1R - 415

ANNUAL GW MONITOR REPORT

DATE:2007

R. T. HICKS CONSULTANTS, LTD.

RECEIVED

Report

901 Rio Grande Blvd NW A Suite F-142 A Albuquerque, NM 87104 A 505.266.5003 A Fax: 505.26670745 41 2007

January 24, 2008

Wayne Price Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, NM 87505

RE:

2007 Annual Ground Water Monitoring Report

G-1 Site (Abo Apache LA), Sec 01, T17S, R36E, Unit "G"

NMOCD Case #: 1R0415

Dear Mr. Wayne Price:

R.T. Hicks Consultants, Ltd is pleased to submit the 2007 Annual Ground Water Monitoring Report for the G-1 Site (Abo Apache LA) site located in the Abo Salt Water Disposal System (SWD). This report consists of the following sections:

- 1. A table summarizing all laboratory results, depth to ground water and other pertinent data associated with ground water sampling at the site, including this past year.
- 2. Graphs showing chemical concentration over time for chloride, TDS, and
- 3. Laboratory data sheets associated with the routine sampling for 2007.

A Final Closure Report was submitted to NMOCD on April 28, 2006. NMOCD granted conditional approval on May 25, 2006. Revegetation and soil moisture monitoring is ongoing. We plan to submit a Final Closure Report in the spring of 2008.

Thank you for your consideration of this annual summary information. The attached CD contains an electronic copy of this report. If you have any questions, please contact us at 505-266-5004, or Kristin Farris Pope at ROC, 505-393-9174.

Sincerely,

R.T. Hicks Consultants, Ltd.

Randall T. Hicks

Principal

Copy: Hobbs NMOCD office; Rice Operating Company

O Black

																			jor	
	Comments					Clear			Clear	Clear with no odor	Clear / No Odor	Clear/		clear with no odor	clear	Clear No Odor	Clear Slight Odor	Clear No Odor	Clear with Slight Odor	Clear Slight odor
	Total Xylenes (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	XXX	XXX	<0.001		XXX	XXX	<0.001	XXX	<0.006	XX	<0,003
	EthylBenzene (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	XXX	XXX	<0.001		XXX	XXX	<0.001	XXX	<0.002	XX	<0.001
0)	Toluene (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	XX	XX	<0.001		XXX	XX	<0.001	XX	<0.002	XX	<0.001
Table 1: chemistry over time	Benzene (mg/L)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	XX	XX	<0.001		XXX	XXX	<0.001	XX	0.006	XX	<0.001
: chemist	TDS (mg/L)	329	532	573	603	584	560	780	836	752	869	772	926	1210	1350	588	912	1556	1232	791
Table 1	Sulfate (mg/L)					69.7	65	66.8	80.9	XX	X	83.1		XXX	XX	74.4	XX	91.1	XX	76.6
	Chloride (mg/L)	80.5	120	98.4	91.5	6.96	107	181	219	234	229	301	278	290	285	112	328	376	380	200
A)	DTW (ft)	92.10	92.10	92.30	92.60	92.88	93.38	93.55	94.61	94.83	95.08	95.12		95.10	95.12	95.12	95.40	95.46	95.61	95.88
o Apache L	Date	12/3/2004	3/1/2005	5/23/2005	8/10/2005	10/26/2005	1/24/2006	4/25/2006	10/9/2006	11/13/2006	12/4/2006	2/5/2007	3/22/2007	4/4/2007	6/14/2007	6/29/2007	7/19/2007	8/22/2007	9/26/2007	11/28/2007
G-1 Site (Abo Apache LA)	Well Name	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1

2007 Annual Report

505-266-5004



A Xenco Laboratories Company

Analytical Report

Prepared for:

Kristin Farris-Pope Rice Operating Co. 122 W. Taylor Hobbs, NM 88240

Project: ABO Apache Leak
Project Number: None Given

Location: T19S R37E Sec1 G ~ Lea County New Mexico

Lab Order Number: 7D05010

Report Date: 04/11/07

Project: ABO Apache Leak

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well # 1	7D05010-01	Water	04/04/07 19:20	04-05-2007 13:20

