. The analytical results indicated chloride concentrations ranged from 42.54 mg/Kg at twenty-five (25) feet bgs to 2,552 mg/Kg at five (5) feet bgs. The analytical results indicate benzene and BTEX concentrations were below NMOCD regulatory clean-up levels for this soil boring. The analytical results further indicate TPH concentrations exceeding the NMOCD regulatory clean-up levels were exhibited in the five (5) foot bgs soil sample. Chloride concentrations exceeding the NMOCD regulatory clean-up levels were exhibited in the five (5) and ten (10) foot bgs soil samples.

Soil boring SB-3 was advanced northwest of the initial South Red Lake II Unit Central Battery excavation. The soil boring was advanced to a depth of fifteen (15) feet bgs. The soil sample from the ten (10) foot drilling interval was selected for TPH analysis. The analytical results indicated the TPH concentration was less than the laboratory MDL of 17 mg/Kg. Soil samples from the ten (10) and fifteen (15) foot intervals were selected for chloride analysis. The analytical results indicated chloride concentrations ranged from 106.4 mg/Kg at fifteen (15) feet bgs to 808.3 mg/Kg at ten (10) feet bgs. Chloride concentrations exceeding the NMOCD regulatory clean-up levels were exhibited in the ten (10) foot bgs soil sample.

Soil boring SB-4 was advanced southwest of the initial South Red Lake II Unit Central Battery excavation. The soil boring was advanced to a depth of fifteen (15) feet bgs. The analytical results indicated a benzene concentration of less than the laboratory MDL of 0.001 mg/Kg at ten (10) feet bgs. The analytical results indicated a BTEX concentration of less than the laboratory MDL of 0.002 mg/Kg at ten (10) feet bgs. Soil samples from the ten (10) and fifteen (15) foot intervals were selected for TPH analysis. The analytical results indicated TPH concentrations ranged from 106.8 mg/Kg at ten (10) feet bgs to 155.1 mg/Kg at five (5) feet bgs. Soil samples from the ten (10) and fifteen (15) foot intervals were selected for chloride analysis. The analytical results indicated chloride concentrations ranged from 186.1 mg/Kg at fifteen (15) feet bgs to 2,765 mg/Kg at ten (10) feet bgs. The analytical results indicate benzene, BTEX and TPH concentrations were below NMOCD regulatory clean-up levels for this soil boring. Chloride concentrations exceeding the NMOCD regulatory clean-up levels were exhibited in the ten (10) foot bgs soil sample.

Soil boring SB-5 was advanced northeast of the initial South Red Lake II Unit Central Battery excavation. The soil boring was advanced to a depth of ten (10) feet bgs. The analytical results indicated the TPH concentration at ten (10) feet bgs was less the laboratory MDL of 17.6 mg/Kg. Soil samples from the five (5) and ten (10) foot intervals were selected for chloride analysis. The analytical results indicated chloride concentrations ranged from 3,084 mg/Kg at five (5) feet bgs to 3,829 mg/Kg at ten (10) feet bgs. The analytical results indicate the TPH concentration was below NMOCD regulatory clean-up levels for this soil boring. Chloride concentrations exceeding the NMOCD regulatory clean-up levels were exhibited in the five (5) and ten (10) foot bgs soil samples.

Soil boring SB-6 was advanced in the release flowpath, approximately two hundred (200) feet northeast of the initial South Red Lake II Unit Central Battery excavation. The soil boring was advanced to a depth of five (5) feet bgs. The soil boring was continuously sampled in a composite sample from two (2) to five (5) feet bgs. The analytical results indicated the TPH concentration was 69.1 mg/Kg. The analytical results indicated the chloride concentration was 265.9 mg/Kg. The analytical results indicate the TPH and chloride concentrations were below NMOCD regulatory clean-up levels for this soil boring.

Soil boring SB-7 was advanced upslope and approximately five hundred (500) feet southwest of the initial South Red Lake II Unit Central Battery excavation. The soil boring was advanced to evaluate off-site background concentrations of chlorides. The soil boring was advanced to a depth of fifteen (15) feet bgs. The analytical results indicated the chloride concentrations ranged from 340.3 mg/Kg at five (5) feet bgs to 1,255 mg/Kg to ten (10) feet bgs. The analytical results indicate the background chloride concentrations were above NMOCD regulatory clean-up levels for this soil boring.

In May 2008, following the evaluation of the soil boring and analytical data, a *Soil Investigation Summary and Amended Soil Closure Proposal* (Proposal) was submitted and subsequently approved by the NMOCD – Artesia District Office. The Proposal detailed activities proposed to progress the release site toward an NMOCD approved site closure.

On June 19, 2008, five (5) sidewall soil samples (NSW-1, ESW-1, WSW-1, WSW-2 and SSW-1) and two (2) excavation floor soil samples (Floor-1 and Floor-2) were collected and submitted to the laboratory for analysis. The soil samples were analyzed for concentrations of benzene, BTEX, TPH and chlorides.

The analytical results for benzene concentrations indicated all of the sidewall soil samples exhibited benzene concentrations less than the laboratory MDL. The analytical results of the sidewall soil samples for BTEX concentrations ranged from less than the laboratory MDL in soil samples NSW-1, WSW-1, WSW-2 and SSW-1 to 0.5648 mg/Kg in soil sample ESW-1. The analytical results of the sidewall soil samples for TPH concentrations ranged from 107.7 mg/Kg in soil sample WSW-1 to 15,779 mg/Kg in soil sample ESW-1. The analytical results of the sidewall soil samples for chloride concentrations ranged from 2,110 mg/Kg in soil sample ESW-1 to 15,000 mg/Kg in soil sample WSW-2.

The analytical results for benzene and BTEX concentrations indicated the excavation floor soil samples exhibited benzene and BTEX concentrations less than the laboratory MDL. The analytical results of the excavation floor soil samples for TPH concentrations ranged from 52.2 mg/Kg in soil sample Floor-1 to 61.7 mg/Kg in soil sample Floor-2. The analytical results of the excavation floor soil samples for chloride concentrations ranged from 6,150 mg/Kg in soil sample Floor-2 to 14,300 mg/Kg in soil sample Floor-1.

On June 19, 2008, a stockpile soil sample was collected to evaluate the status of the excavated soil. The analytical results indicated benzene and BTEX concentrations were below the laboratory MDL of 0.001 mg/Kg and 0.0021 mg/Kg, respectively. The TPH concentration was 822 mg/Kg and the chloride concentration was 8,380 mg/Kg.

Following the collection and analysis of the excavation sidewall and floor soil samples, additional excavation activities commenced. The analytical results indicated additional excavation was required on all of the excavation sidewalls and the excavation floor.

In August 2008, excavation activities ceased, due to numerous on-site health, safety and environmental hazards. A high voltage power line located to the west of the excavation, high-pressure water injection pipelines located to the north of the excavation, a City of Carlsbad, New Mexico municipal water line located to the east of the excavation and the South Red Lake II Unit Central Battery facility located to the south of excavation, were identified.

On or about August 28, 2008, Basin on behalf on Fairway requested and received verbal approval from the NMOCD – Artesia District Office to proceed with a risk-based closure of the South Red Lake II Unit Central Battery release site. On September 4, 2008, Basin on behalf of Fairway submitted, via email a formal request to the NMOCD for a risk-based site closure and on September 9, 2008, Basin received written NMOCD approval.

Following NMOCD approval, backfilling activities detailed in the formal request letter commenced. As approved, excavated material was screened to remove large gypsum blocks which could not be disposed of at the NMOCD approved landfill. A total of approximately 2,239 cy of screened soil was stockpiled and transported to Lea Land Landfill (Permit #NM-01-0035). As approved, large gypsum blocks were placed in the excavation to approximately seven (7) feet bgs and locally purchased native caliche was placed in the excavation and compacted with the large gypsum blocks to minimize potential settling of the excavation area. No additional moisture was required to efficiently compact the caliche and gypsum blocks. Approximately one (1) foot of non-impacted sand was placed on top of the gypsum and caliche to provide a cushioning layer between the compacted caliche / gypsum material and the impermeable liner.

On September 16, 2008, a twenty (20) mil polyethylene was placed in the excavation at approximately six (6) feet bgs. The sand layer beneath the liner was mounded to encourage the shedding of moisture to the edges of the liner. This engineered control is designed to minimize the vertical migration of contaminants below the liner, by the process of shedding moisture to the edge of the liner and beyond the maximum horizontal extent of underlying impacted soil. Photographs of the liner installation, excavation activities and backfilling activities are provided as Appendix D.

Following the liner installation an additional one (1) foot of non-impacted sand placed on top of the liner to protect the liner from damage during the backfilling activities. Following the placement of the protective sand layer, locally purchased native caliche was used and compacted in eighteen (18) inch lifts to complete the backfilling of the excavation. The release occurred in an active oil and gas facility and will not be seeded.

#### SITE CLOSURE REQUEST

Basin recommends Fairway provide the NMOCD – Artesia District Office a copy of this Remediation Summary and Site Closure Request and request the NMOCD grant a risk-based site closure to the South Red Lake II Unit Central Battery release.

#### **LIMITATIONS**

Basin Environmental Service Technologies, LLC has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Service Technologies, LLC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Service Technologies, LLC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Basin Environmental Service Technologies, LLC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Service Technologies, LLC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Fairway Resources Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC and/or Fairway Resources Operating, LLC.

#### **DISTRIBUTION:**

Copy 1: Sherry Bonham

New Mexico Oil Conservation Division

District 2

1301 W. Grand Avenue Artesia, New Mexico 88210

Copy 2: Matt Eagleston

Fairway Resources Operating, LLC.

538 Silicon Drive,

Suite 101

Southlake, Texas 76092

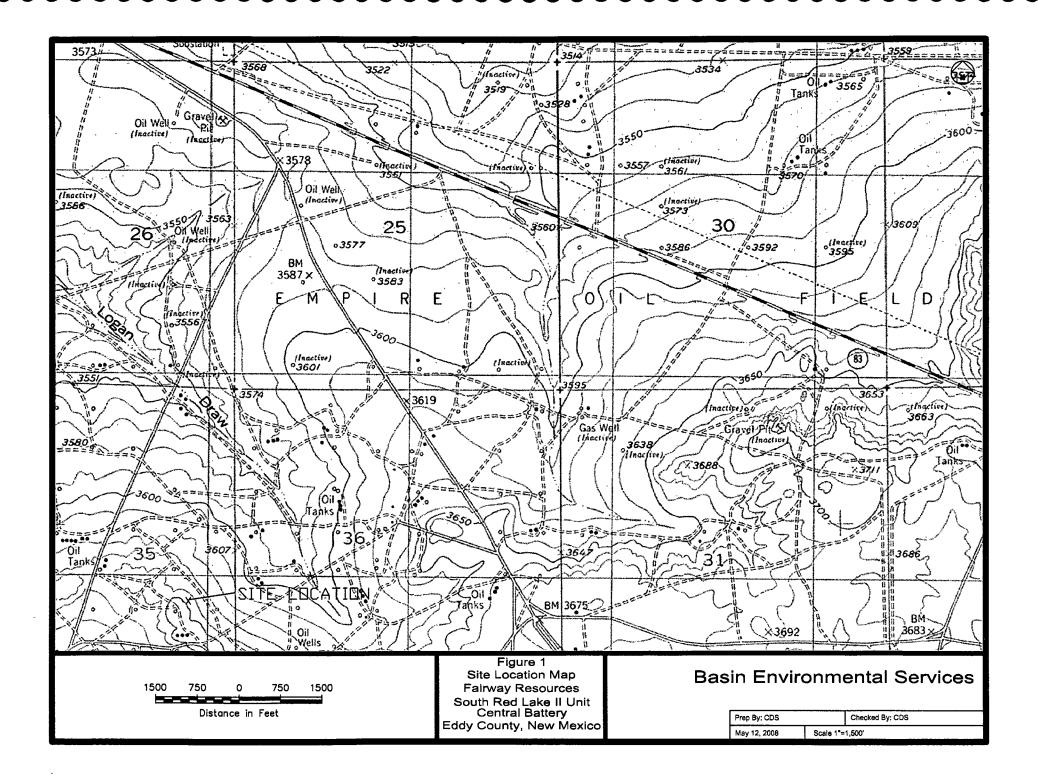
Copy 3: Curt D. Stanley

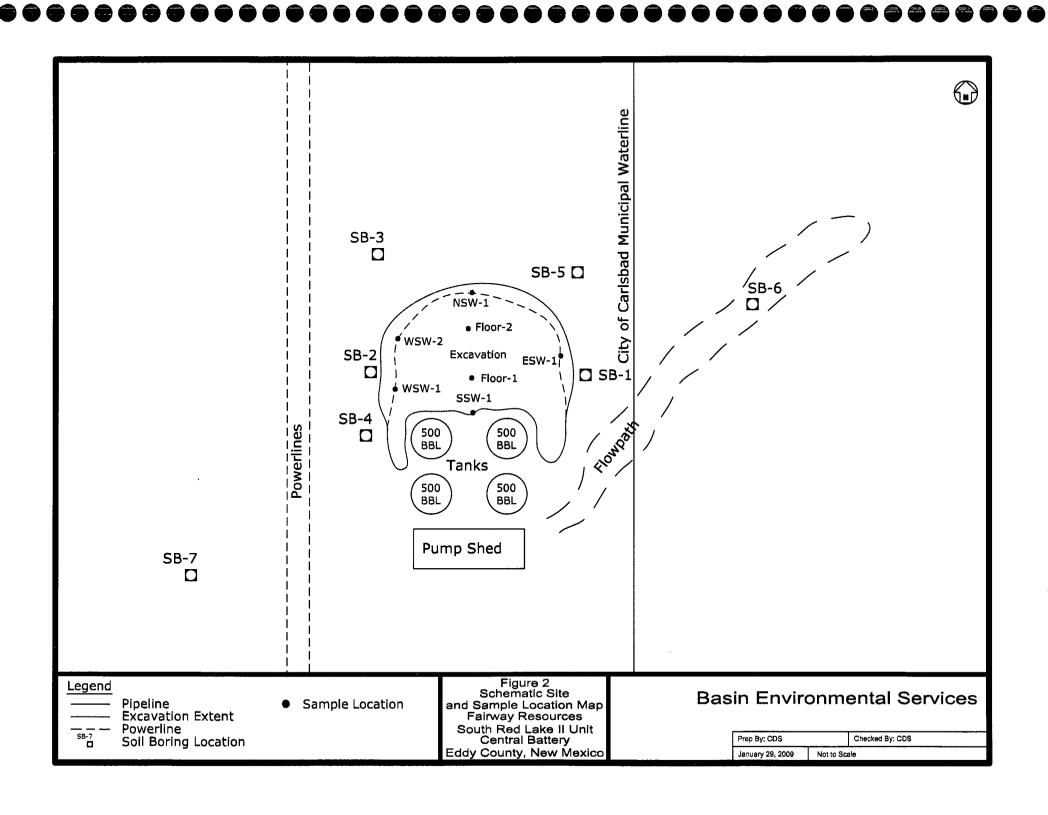
Basin Environmental Consulting, LLC.

P.O. Box 301

Lovington, New Mexico 88220 <a href="mailto:cdstanley@basin-consulting.com">cdstanley@basin-consulting.com</a>

Figures





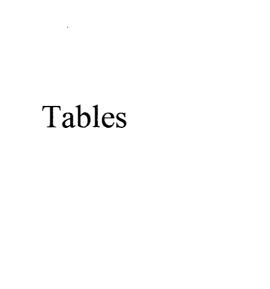


Table 1

## CONCENTRATIONS OF BENZENE, BTEX, TPH and CHLORIDE IN SOIL FAIRWAY RESOURCES - SOUTH RED LAKE II UNIT CENTRAL BATTERY EDDY COUNTY, NEW MEXICO

All measurments recorded in ma/kg

	All measurments recorded in mg/kg  Methods: EPA SW 846-8021B, 5030														
							PA SW 846-8	021B, 5030					846-8015M		EPA 4500
SAMPLE DATE	SAMPLE LOCATION	SAMPLE DEPTH	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE mg/Kg)	ETHYL- BENZENE (mg/Kg)	m,p- XYLENE (mg/Kg)	o-XYLENE (mg/Kg)	TOTAL XYLENE (mg/Kg)	BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	BTEX C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
05/01/08	SB1 - 5'	5'	In-Situ	-	•	-	-	-	-	,	<17 2	<17.2	<17 2	<17 2	<5
05/01/08	SB1 - 10'	10'	In-Situ	<0 001	<0 002	<0 001	<0 002	<0 001	<0 002	<0 002	<18 1	<18 1	<18 1	<18 1	<5
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	SB2 - 10'	10'	In-Situ	<0 001	<0 002	<0 001	<0 002	<0 001	<0 002	<0 002	<18	78 8	40 9	1197	1,149
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	SB7 - 15'	15	In-Situ	-	-	_	-	-	-		-	-	-	-	510.5
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06/19/08	NSW-1	10'	In-Situ	<0 0010	<0 0020	<0 0010	<0 0020	<0 0010	<0 0020	<0 0020	64 1	130	90 7	2848	2,140
	ESW-1	10'	In-Situ	<0 0051	<0 0102	0 0669	0 2326	0 2653	0 4979	0 5648	609	12600	2570	15,779	2,110
	WSW-1	10'	In-Situ	<0.0011	<0 0021	<0 0011	<0 0021	<0.0011	<0 0021	<0 0021	<159	89 6	18 1	107 7	4,070
	WSW-2	10'	In-Situ	<0 0011	<0 0022	<0 0011	<0 0022	<0 0011	<0 0022	<0 0022	34 7	3180	836	4,050.7	15,000
	SSW-1	10'	In-Situ	<0 0012	<0 0024	<0 0012	<0 0024	<0 0012	<0 0024	<0 0024	45 9	1670	432	2,147.9	4,620
06/19/08	Stockpile	-	Transported	<0.0010	<0 0021	<0 0010	<0 0021	<0 0010	<0 0021	<0 0021	29 5	646	146	822	8,380
06/19/08	Floor-1	12'	In-Situ_	<0.0011	<0 0021	<0 0011	<0 0021	<0 0011	<0 0021	<0 0021	21 2	31	<161	52 2	14,300
	Floor-2	12'	In-Situ	<0.0011	<0 0021	<0 0011	<0 0021	<0.0011	<0 0021	<0 0021	40 9	20 8	<159	61 7	6,150
开心系统			政権制分五	Property of the second	2300	<b>建工额</b> :	2、藏酒(1.1)	海外常院	1963		1 16 T. L	E TO	743	J. S. FRANKA	0.0-0.7 0.3 0.40
NMOCD R	REGULATORY	STANDARD	-	10	<u> </u>	-	-	-		50			-	1,000	500

**BOLD** indicates concentration exceeding NMOCD regulatory standards

Appendices

Appendix A NMOCD Correspondence

#### Kenneth Pearce

From:

Bonham, Sherry, EMNRD [Sherry.Bonham@state.nm.us]

Sent:

Thursday, February 07, 2008 4:21 PM

To:

kpearce@fairwayresources.com

Subject: South Red Lake II Unit Central Battery Work Plan Approval with Stipulations

ebruary 7, 2008

Fairway Resources Operating, LLC

38 Silicon dr., Ste 101

Southlake, TX 76092

Attn: Kenneth Pearce

Reference:

South Red Lake II Unit Central Battery 35, T17S, R27E UL: E Eddy County, New Mexico

2RP-125

Mr. Pearce,

The New Mexico Oil Conservation Division District 2 Office (OCD) is in receipt of a work plan proposal (plan) for remediation of a release of produced fluids occurring at the above referenced facility on November 2, 2007. The plan proposes excavation and hisposal of impacted soils exceeding the OCD Recommended Remedial Action Levels (RRAL) for this site.

The plan is accepted with the following stipulations:

- Notify the OCD 24 hours prior to commencement of activities.
- Notify the OCD 48 hours prior to obtaining samples where analyses are to be submitted to the OCD.
- Results of analytical data obtained through sampling shall be forwarded to OCD for approval prior to any backfilling activities
- A final Report C-141 is to be submitted to the OCD upon satisfactory completion of remediation project.
- Remediation requirements may be subject to change as site conditions warrant.
- Remediation to be completed on or before April 4, 2008.

Please be advised that NMOCD acceptance of this plan does not relieve the operator of liability should their operations have ailed 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 this plan does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

Respectfully,

Sherry Bonham

MOCD District 2

301 W Grand Avenue

Artesia, NM 88210

75.748.1283 ext. 109

sherry.bonham@state.nm.us

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2/7/2008

February 6, 2008

Gerry Guye Compliance Officer NMOCD District II, Artesia

RE: South Red Lake II Unit Central Battery

Gerry,

As per your letter dated 11-27-2207 and our recent phone conversation on 1-28-2008, I am attaching a proposed spill remediation plan for the SRLIIU central tank battery spill we experienced on 11-2-2007. Please review and let me know if this is acceptable or if we let to make any modifications. I am mailing copies of this to you today as well.

I apologize for the delay with our response. Apparently, we misplaced your letter of 11-27-2007.

Sincerely,

Kenneth Pearce

Sr. Operations Engineer Fairway Resources 538 Silicon Dr., Suite 101 Southlake, TX 76092

office: 817-416-1946 fax: 817-416-1949

email: kpearce@fairwayresources.com



#### February 6, 2008

Fairway Resources Operating, LLC South Red Lake II Unit - Central Battery Sec. 35, T17S, R27E Eddy Co., NM 11-2-2007 Oil and Produced Water Spill (C-141 filed 11-27-2007)

#### Proposed Response Plan

#### **Initial Response Actions Taken**

11-5-2007 All wells were shut-in, stopping the source of the spill from the water and oil tanks.

Liquids were contained in the berm system around tanks.

Free liquids were recovered from the berm area and put back into the

production facility for processing.

Caliche was placed over contaminated area within berms.

#### Soil and Water Remediation Action Levels

Ranking Criteria Depth to Ground Water; 50' - 99' score 10

Wellhead Protection Area; >1000' from water source

>200' from private domestic water

source score 0

Distance to Surface Water Body; >1000' horizontal feet

score 0

Total Score; 10

#### Required Remediation Action Level

Benzene (ppm) 10 BTEX (ppm) 50 TPH (ppm) 1,000 Chlorides (ppm) 500

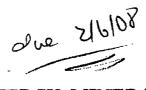
#### Proposed Remediation Plan

Notes: Remediation work will be resumed as soon as possible after this plan is approved, and equipment and services are available.

All soil sampling and analyzes will be done using EPA methods and/or OCD approved standards.

1) Soil samples will be collected and analyzed within the affected area at the South Red Lake II Unit Central Battery to determine the specific area and depth of contamination above the OCD limits shown above.

- 2) The affected soil will be excavated and hauled to an off-site OCD approved treatment or disposal facility. Excavation will continue until representative samples from the walls and bottom of the excavation are below the contaminant specific remediation levels shown on the table above.
- 3) Clean soil will be hauled in and placed in the excavated area, any damaged berms will be repaired.
- 4) Remedial action will be terminated once contaminant concentrations are below OCD specified levels, as shown above, or these levels cannot be practically attained and the remaining contaminant concentrations pose no threat to fresh water, the public, or the environment, subject to OCD evaluation and approval.
- 5) After all remedial activities are completed, a final report summarizing all actions taken to mitigate damage related to the spill will be provided to the OCD for approval.





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

#### **BILL RICHARDSON**

Governor

Joanna Prukop

Cabinet Secretary

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

3b-0/5-00658

November 27, 2007

Fairway Resources Operating, LLC 538 Silicon Dr. Ste 101 Southlake, TX 76092

**ATTN: Kenneth Pearce** 

RE: South Red Lake II Unit Central Battery

Dear Sir:

This office is in receipt of your C-141 on the oil and produced water release, at this facility.

NMOCD Rule 19.15.3.116 states in part ..."The responsible person must complete division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with Section 19 of 19.15.1 NMAC."

Information and tools for proper corrective action may be found in the Environmental Handbook on our web site <a href="https://www.emnrd.state.nm.us/ocd">www.emnrd.state.nm.us/ocd</a> under the heading publications.

Remediation requirements may be subject to other federal, state and local laws or regulations.

Within 30 days, on or before December 27, 2007, completion of a remediation work plan should be finalized and submitted to the Division, summarizing all actions taken or to be taken to mitigate environmental damage related to the leak, spill or release, for approval.

Please be advised that NMOCD acceptance and/or approval of documents or work plans 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 and/or approval of documents or work plans do not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If I may be of further service or if you have any questions please feel free to contact me.

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Gerry Guye
Compliance Officer

NMOCD District II, Artesia (505) 748-1283 ext 105

Cell (505) 626-0843

E-mail: gerry.guye@state.nm.us

#### Kenneth Pearce

From: Guye, Gerry, EMNRD [gerry.guye@state.nm.us]

Sent: Monday, January 28, 2008 12:00 PM

To: Kenneth Pearce

Cc: Bonham, Sherry, EMNRD

Subject: South Red Lake II Unit Central Battery

#### Kenneth

In reference to my letter of November 27, 2007 on this spill, I was to receive your proposed work plan by December 27, 2007.

I have not received the work plan or the analytical data needed to close this project.

To preclude further enforcement action please forward this information to me on or before February 6, 2008.

#### Gerry Guye

Compliance Officer NMOCD - Artesia Office (505)748-1283x105 Mobile (505)626-0843

E-Mail: gerry.guye@state.nm.us

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#### **Curt D. Stanley**

From: "Bonham, Sherry, EMNRD" <Sherry.Bonham@state.nm.us>

To: "Curt Stanley" <cstanley@basinenv.com>

Cc: "Kenneth Pearce" < kpearce@fairwayresources.com>

Sent: Tuesday, September 09, 2008 2:01 PM

Subject: RE: South Red Lake II Unit Central Battery 30 015 00658 2RP-125

Dear Mr. Stanley,

Based on evidence presented and site specific review, the proposal to a risk-based closure as outlined in the September 4, 2008 email for the South Red Lake II Unit Central Battery and the procedures for backfilling are approved. Please provide notification of commencement of activities.

Please be advised that NMOCD acceptance 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 do not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

Respectfully, Sherry Bonham NMOCD District II 1301 West Grand Avenue Artesia, NM 88210 575.748.1283

**From:** Curt Stanley [mailto:cstanley@basinenv.com] **Sent:** Thursday, September 04, 2008 9:27 AM

**To:** Bonham, Sherry, EMNRD **Cc:** kpearce@fairwayresources.com

**Subject:** South Red Lake II Unit Central Battery

Re: Fairway Resources
South Red Lake II Unit Central Battery
Eddy County, New Mexico
API # 30-015-00658
NMOCD Ref # 2 RP-125
Unit "I" (NE/SE) Sec. 35, T17S, R27E

Dear Ms. Bonham,

**a** 

**d** 

**(1)** 

**a** 

As we discussed last week (week beginning August 25, 2008), the remediation of the Fairway Resources (Fairway), South Red Lake II Unit Central Battery release as referenced above, has not yielded the expected outcome.

The excavation of impacted soil from the sidewalls of excavation has ceased due to numerous potential on-site safety hazards.

On the west side of the excavation a high voltage power line and numerous surface poly lines pose a significant health and environmental hazard. On the north and east sides of the excavation, high-pressure injection pipelines have been identified, as well as a City of Carlsbad municipal water line. The Fairway

Resources South Red Lake II Central Battery Water Flood Station and four (4) 500 barrel produced water storage tanks are located on the south side of the excavation.

In May 2008, seven (7) soil borings were advanced to provide vertical and horizontal delineation of the impacted soil. Due to the above stated on-site hazards, horizontal delineation was not possible. The soil borings did indicate benzene, toluene, ethyl-benzene, and xylene (BTEX), total petroleum hydrocarbon (TPH) and chloride concentrations were below the New Mexico Oil Conservation Division (NMOCD) regulatory clean-up levels at fifteen (15) feet below ground surface (bgs).

Based on the observed health and environmental hazards and data collected to date. Fairway Resources proposes a risk-based closure of the South Red Lake II Unit Central Battery Release Site. Fairway proposes to partially backfill the existing excavation with gypsum rock separated from the excavation stockpile. The soil separated from the excavation stockpile will be transported to a NMOCD approved landfill for disposal. Following the partial backfilling of the excavation, non-impacted sand or sandy caliche will be placed in the excavation and an appropriate volume of water will be used to wash the sand or sandy caliche into the voids created by the rock. Following the application of water, heavy equipment will be utilized to compact the excavation backfill. Following compaction of the backfill additional non-impacted caliche will be placed in the excavation and compacted in eighteen (18) inch lifts to approximately six (6) feet below ground surface (bgs). Sand will be mounded in the center of the excavation and a twenty (20) mil polyethylene liner will be placed on top of the sand. Following the placement of the liner an approximately one (1) foot layer of cushioning sand will be placed on top of the liner. Following the installation of the liner, locally purchased caliche will be used to complete the backfilling of the excavation. An appropriately sized secondary containment berm will be rebuilt around the South Red Lake II Unit water flood station storage tanks as required.

Following the completion of the above activities, a Remediation Summary and Risk-Based Closure Request will be prepared and submitted to the NMOCD-Artesia District Office for approval.

Thank you for your consideration in this matter.

On behalf of Fairway Resources,

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1 **(D)**  Curt D. Stanley Senior Project Manager Basin Environmental Service Technologies P.O. Box 301 Lovington, New Mexico 88260 (O) 575396-2378 (C) 575-441-2244 (F) 575-396-1429

Mr. Kenneth Pearce, Fairway Resources

cc

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Appendix B Soil Boring Logs

#### Depth PID Soil Petroleum Petroleum Columns Reading (feet) Odor Stain None None (2.0) None None $\overline{(1.8)}$ None None $\overline{0.8}$ None None 0.2 None None (1.1)

## Soil Description

0 - 7' - Sand, brown to tan with a few caliche nodules

7 - 9' - Clay, red to green, silty, moist

9 - 11' - Clay, red, silty

11 - 13' - Gypsum, white, soft

13 - 14.5' - Clay, red, silty

14.5 - 17' - Gypsum, white, soft

17 - 20' - Clay, red, silty with some sand stringers

20 - 20.5' - Clay, brown, clayey

20.5 - 22' - Sand, tan, very fine grained with red clay stringers

22 - 25' - Gypsum, white, soft

#### Soil Boring Details

Date Dnlled	May 1, 2008
Thickness of Bentonite Seal	25 Ft
Depth of Exploratory Bonng	25 Ft
Depth to Groundwater	
Ground Water Elevation	<del></del>

¥	Indicates the PSH level measured on
Y	Indicates the groundwater level measured on ,
$\circ$	Indicates samples selected for Laboratory Analysis

PID Head-space reading in ppm obtained with a photo-ionization detector

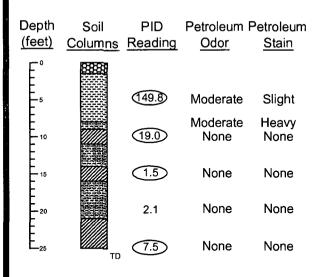
#### Notes

- The soil boring was advanced on date using air rotary drilling techniques.
- 2 ) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual
- 3) The depths indicated are referenced from below ground surface (bgs)

Boring Log Details
Soil Boring SB-1
South Red Lake II Unit Central Battery Eddy County, New Mexico
Fairway Resources

#### **Basin Environmental Services**

Prep By CDS Checked By CDS
May 12, 2008



#### Soil Description

0 - 1.5' - Caliche Pad 1.5 - 5' - Clay, green to black, silty, moist, moderate odor, slight staining, 5 - 8' - Clay, green to black, silty, moist, moderate odor, heavy staining, 8 - 9' - Clay, red, silty 9 - 11' - Gypsum, white, soft 11 - 14" - Clay, red, silty 14 - 16' - Gypsum, white, soft 16 - 21' - Clay, red, silty 21 - 25' - Gypsum, white, soft

#### Soil Boring Details

Date Drilled	May 1, 2008					
Thickness of Bentonite Seal	25 Ft					
Depth of Exploratory Bonng	25 Ft					
Depth to Groundwater						
Ground Water Elevation						

▼.	Indicates the PSH level measured on
ፗ	Indicates the groundwater level measured on
0	Indicates samples selected for Laboratory Analysis.
DID	Head anger reading in ppm obtained with a photo increation detector

#### Notes

- 1) The soil boring was advanced on date using air rotary drilling
- 2) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual
- 3) The depths indicated are referenced from below ground surface (bgs)

**Boring Log Details** Soil Boring SB-2 South Red Lake II Unit Central Battery Eddy County, New Mexico

Fairway Resources

**Basin Environmental Services** 

Checked By CDS Prep By CDS May 12, 2008

#### Depth PID Petroleum Petroleum Soil Columns Reading (feet) Odor Stain None None (3.1) None None (2.2) None None (0.7)

## Soil Description

0 - 6' - Sand, brown, clayey with some caliche fragments
6 - 7' - Clay, greenish, silty
7 - 8' - Clay, red, silty
8 - 10' - Gypsum, white, soft

10 - 14' - Clay, brown, sandy14 - 15' - Gypsum, white, soft

#### Soil Boring Details

Date Dnlled	May 1, 2008
Thickness of Bentonite Seal	15 Ft
Depth of Exploratory Bonng	15 Ft
Depth to Groundwater	
Ground Water Elevation	

. ▼	Indicates the PSH level measured on
<b>.</b>	Indicates the groundwater level measured on
0	Indicates samples selected for Laboratory Analysis
PID	Head-space reading in ppm obtained with a photo-ionization detector

#### Notes

- The soil boring was advanced on date using air rotary drilling techniques
- 2.) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual
- 3.) The depths indicated are referenced from below ground surface (bgs)

Boring Log Details
Soil Boring SB-3
South Red Lake II Unit Central Battery Eddy County, New Mexico
Fairway Resources

**Basin Environmental Services** 

Prep By CDS Checked By CDS
May 12, 2008

# Depth Soil PID Petroleum Petroleum (feet) Columns Reading Odor Stain Very Slight None None None None None

## Soil Description

0 - 4.5' - Gypsum, white, soft 4.5 - 5' - Clay, red, silty 5 - 5.5' - Gypsum, white, soft 5.5 - 9' - Clay, red to green to black, silty, moist 9 - 11' - Clay, red, silty, moist 11 - 12' - Gypsum, white, soft with red clay lenses 12 - 15' - Clay, red, sandy

#### Soil Boring Details

Date Drilled	May 1, 2008
Thickness of Bentonite Seal	15 Ft
Depth of Exploratory Bonng	15 Ft
Depth to Groundwater	
Ground Water Elevation	

<b>▼</b>	Indicates the PSH level measured on
<u>¥</u>	Indicates the groundwater level measured on
$\circ$	Indicates samples selected for Laboratory Analysis
PID	Head-space reading in ppm obtained with a photo-ionization detector

#### Notes

- The soil boring was advanced on date using air rotary drilling techniques.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- 3) The depths indicated are referenced from below ground surface (bgs)

Boring Log Details
Soil Boring SB-4
South Red Lake II Unit central Battery Eddy County, New Mexico
Fairway Resources

#### **Basin Environmental Services**

Prep By CDS		Checked By CDS	_
May 12, 2008			

# Depth Soil PID Petroleum Petroleum (feet) Columns Reading Odor Stain

None None

None None

## Soil Description

0 - 0.5' - Pad caliche 0.5 - 5' - Clay, red, silty 5 - 6' - Gypsum, white, soft 6 - 8' - Clay, greenish yellow 8 - 10' - Clay, red, silty

#### Soil Boring Details

Date Drilled May 1, 2008

Thickness of Bentonite Seal 10 Ft

Depth of Exploratory Bonng 10 Ft

Depth to Groundwater

Ground Water Elevation

▼.	Indicates the PSH level measured on
¥	Indicates the groundwater level measured on
$\circ$	Indicates samples selected for Laboratory Analysis

PID Head-space reading in ppm obtained with a photo-ionization detector

#### Notes

- The soil boring was advanced on date using air rotary drilling techniques.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual
- 3) The depths indicated are referenced from below ground surface. (bgs)

Boring Log Details
Soil Boring SB-5
South Red Lake II Unit Central Battery Eddy County, New Mexico
Fairway Resources

#### **Basin Environmental Services**

Prep By CDS Checked By CDS

May 12, 2008

Petroleum Petroleum Depth Soil PID (feet) Columns Reading Odor

Stain

Soil Description

None None 0 - 1' - Clay, red, silty 1 - 5' - Gypsum, white, soft

#### Soil Boring Details

May 1, 2008 Date Dolled Thickness of Bentonite Seal \_\_\_\_5 Ft Depth of Exploratory Bonng \_\_\_\_\_5 Ft Depth to Groundwater Ground Water Elevation

V	Indicates the PSH level measured on	

Indicates the groundwater level measured on

Indicates samples selected for Laboratory Analysis

Head-space reading in ppm obtained with a photo-ionization detector

#### Notes

- 1) The soil boring was advanced on date using air rotary drilling techniques
- 2) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual
- 3) The depths indicated are referenced from below ground surface. (bgs)

**Boring Log Details** Soil Boring SB-6 South Red Lake II Unit Central Battery Eddy County, New Mexico Fairway Resources

#### **Basin Environmental Services**

Checked By CDS Prep By CDS May 12, 2008

#### Depth PID Petroleum Petroleum Soil Columns Reading (feet) Odor Stain None None (1.7)None None (1.2)None None

#### Soil Description

0 - 1' - Sand, brown, clayey

1 - 9' - Gypsum, white, soft

9 - 12' - Clay, greenish yellow, silty

12 - 15' - Gypsum, white, soft

#### Soil Boring Details

Date Dnlled	May 1, 2008
Thickness of Bentonite Seal	15 Ft
Depth of Exploratory Bonng	15 Ft
Depth to Groundwater	
Ground Water Elevation	

▼ Indicates the PSH level measured on	_
---------------------------------------	---

Indicates the groundwater level measured on

Indicates samples selected for Laboratory Analysis.

PID Head-space reading in ppm obtained with a photo-ionization detector

#### Notes

- The soil boring was advanced on date using air rotary drilling techniques
- 2 ) The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual
- 3) The depths indicated are referenced from below ground surface (bgs)

Boring Log Details
Soil Boring SB-7
South Red Lake II Unit Central Battery Eddy County, New Mexico
Fairway Resources

#### **Basin Environmental Services**

Prep By CDS Checked By CDS

May 12, 2008

Appendix C Laboratory Reports

## **Analytical Report 303082**

for

#### **Basin Enivronmental Services**

**Project Manager: Curt Stanley** 

## Fairway Resources-Red Lake II Central Bat Red Lake II Central Bat

08-MAY-08



12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta





08-MAY-08

Project Manager: Curt Stanley Basin Enivronmental Services

P.O. Box 301

Lovington, NM 88260

Reference: XENCO Report No: 303082

Fairway Resources-Red Lake II Central Bat

Project Address: East of Artesia, NM

#### **Curt Stanley:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 303082. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 303082 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and OUALITY

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



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## **Sample Cross Reference 303082**



## Basin Enivronmental Services, Lovington, NM

Fairway Resources-Red Lake II Central Bat

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB1 - 5'	S	May-01-08 08:30		303082-001
SB1 - 10'	S	May-01-08 08:35		303082-002
SB1 - 15'	S	May-01-08 08:40		303082-003
SB1 - 25'	S	May-01-08 08:50		303082-005
SB2 - 5'	S	May-01-08 09:00		303082-006
SB2 - 10'	S	May-01-08 09:05		303082-007
SB2 - 15'	S	May-01-08 09:10		303082-008
SB2 - 25'	S	May-01-08 09:20		303082-010
SB3 - 10'	S	May-01-08 10:10		303082-012
SB3 - 15'	S	May-01-08 10:15		303082-013
SB4 - 5'	S	May-01-08 10:30		303082-014
SB4 - 10'	S	May-01-08 10:35		303082-015
SB4 - 15'	S	May-01-08 10:40		303082-016
SB5 - 5'	S	May-01-08 11:00		303082-017
SB5 - 10'	S	May-01-08 11:10		303082-018
SB6 2'-5'	S	May-01-08 12:00		303082-019
SB7 - 5'	S	May-01-08 12:20		303082-020
SB7 - 10'	S	May-01-08 12:25		303082-021
SB7 - 15'	S	May-01-08 12:30		303082-022



#### Basin Enivronmental Services, Lovington, NM

Project Id: Red Lake II Central Bat

Project Name: Fairway Resources-Red Lake II Central Bat

Contact: Curt Stanley
Project Location: East of Artesia, NM

Date Received in Lab: Fri May-02-08 02:23 pm

Report Date: 08-MAY-08

Project Manager: Brent Barron, II

								x rojece ma		B10111 B11111			
	Lab Id:	303082-0	001	303082-0	02	303082-0	003	303082-0	005	303082-	006	303082-	007
Anahusia Banuastad	Field Id:	SB1 - 5	5'	SB1 - 10	)'	SB1 - 1	5'	SB1 - 2	5'	SB2 -	5'	SB2 - 1	10'
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL	İ	SOIL		SOIL		SOIL		SOIL	_
	Sampled:	May-01-08	08·30	May-01-08 (	08.35	May-01-08	08·40	May-01-08	08·50	May-01-08	09:00	May-01-08	09.05
DEEL ED A 0021D	Extracted:			May-05-08 1	6:35	<u>-</u>				May-05-08	16:35	May-05-08	16.35
BTEX by EPA 8021B	Analyzed:			May-05-08 2						May-05-08		May-05-08	
	Units/RL:			mg/kg	RL					mg/kg	RL	mg/kg	RL
Benzene	- Children				0 0010		-				0 0010	ND	0.0010
Toluene					0.0020					ND	0 0020	ND	0 0020
Ethylbenzene				ND	0.0010				-	0.0071	0.0010	ND	0.0010
m,p-Xylenes				ND	0.0020					0 0131	0 0020	ND	0.0020
o-Xylene				ND	0.0010					0 0160	0 0010	ND	0.0010
Xylenes, Total				ND						0.0291		ND	
Total BTEX				ND						0 0362		ND	
Chloride by SM4500-CI- B	Extracted:												
	Analyzed:	May-06-08	00:00	May-06-08 (	00:00	May-06-08	00.00	May-06-08	00:00	May-06-08	00.00	May-06-08	00.00
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND		ND		226 0	5 000	138 3	5.000	2552	5 000	1149	5.000
Percent Moisture	Extracted:					-							
1 ci cent Moisture	Analyzed:	May-05-08	15:35	May-05-08 l	5:35					May-05-08	15:35	May-05-08	15 35
	Units/RL:	%	RL	%	RL					%	RL	%	RL
Percent Moisture		12.9	1.00	17.3	1.00					13.2	1 00	16.8	1.00
TPH by SW8015 Mod	Extracted:	May-05-08	16:55	May-05-08	6:55					May-05-08	16.55	May-05-08	16:55
11 11 by 5 W 6013 W10d	Analyzed:	May-06-08	00.20	May-06-08 (	00:45					May-06-08	01.11	May-06-08	01:36
,	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	17.2	ND	18.1					69 0	17.3	ND	18.0
C12-C28 Diesel Range Hydrocarbons		ND	172	ND	18.1				·	886 17.3		78 8	180
C28-C35 Oil Range Hydrocarbons		ND	172	ND	181					236	17.3	40 9	180
Total TPH		ND		ND						1191		119.7	

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Basin Enivronmental Services, Lovington, NM

Project Id: Red Lake II Central Bat

Project Name: Fairway Resources-Red Lake II Central Bat

Contact: Curt Stanley
Project Location: East of Artesia, NM

Date Received in Lab: Fri May-02-08 02:23 pm

Report Date: 08-MAY-08
Project Manager: Brent Barron, II

								1 TOJECE MIA	mager.	Dient Danon,	11		
	Lab Id:	303082-0	08	303082-01	10	303082-0	12	303082-	013	303082-0	14	303082-0	015
Analysis Panyastad	Field Id:	SB2 - 1:	5'	SB2 - 25	,	SB3 - 10	0'	SB3 - 1	5'	SB4 - 5	,	SB4 - 1	.0'
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	,
	Sampled:	May-01-08	09.10	May-01-08 0	9.20	May-01-08	10:10	May-01-08	10:15	May-01-08	10.30	May-01-08	10:35
BTEX by EPA 8021B	Extracted:											May-05-08	16.35
BIEA BY EFA 6021B	Analyzed:											May-05-08	21:43
	Units/RL:											mg/kg	RL
Benzene	·											ND	0 0010
Toluene												ND	0 0020
Ethylbenzene												ND	0 0010
m,p-Xylenes												ND	0.0020
o-Xylene												ND	0.0010
Xylenes, Total												ND	
Total BTEX												ND	
Chloride by SM4500-CI- B	Extracted:												
	Analyzed:	May-06-08	00 00	May-06-08 0	0.00	May-06-08	00:00	May-06-08	00:00			May-06-08	00.00
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL
Chloride		106 4	5.000	42 54	5 000	808.3	5.000	106 4	5.000			2765	5 000
Percent Moisture	Extracted:												
Tortont Wildistar	Analyzed:	May-05-08	15.35			May-05-08	15:35			May-05-08	15:35	May-05-08	15:35
	Units/RL:	%	RL			%	RL			%	RL	%	RL
Percent Moisture		11.5	1 00			11.7	1.00			140	1 00	17.5	1 00
TPH by SW8015 Mod	Extracted:	May-05-08	16:55			May-05-08	16:55			May-05-08	16:55	May-05-08	16:55
1111 by 5 11 5015 1110d	Analyzed:	May-06-08	02:02			May-06-08	02:28			May-06-08	02 54	May-06-08	03.19
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.9			ND	17.0			ND	17.4	ND	18 2 18 2
C12-C28 Diesel Range Hydrocarbons		ND	16.9			ND	17.0			85 7	17.4	17.4 75.3	
C28-C35 Oil Range Hydrocarbons		ND	16.9			ND	17.0			69 4	17.4	315	18.2
Total TPH		ND				ND				155 1		106 8	

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Basin Enivronmental Services, Lovington, NM

Project Id: Red Lake II Central Bat

Project Name: Fairway Resources-Red Lake II Central Bat

Contact: Curt Stanley
Project Location: East of Artesia, NM

Date Received in Lab: Fri May-02-08 02:23 pm

Report Date: 08-MAY-08
Project Manager: Brent Barron, II

								I roject Ma	mager.	Dieni Danon,			
	Lab Id:	303082-0	016	303082-	017	303082-0	18	303082-0	019	303082-0	020	303082-0	21
Analysis Requested	Field Id:	SB4 - 1	5'	SB5 -	5'	SB5 - 10	יס	SB6 2'-	5'	SB7 - :	5'	SB7 - 10	)'
Anatysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-01-08	10:40	May-01-08	11.00	May-01-08	11 10	May-01-08	12:00	May-01-08	12 20	May-01-08	12 25
Chloride by SM4500-CI- B	Extracted:												
,	Analyzed:	May-06-08	00:00	May-06-08	00.00	May-06-08	00:00	May-06-08	00.00	May-06-08	00 00	May-07-08 (	00 00
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		186.1	5.000	3084	5.000	3829	5 000	265.9	5 000	595.6	5 000	1255	5 000
Percent Moisture	Extracted:												
	Analyzed:					May-05-08	15:35	May-05-08	15.35				
	Units/RL:					%	RL	%	RL				
Percent Moisture						146	1 00	11.4	1 00		., .		
TPH by SW8015 Mod	Extracted:					May-05-08	16.55	May-05-08	16:55				
	Analyzed:					May-06-08	04.11	May-06-08	04.37				
	Units/RL:					mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons						ND	176	ND	16.9				
C12-C28 Diesel Range Hydrocarbons						ND	17.6	48.6	16.9				
C28-C35 Oil Range Hydrocarbons						ND	17.6	20.5	16.9				
Total TPH						ND		69.1					

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#### Basin Enivronmental Services, Lovington, NM

Project Id: Red Lake II Central Bat

Project Name: Fairway Resources-Red Lake II Central Bat

Contact: Curt Stanley Project Location: East of Artesia, NM Date Received in Lab: Fri May-02-08 02:23 pm

Report Date: 08-MAY-08

Project Manager: Brent Barron, II

	Lab Id:	303082-022			
Analysis Requested	Field Id:	SB7 - 15'			
Analysis Requesieu	Depth:				
	Matrix:	SOIL			
	Sampled:	May-01-08 12:30			
Chloride by SM4500-CI- B	Extracted:				
	Analyzed:	May-06-08 00·00			
	Units/RL:	mg/kg RL			
Chloride		510 5 5 000			

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## XENCO Laboratories

## Flagging Criteria

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte.

  The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

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(770) 449-8800	(770) 449-5477
	(281) 589-0692 (214) 902 0300 (210) 509-3334 (813) 620-2000 (305) 823-8500





Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082

Project ID: Red Lake II Central Bat

Lab Batch #: 721748

Sample: 303082-002 / SMP

Matrix: Soil Batch:

Units: mg/kg	SU	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1,4-Dıfluorobenzene	0.0327	0.0300	109	80-120					
4-Bromofluorobenzene	0.0287	0.0300	96	80-120					

Lab Batch #: 721748

Sample: 303082-006 / SMP

Batch: Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
Analytes			[D]							
1,4-Dıfluorobenzene	0.0326	0.0300	109	80-120						
4-Bromofluorobenzene	0.0340	0.0300	113	80-120						

Lab Batch #: 721748

Sample: 303082-007 / SMP

Batch:

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes	, ,	, ,	[D]					
1,4-Difluorobenzene	0.0329	0.0300	110	80-120				
4-Bromofluorobenzene	0.0271	0.0300	90	80-120				

Lab Batch #: 721748

Sample: 303082-015 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1,4-Dıfluorobenzene	0.0332	0.0300	111	80-120					
4-Bromofluorobenzene	0 0289	0 0300	96	80-120					

Lab Batch #: 721748

**Sample:** 508533-1-BKS / BKS

Batch: 1

Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1,4-Dıfluorobenzene	0.0282	0.0300	94	80-120				
4-Bromofluorobenzene	0.0290	0.0300	97	80-120				

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





### Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082 Project ID: Red Lake II Central Bat

Lab Batch #: 721748 Sample: 508533-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg	St	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
Analytes			[D]							
1,4-Difluorobenzene	0.0333	0.0300	111	80-120						
4-Bromofluorobenzene	0 0273	0.0300	91	80-120						

Lab Batch #: 721748 Sample: 508533-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes		121	[D]	/			
1,4-Difluorobenzene	0.0286	0.0300	95	80-120			
4-Bromofluorobenzene	0.0296	0.0300	99	80-120			

Lab Batch #: 721818 Sample: 303082-001 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1-Chlorooctane	84.5	100	85	70-135			
o-Terphenyl	47.8	50.0	96	70-135			

Lab Batch #: 721818 Sample: 303082-002 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	90.4	100	90	70-135		
o-Terphenyl	51.2	50.0	102	70-135		

Lab Batch #: 721818 Sample: 303082-006 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	95.6	100	96	70-135		
o-Terphenyl	54.2	50.0	108	70-135		

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





### Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082 Project ID: Red Lake II Central Bat

Lab Batch #: 721818 Sample: 303082-007 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	94.8	100	95	70-135			
o-Terphenyl	53.4	50.0	107	70-135			

Lab Batch #: 721818 Sample: 303082-008 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes		,-,				
1-Chlorooctane	91.1	100	91	70-135		
o-Terphenyl	49.7	50.0	99	70-135		

Lab Batch #: 721818 Sample: 303082-012 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]	İ			
1-Chlorooctane	93.5	100	94	70-135			
o-Terphenyl	51.9	50 0	104	70-135			

Lab Batch #: 721818 Sample: 303082-014 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	95.4	100	95	70-135		
o-Terphenyl	53.0	50.0	106	70-135		

Lab Batch #: 721818 Sample: 303082-015 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	95.2	100	95	70-135		
o-Terphenyl	54.0	50.0	108	70-135		

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





### Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082 Project ID: Red Lake II Central Bat

Lab Batch #: 721818 Sample: 303082-018 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
I-Chlorooctane	91.2	100	91	70-135			
o-Terphenyl	51 4	50.0	103	70-135			

Lab Batch #: 721818 Sample: 303082-018 S / MS Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	103	100	103	70-135		
o-Terphenyl	53.4	50.0	107	70-135		

Lab Batch #: 721818 Sample: 303082-018 SD / MSD Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	98.9	100	99	70-135		
o-Terphenyl	50.9	50.0	102	70-135		

Lab Batch #: 721818 Sample: 303082-019 / SMP Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg Amount True Control TPH by SW8015 Mod Found Amount Recovery Limits Flags [B] %R %R [A] [D]**Analytes** 1-Chlorooctane 88.0 88 100 70-135 o-Terphenyl 47.3 50.0 70-135 95

Lab Batch #: 721818 Sample: 508575-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1-Chlorooctane	106	100	106	70-135				
o-Terphenyl	53.5	50.0	107	70-135				

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





### Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082 Project ID: Red Lake II Central Bat

Lab Batch #: 721818 Sample: 508575-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	100	100	100	70-135				
o-Terphenyl	56.7	50.0	113	70-135				

Lab Batch #: 721818 Sample: 508575-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg	SU	SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1-Chlorooctane	101	100	101	70-135					
o-Terphenyl	50.7	50.0	101	70-135					

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



## **Blank Spike Recovery**



#### Project Name: Fairway Resources-Red Lake II Central Bat

100.0

Work Order #: 303082

Project ID:

Red Lake II Central Bat

70-125

Lab Batch #: 721891

Sample: 721891-1-BKS

Matrix: Solid

Date Analyzed: 05/06/2008

Date Prepared: 05/06/2008

Analyst: LATCOR

Reporting Units: mg/kg

Batch #: 1	BLANK /BLANK SPIKE RECOVERY STUDY							
Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags			

Lab Batch #: 722031

Date Analyzed: 05/07/2008

Chloride by SM4500-CI-B

**Analytes** 

Sample: 722031-1-BKS

ND

Matrix: Solid

**Date Prepared: 05/07/2008** 

Analyst: LATCOR

94

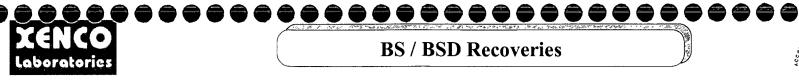
Reporting Units: mg/kg

Chloride

Batch #: 1 BLANK /BLANK SPIKE RECOVERY STUDY

93.59

Reporting Ontes. http://kg	atch #:	DLANK/D	LANK SFI	NE KEC	OVERIS	STUDI
Chloride by SM4500-CI- B	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	IAI	(D)	[C]	[D]	7 <b>61</b> 0	
Chloride	ND	100.0	95.18	95	70-125	



## **BS / BSD Recoveries**



Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082

Lab Batch ID: 721748

**Date Prepared:** 05/05/2008 Batch #: 1

Project ID: Red Lake II Central Bat

Analyst: SHE

Sample: 508533-1-BKS

**Date Analyzed: 05/05/2008** Matrix: Solid

Units: mg/kg

BLAN	K/BLANK S	PIKE / E	BLANK S	SPIKE DUPL	ICATE	RECOVE	ERY STUD	Y
Spike	Blank	Blank	Spike	Blank	Blk. Spk		Control	Co

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0903	90	0.1	0.0803	80	12	70-130	35	
Toluene	ND	0.1000	0.0920	92	0 1	0.0819	82	12	70-130	35	
Ethylbenzene	ND	0.1000	0.1061	106	0.1	0.0944	94	12	71-129	35	
m,p-Xylenes	ND	0.2000	0.2180	109	0.2	0.1945	97	11	70-135	35	
o-Xylene	ND	0.1000	0.1039	104	0.1	0.0933	93	11	71-133	35	

**Date Prepared:** 05/05/2008 Analyst: ASA **Date Analyzed:** 05/05/2008

Matrix: Solid Lab Batch ID: 721818 Sample: 508575-1-BKS Batch #: 1

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Units: mg/kg TPH by SW8015 Mod Blank Spike Blank Blank Spike Blank Blk. Spk Control Control RPD Sample Result Added Spike Spike Spike Dup. Limits Limits Flag Added Result %R Duplicate %R % %R %RPD [A] [B] Result [F] [G] [C] [D] [E] **Analytes** C6-C12 Gasoline Range Hydrocarbons 107 35 ND 1000 1140 114 1000 1070 6 70-135 C12-C28 Diesel Range Hydrocarbons ND 1000 1000 100 1000 934 93 70-135 35

Relative Percent Difference RPD = 200\*|(D-F)/(D+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes







#### Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082 Project ID: Red Lake II Central Bat

 Lab Batch ID: 721891
 QC- Sample ID: 303082-005 S
 Batch #: 1
 Matrix: Soil

Date Analyzed: 05/06/2008 Date Prepared: 05/06/2008 Analyst: LATCOR

Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY		
Chloride by SM4500-CI- B	Parent Sample	Spike	Spiked Sample Result	Sample		Duplicate Spiked Sample		RPD	Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Chlonde	138.3	1000	1191	105	1000	1170	103	2	70-125	25	

Lab Batch ID: 722031 QC- Sample ID: 303082-021 S Batch #: 1 Matrix: Soil

Date Analyzed: 05/07/2008 Date Prepared: 05/07/2008 Analyst: LATCOR

Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY S	STUDY		
Chloride by SM4500-CI- B	Parent Sample	Spike	Spiked Sample Result	Sample		Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Chlonde	1255	2000	3063	90	2000	3020	88	2	70-125	25	

Lab Batch ID: 721818 QC- Sample ID: 303082-018 S Batch #: 1 Matrix: Soil

Date Analyzed: 05/06/2008 Date Prepared: 05/05/2008 Analyst: ASA

Reporting Units: mg/kg		M	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA'	TE REC	OVERY	STUDY		
TPH by SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample		Duplicate Spiked Sample	•	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	ND	1170	1220	104	1170	1190	102	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1170	1170	100	1170	1030	88	13	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*(D-G)/(D+G) Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



## **Sample Duplicate Recovery**



Project Name: Fairway Resources-Red Lake II Central Bat

Work Order #: 303082

Lab Batch #: 721909 Project ID: Red Lake II Central Bat

 Date Analyzed:
 05/05/2008
 Date Prepared:
 05/05/2008
 Analyst:
 WRU

 QC- Sample ID:
 303082-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE/SAMPLE DUPLICATE RECOV				
Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Amalyte					
Percent Moisture	12.9	12.8	1	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.

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Enviro	nment	al I ah	of Texas

Basin Environmental

Lovington, New Mexico 88260

Project Manager Curt Stanley

Company Address PO Box 301

A Xença Laboratories Company

Company Name

Crty/State/Zip

Relinquished by

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
12600 West I-20 East Phone: 432-683-1800

Tele	phone No 575-441-2244	$\overline{}$	<b></b>			Fax No:		57	5-39	6-14	429					_	Repo	rt Fo	rma	t	X	Sta	nda	rd		D -	TRRF	٥		NP	DES	ì
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Odessa, Texas 79765

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Environmental	Lab of Texas
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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST 25

Phone: 432-563-1800 Fax. 432-683-1713

12600 West I-20 East A Xenco Laboratories Company Odessa, Texas 79765

	Project Manager	Curl Stanley														-	Pro	ject	Name	Fa	HIW:	y R	eso	urce	<u>s -</u>	Red	Lak	ie II (	Cent	ral E	3at
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	Company Address:	P O Box 301									_					_	P	roje	t Loc	<u> Ea</u>	st of	Arte	sia,	NM							
	City/State/Zip	Lovington, New Mexico 88	280																PO t	):											
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Environment	al Lab of	Texas
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	Company Address.	P O Box 301								_								ρ	roje	et Lo	x. E	est o	Arte	\$10,	NM							_
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#### Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

variance/ Corrective Action Rep	ore campi	o Log-III		
Client BOSIN ENV.				
Date/Time <u>5.2.08 (6.23</u>				
Lab ID # 303002				
Initials. (1)				
Sample Receipt (	Checklist			Client Initials
#1 Temperature of container/ cooler?	(Ves)	No	45 °C	
#2 Shipping container in good condition?	(Yes	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4 Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5 Chain of Custody present?	Yes'	No		
#6 Sample instructions complete of Chain of Custody?	(Yes)	No		
#7 Chain of Custody signed when relinquished/ received?	Yes	No		<del>  </del>
#8 Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont / Lid	
#9 Container label(s) legible and intact?	Yes	No	Not Applicable	1
#10 Sample matrix/ properties agree with Chain of Custody?	Yes	No	1	
#11 Containers supplied by ELOT?	Yes)	No	<del> </del>	
#12 Samples in proper container/ bottle?	Yes	No	See Balow	-
#13 Samples properly preserved?	Yes	No	See Below	<del>                                     </del>
#14 Sample bottles intact?	Yes	No	GGC BEIGH	
#15 Preservations documented on Chain of Custody?	Yes	No		
#16 Containers documented on Chain of Custody?	Yes	No		┿
#17 Sufficient sample amount for indicated test(s)?	Yes	No	See Below	<del>                                     </del>
#18 All samples received within sufficient hold time?	Yes	No	See Below	1
#19 Subcontract of sample(s)?	Yes	No	Not Applicable	<del>                                     </del>
#20 VOC samples have zero headspace?	Yes	No	Not Applicable	1
Variance Docum Contact Unit G, Contacted by Carm	nentation	_	Date/ Time:	5/1/08/9:3
Regarding CAEN-16 (-02) WIG marked for Per phane, will, but wants to run	U & F	tudo.		
Corrective Action Taken.				
Check all that Apply See attached e-mail/ fax Client understands and woul Cooling process had begun a				

## **Analytical Report 306370**

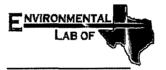
for

### **Basin Enivronmental Services**

**Project Manager: Curt Stanley** 

South Red Lake II Unit Central Bat Same

27-JUN-08



12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215

Florida certification numbers:

Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

Norcross(Atlanta), GA E87429

South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta





27-JUN-08

Project Manager: Curt Stanley
Basin Enivronmental Services

P.O. Box 301

Lovington, NM 88260

Reference: XENCO Report No: 306370

South Red Lake II Unit Central Bat

Project Address: Artesia, NM

#### **Curt Stanley:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 306370. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 306370 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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## **Sample Cross Reference 306370**



## Basin Enivronmental Services, Lovington, NM

South Red Lake II Unit Central Bat

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
NSW-1	S	Jun-19-08 12:00		306370-001
ESW-1	S	Jun-19-08 12:05		306370-002
WSW-1	S	Jun-19-08 12:10		306370-003
WSW-2	S	Jun-19-08 12:15		306370-004
SSW-1	S	Jun-19-08 12:20		306370-005
Stockpile	S	Jun-19-08 12:25		306370-006
Floor-1	S	Jun-19-08 12:30		306370-007
Floor-2	S	Jun-19-08 12:35		306370-008



Basin Enivronmental Services, Lovington, NM

Project Name: South Red Lake II Unit Central Bat Project Id: Same Contact: Curt Stanley

Date Received in Lab: Mon Jun-23-08 08:38 am

Report Date: 27-JUN-08 Project Manager: Brent Barron, Il

								I TOJCCE IVIA	mager.	Dient Ballon,	11		
	Lab Id:	306370-	001	306370-0	002	306370-0	003	306370-0	004	306370-0	005	306370-	006
Annature no annata	Field Id:	NSW-	1	ESW-1	l	WSW-	1	WSW-	2	SSW-	ı	Stockp	le
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-19-08	12:00	Jun-19-08 1	12.05	Jun-19-08	12,10	Jun-19-08	12.15	Jun-19-08	12.20	Jun-19-08	12:25
DTEV L ED L 0031D	Extracted:	Jun-23-08	15:00	Jun-24-08 1	12:00	Jun-23-08	15:00	Jun-23-08	15 00	Jun-23-08	15:00	Jun-23-08	15:00
BTEX by EPA 8021B	Analyzed:	Jun-23-08	·	Jun-24-08 1		Jun-23-08		Jun-23-08		Jun-23-08		Jun-23-08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL.	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene	( Children		0 0010		0.0051		0.0011		0.0011		0 0012	ND	0.0010
Toluene			0 0020		0 0102	ND	0.0021	ND	0 0022		0.0024	ND	0 0021
Ethylbenzene		ND	0.0010	0.0669	0 0051	ND	0 0011	ND	0 0011	ND	0 0012	ND	0 0010
m,p-Xylenes		ND	0.0020	0 2326	0.0102	ND	0.0021	ND	0 0022	ND	0 0024	ND	0.0021
o-Xylene		ND	0.0010	0.2653	0 0051	ND	0 0011	ND	0.0011	ND	0.0012	ND	0 0010
Total Xylenes		ND		0.4979		ND		ND		ND		ND	
Total BTEX		ND		0.5648		ND		ND		ND		ND	
Inorganic Anions by EPA 300	Extracted:												
inorganic rinions by 2211 500	Analyzed:	Jun-24-08	10.52	Jun-24-08 1	0:52	Jun-24-08	10·52	Jun-24-08	0.52	Jun-24-08	10.52	Jun-24-08	10:52
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2140	102	2110	102	4070	212	15000	562	4620	118	8380	206
Percent Moisture	Extracted:					·							
T CI COME PADISTUI C	Analyzed:	Jun-23-08	17:00	Jun-23-08 1	7.00	Jun-23-08	17:00	Jun-23-08	7:00	Jun-23-08	17.00	Jun-23-08	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		2 14		2.35		5.73		11		151		2.94	
TPH by SW8015 Mod	Extracted:	Jun-24-08	08:48	Jun-24-08 (	)8·48	Jun-24-08	08.48	Jun-24-08 (	)8·48	Jun-24-08	08 48	Jun-24-08	08·48
11 11 by 5 w 3013 M100	Analyzed:	Jun-25-08	14 38	Jun-25-08 1	5:09	Jun-25-08	16.06	Jun-25-08	6.34	Jun-25-08	17 01	Jun-25-08	17:28
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		64.1	15.3	609	76.8	ND	15.9	347	169	45.9	177	29.5	15.5
C12-C28 Diesel Range Hydrocarbons		130	15.3	12600	76 8	89.6	15.9	3180	16.9	1670	17.7	646	15.5
C28-C35 Oil Range Hydrocarbons		907	15.3	2570	76.8	18.1	159	836	16.9	432	177	146	15.5
Total TPH		284 8		15779		107.7		4050.7		2147.9		821 5	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

Project Location: Artesia, NM

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Project Id: Same

Project Location: Artesia, NM

Certificate of Analysis Summary 306370

Basin Enivronmental Services, Lovington, NM

Project Name: South Red Lake II Unit Central Bat

Contact: Curt Stanley

Date Received in Lab: Mon Jun-23-08 08:38 am

Report Date: 27-JUN-08
Project Manager: Brent Barron, II

			Project Manager:	Dicht Barron, if
Lab Id:	306370-007	306370-008		
Field Id:	Floor-1	Floor-2		
Depth:				
Matrix:	SOIL	SOIL		
Sampled:	Jun-19-08 12·30	Jun-19-08 12·35		
Extracted:	Jun-23-08 15 00	Jun-23-08 15:00		
Analyzed:	Jun-23-08 22·33	Jun-23-08 23·44		,
Units/RL:	mg/kg RL	mg/kg RL		
	ND 0.0011	ND 0 0011		
	ND 0 0021	ND 0.0021		
	ND 0.0011	ND 0 0011		
	ND 0 0021	ND 0.0021		
	ND 0 0011	ND 0.0011		
	ND	ND		
	ND	ND		
Extracted:				
Analyzed:	Jun-24-08 10·52	Jun-24-08 10·52		
Units/RL:	mg/kg RL	mg/kg RL		
	14300 536	6150 532		
Extracted:				
Analyzed:	Jun-23-08 17.00	Jun-23-08 17:00		
Units/RL:	% RL	% RL		
	6 63	5.95		
Extracted:	Jun-24-08 08:48	Jun-24-08 08:48		
Analyzed:	Jun-26-08 10 30	Jun-26-08 12·42		
Units/RL:	mg/kg RL	mg/kg RL		
	21 2 16 1	40 9 15.9		
	31 0 16.1	20.8 159		
	ND 16.1	ND 159		
	52 2	61.7		
	Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Analyzed: Analyzed: Analyzed: Analyzed: Analyzed: Analyzed:	Field Id: Depth: Matrix: SOIL Sampled: Jun-19-08 12·30  Extracted: Jun-23-08 15 00 Analyzed: Jun-23-08 22·33 mg/kg RL ND 0.0011 ND 0.0021 ND 0.0021 ND 0.0011 ND ND ND  Extracted: Analyzed: Jun-24-08 10·52 mg/kg RL 14300 536  Extracted: Analyzed: Jun-24-08 17.00 Units/RL: % RL 6 63  Extracted: Analyzed: Jun-24-08 08:48 Analyzed: Jun-26-08 10 30 Units/RL: mg/kg RL 21 2 16 1 31 0 16.1 ND 16.1	Field Id:	Lab Id:   306370-007   306370-008     Field Id:   Floor-1   Floor-2     Floor-2       Floor-2       Floor-2       Floor-2     Floor-2     Floor-2     Floor-2     Floor-2     Floor-2     Floor-2     Floor-2     Floor-2     Floor-2     Floor-2     Floor-3
This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

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# XENCO Laboratories

## Flagging Criteria

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte.

  The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- \* Outside XENCO'S scope of NELAC Accreditation

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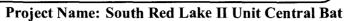
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Work Order #: 306370

Project ID: Same

Lab Batch #: 726318

Sample: 306370-001 / SMP

Matrix: Soil Batch:

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Dıfluorobenzene	0.0331	0.0300	110	80-120		
4-Bromofluorobenzene	0.0304	0.0300	101	80-120		

Lab Batch #: 726318

Sample: 306370-003 / SMP

Batch:

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		İ	[D]			
1,4-Difluorobenzene	0.0358	0.0300	119	80-120		
4-Bromofluorobenzene	0.0317	0.0300	106	80-120		

Lab Batch #: 726318

Sample: 306370-004 / SMP

Batch:

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount {B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]		! 	
1,4-Dıfluorobenzene	0.0343	0.0300	114	80-120		
4-Bromofluorobenzene	0.0354	0.0300	118	80-120		

Lab Batch #: 726318

Sample: 306370-005 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
			[D]			
1,4-Dıfluorobenzene	0.0343	0.0300	114	80-120		
4-Bromofluorobenzene	0.0358	0.0300	119	80-120		

Lab Batch #: 726318

Sample: 306370-006 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0372	0.0300	124	80-120	**	
4-Bromofluorobenzene	0.0298	0.0300	99	80-120		

<sup>\*\*</sup> Surrogates outside limits, data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370 Project ID: Same

Lab Batch #: 726318 Sample: 306370-007 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0350	0.0300	117	80-120		
4-Bromofluorobenzene	0.0332	0 0300	111	80-120		

Lab Batch #: 726318 Sample: 306370-008 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes		(-1	[D]	,		
1,4-Dıfluorobenzene	0.0353	0.0300	118	80-120		
4-Bromofluorobenzene	0.0336	0.0300	112	80-120		

Lab Batch #: 726318 Sample: 511084-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes		-	[D]				
1,4-Dıfluorobenzene	0.0306	0.0300	102	80-120			
4-Bromofluorobenzene	0.0355	0 0300	118	80-120			

Lab Batch #: 726318 Sample: 511084-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes	[ [ [	[	[D]	,,,,,			
1,4-Difluorobenzene	0.0343	0.0300	114	80-120			
4-Bromofluorobenzene	0 0316	0.0300	105	80-120			

Lab Batch #: 726318 Sample: 511084-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





Project Name: South Red Lake II Unit Central Bat

**Work Order #:** 306370

Project ID: Same

Lab Batch #: 726328

Sample: 306370-002 / SMP

Batch:

Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Dıfluorobenzene	0.0342	0.0300	114	80-120			
4-Bromofluorobenzene	0.1529	0.0300	510	80-120	**		

Lab Batch #: 726328

**Sample:** 511084-1-BKS / BKS

Batch:

Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Dıfluorobenzene	0.0270	0.0300	90	80-120		
4-Bromofluorobenzene	0.0323	0.0300	108	80-120		

Lab Batch #: 726328

**Sample:** 511084-1-BLK / BLK

Batch: 1

Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0349	0.0300	116	80-120		
4-Bromofluorobenzene	0.0299	0.0300	100	80-120		

Lab Batch #: 726328

Sample: 511084-1-BSD / BSD

Batch: 1

ı: 1 Matrix: Solid

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Dıfluorobenzene	0.0282	0.0300	94	80-120			
4-Bromofluorobenzene	0.0318	0.0300	106	80-120			

Lab Batch #: 726418

26418 **Sa** 

**Sample:** 306327-001 S / MS

Batch: 1

Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctanc	83.3	100	83	70-135			
o-Terphenyl	47.2	50.0	94	70-135			

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370 Project ID: Same

Lab Batch #: 726418 Sample: 306327-001 SD / MSD Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
I-Chlorooctane	83.8	100	84	70-135		
o-Terphenyl	48.2	50.0	96	70-135		

Lab Batch #: 726418 Sample: 306370-001 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctanc	66.0	100	66	70-135	**	
o-Tcrphenyl	36 6	50.0	73	70-135		

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes	""	(2)	[D]	73.		
1-Chlorooctane	68.9	100	69	70-135	**	
o-Terphenyl	54.9	50.0	110	70-135		

Lab Batch #: 726418 Sample: 306370-003 / SMP Batch: 1 Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctanc	69 1	100	69	70-135	**	
o-Terphenyl	38.8	50.0	78	70-135		

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1-Chlorooctane	72.4	100	72	70-135			
o-Terphenyl	44.6	50.0	89	70-135			

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370

Project ID: Same

Lab Batch #: 726418

Sample: 306370-005 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	71.1	100	71	70-135		
o-Terphenyl	42.6	50.0	85	70-135		

Lab Batch #: 726418

Sample: 306370-006 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	72.9	100	73	70-135		
o-Terphenyl	43 5	50.0	87	70-135		

Lab Batch #: 726418

Sample: 306370-007 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
I-Chlorooctane -	70.3	100	70	70-135			
o-Terphenyl	39.4	50.0	79	70-135			

Lab Batch #: 726418

Sample: 306370-008 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	65.5	100	66	70-135	**	
o-Terphenyl	38.3	50.0	77	70-135		

Lab Batch #: 726418

**Sample:** 511165-1-BKS / BKS

Batch: 1

Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY								
TPH by SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	79.4	100	79	70-135					
o-Terphenyl	44.3	50.0	89	70-135					

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*\*</sup> Poor recoveries due to dilution





## Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370 Project ID: Same

Lab Batch #: 726418 Sample: 511165-1-BLK / BLK Batch: 1 Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY						
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
I-Chlorooctane	73.0	100	73	70-135			
o-Terphenyl	41.3	50,0	83	70-135			

Lab Batch #: 726418 Sample: 511165-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg	SURROGATE RECOVERY STUDY							
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
I-Chlorooctane	80.0	100	80	70-135				
o-Terphenyl	44.1	50.0	88	70-135				

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



## **Blank Spike Recovery**



## Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370

Project ID:

Same

Lab Batch #: 726343

Sample: 726343-1-BKS

Matrix: Solid

**Date Analyzed:** 06/24/2008

**Date Prepared:** 06/24/2008

Analyst: LATCOR

Reporting	Units:	mg/kg

Chloride

ng Units: mg/kg	Batch #:	BLANK/BLANK SPIKE RECOVERY ST							
Inorganic Anions by EPA 300	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags			
Analytes	[7*]	(6)	[C]	[D]	/ <b>U</b> K				
	ND	10.0	114	114	75-125				

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes.







Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370

United mg/kg

Analyst: BRB Date Prepared: 06/23/2008

Project ID: Same
Date Analyzed: 06/23/2008

Matrix: Solid

**Lab Batch ID:** 726318

Sample: 511084-1-BKS

Batch #: 1

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Units: mg kg				, , , , ,							
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	ND	0.1000	0.1165	117	0.1	0.0984	98	17	70-130	35	
Toluene	ND	0.1000	0.1152	115	0.1	0.0961	96	18	70-130	35	
Ethylbenzene	ND	0.1000	0.1269	127	0.1	0.1060	106	18	71-129	35	
m,p-Xylenes	ND	0.2000	0.2584	129	0.2	0.2165	108	18	70-135	35	
o-Xylene	ND	0.1000	0.1255	126	0.1	0.1044	104	18	71-133	35	

Analyst: BRB Date Prepared: 06/24/2008 Date Analyzed: 06/24/2008

Lab Batch ID: 726328 Sample: 511084-1-BKS Batch #: 1 Matrix: Solid

Units: mg/kg BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

	BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
l	Analytes		[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]				
Γ	Benzene	ND	0.1000	0.0998	100	0.1	0.1047	105	5	70-130	35	
r	Toluene	ND	0.1000	0.0987	99	0.1	0.1035	104	5	70-130	35	
r	Ethylbenzene	ND	0.1000	0 1111	111	0.1	0.1166	117	5	71-129	35	
r	m,p-Xylenes	ND	0.2000	0.2237	112	0.2	0 2348	117	5	70-135	35	
r	o-Xylene	ND	0.1000	0.1083	108	0.1	0.1138	114	5	71-133	35	

Relative Percent Difference RPD = 200\*|(D-F)/(D+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes







Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370

Analyst: ASA

Sample: 511165-1-BKS

Lab Batch ID: 726418

**Date Prepared:** 06/24/2008

Project ID: Same

**Date Analyzed:** 06/25/2008

Batch #: 1 Matrix: Solid

Units: mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	ND	1000	840	84	1000	838	84	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	838	84	1000	832	83	1	70-135	35	

Relative Percent Difference RPD = 200\*|(D-F)/(D+F)|
Blank Spike Recovery [D] = 100\*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]
All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries

Project Name: South Red Lake II Unit Central Bat



Work Order #: 306370

Lab Batch #: 726343

Project ID: Same

**Date Analyzed:** 06/24/2008 **QC-Sample ID:** 306370-001 S **Date Prepared:** 06/24/2008 Batch #:

Analyst: LATCOR Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	2140	2040	5140	147	75-125	Х

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes







Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370

Project ID: Same

Lab Batch ID: 726418

**QC-Sample ID:** 306327-001 S

Batch #: Matrix: Soil

Date Analyzed: 06/26/2008

**Date Prepared:** 06/24/2008

Analyst: ASA

Penarting Unite: ma/kg

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH by SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	ND	1300	1090	84	1300	1090	84	0	70-135	0	
C12-C28 Diesel Range Hydrocarbons	ND	1300	1120	86	1300	1110	85	1	70-135	1	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference RPD = 200\*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



## **Sample Duplicate Recovery**



Project Name: South Red Lake II Unit Central Bat

Work Order #: 306370

Lab Batch #: 726343 Date Analyzed: 06/24/2008 Project ID: Same

**Date Prepared:** 06/24/2008

Analyst: LATCOR

QC- Sample ID: 306370-001 D

Batch #: Matrix: Soil SAMPLE / SAMPLE DUPLICATE RECOVERY

Reporting Units: mg/kg	SAMPLE / SAMPLE DUPLICATE RECOVERY						
Inorganic Anions by EPA 300  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag		
Chloride r	2140	2300	7	20			

Lab Batch #: 726229

Date Analyzed: 06/23/2008

**Date Prepared:** 06/23/2008

Analyst: JLG

QC- Sample ID: 306371-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %	SAMPLE /	SAMPLE / SAMPLE DUPLICATE RECOVERY							
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag				
Analyte		[B]							
Percent Moisture	15.9	16.2	2	20					

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.

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#### Environmental Lab of Texas

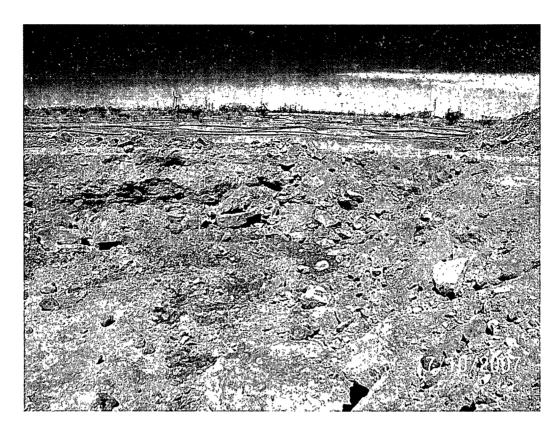
	Variand	e/ Corrective Action	Report- Sampl	e Log-In
Client.	Basin En	J		
Date/ Time.	6.73 08	<b>8:</b> 38		
Lab ID#	3063	510		
initials:	aL			
		Sample Rece	olpt Checklist	
#1 Temper	ature of container/ cooler	,	(48)	No

			_	Citent Initials
#1	Temperature of container/ cooler?	(ES)	No	(p.O) °C
#2	Shipping container in good condition?	(es)	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Presen)
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present
#5	Chain of Custody present?	Yes	No	
#6	Sample instructions complete of Chain of Custody?	(es)	No	
#7	Chain of Custody signed when relinquished/ received?	YES	No	
#8	Chain of Custody agrees with sample label(s)?	(es)	No	ID written on Cont / Lid
#9	Container label(s) legible and intact?	(es)	_ No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	(es	No	
#11	Containers supplied by ELOT?	Yes	No	
#12	Samples in proper container/ bottle?	(es)	No	See Below
#13	Samples properly preserved?	Yes	No	See Below
#14	Sample bottles intact?	Yes	No	
#15	Preservations documented on Chain of Custody?	Yes	No	
#16	Containers documented on Chain of Custody?	Yes)	No	
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below
#18	All samples received within sufficient hold time?	Ves	No	See-Below
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable

#### Variance Documentation

Contact		Contacted by.	Date/ Time	
Regarding	·		-	
Corrective Action Taker	Y			_
Check all that Apply		See attached e-mail/ fax Client understands and would like to proceed with Cooling process had begun shortly after sampling		

Appendix D Photographs



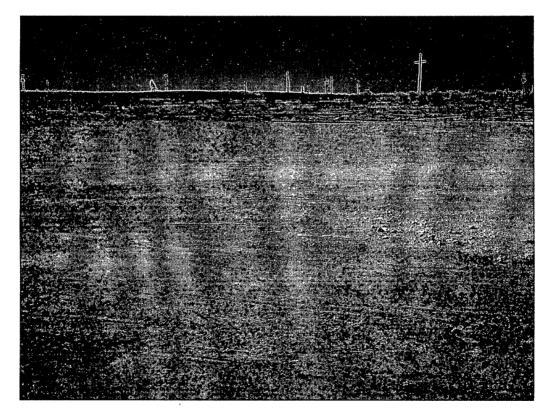
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**Looking West - Excavation Activities in Progress** 



Looking West - Remediation Activities Completed and Excavation Backfilled

Appendix E
Release Notification and Corrective Action
(Form C-141)

District I
1625 N Ffench Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Azzec, NM 87410
District IV

#### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe. NM 87505 NOV 27 2007 Submit 2 Copies to appropriate
District Office in accordance
With Rule 116 on back
side of form

1220 S St Fram				Sa	inta Fe	, NM 875	05	40·71		•	side of form
	- 4		e Rele	ease Notific	ation	and Co	rrective A	ction			
38	0-015	2065	8			OPERAT	OR		⊠ Initiz	al Report	Final Report
Name of Co	mpeny F	airway Reso	urces Or	erating, LLC			enneth Pearce				
Address 538	Silicon I	Dr., Ste. 101	, Southla	ke, TX 76092		Telephone N	lo. 817-416-19	946			
Facility Nar	ne South	Red Lake II	Unit Cen	tral Battery		Facility Typ	e Produced wa	iter tani	CS.		
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I hereby certi	fy that the	information g	iven shov	is true and comp	lete to t	he best of my	knowledge and u	inderstar	d that pur	tuent to NMOCT	) rules and
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or the enviro	nment. In s	ddition, NM(	OCD accep	stance of a C-141	report d	oes not reliev	e the operator of	responsi	bility for c	compliance with	any other
federal, state	or local la	ws and/or reg	ulations.		<del></del>	<del></del>	05 000	~~~~~	4 000 000		<del></del>
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E-mail Addn	ss: eflood@	gfairwayresou	urces.com		].	Conditions of	[Approval: _ '	-		1	f .
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