Project: ABO Apache Leak

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Monitor Well # 1 (7D05010-01) Water									
Chloride	290	5.00	mg/L	10	ED71003	04/10/07	04/10/07	EPA 300.0	
Total Dissolved Solids	1210	10.0	*	1	ED71008	04/05/07	04/06/07	EPA 160.1	

Rice Operating Co. Project: ABO Apache Leak Fax: (505) 397-1471

122 W. TaylorProject Number:None GivenHobbs NM, 88240Project Manager:Kristin Farris-Pope

General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

	D. I.	Reporting	*1. %	Spike	Source	WEEG	%REC	nnn	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch ED71003 - General Preparation (V	WetChem)									
Blank (ED71003-BLK1)				Prepared &	E Analyzed:	04/10/07				
Chloride	ND	0.500	mg/L							
LCS (ED71003-BS1)				Prepared &	¿ Analyzed:	04/10/07				
Chloride	12.0	0.500	mg/l.	10.0		120	80-120			
Calibration Check (ED71003-CCV1)				Prepared & Analyzed: 04/10/07						
Chloride	9.00		mg/L	10.0		90.0	80-120			
Duplicate (ED71003-DUP1)	Sour	ce: 7D05009	-01	Prepared &	Prepared & Analyzed: 04/10/07					
Chloride	1590	25.0	mg/L	1940				19.8	20	
Duplicate (ED71003-DUP2)	Sour	ce: 7D05014	-05	Prepared & Analyzed: 04/10/07						
Thloride	1390	50.0	mg/L		1410			1.43	20	
Matrix Spike (ED71003-MS1)	Sour	ce: 7D05009	-01	Prepared &	¿ Analyzed:	04/10/07				
Chloride	2080	25.0	mg/L	500	1940	28.0	80-120			
Matrix Spike (ED71003-MS2)	Sour	ce: 7D05014	-05	Prepared &	a Analyzed:	04/10/07				
Chloride	2480	50.0	mg/L	1000	1410	107	80-120			
Batch ED71008 - General Preparation (V	WetChem)									
Blank (ED71008-BLK1)				Prepared: (04/05/07 A	nalyzed: 04	1/06/07			
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (ED71008-DUP1)	Sour	ce: 7D05009-	-01	Prepared: 04/05/07 Analyzed: 04/0			1/06/07			
Total Dissolved Solids	3700	10.0	mg/L	3070				18.6	20	

Rice Operating Co.

Project: ABO Apache Leak
Project Number: None Given
Hobbs NM, 88240
Project Manager: Kristin Farris-Pope

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

	Burn Burn		
Report Approved By:		Date: _	4/11/2007

Brent Barron, Laboratory Director/Corp. Technical Director Celey D. Keene, Org. Tech Director Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer Jeanne Mc Murrey, Inorg. Tech Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

432-563-1713 Phone: 432-563-1800 Fax: Odessa, Texas 79765 12500 West I-20 East

ZZZZZZ TAT brabhai? × NPDES Lone Star Project Loc: T19S R37E Sect G ~ Lea County New Mexico RUST AN JAS (MADAMDE ANT) TAT HRUR Ç × Chlorides FedEx ٥ رن Total Dissolved Solids × ☐ TRRP M.A.O.M. Sample Containers Infact? 🦟 🏋 품 ABO Apache Leak (OE Lahels on container(s) Custody seals on container(s) Custody seals on container(s) Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS Temperature Upon Receipt: BLEX 805/B19030 OLBLEX 8580 VOCs Free of Headspace? Laboratory Comments: Analyze Volatiles (BTEX-N 8260) XStandard Metats: As Ag Ba Cd Or Pb Hg Se 10.P SAR / ESP / CEC Aniona (Ci, SO4, Alkalinity) Project Name: Project #: PO # Cations (Ca, Mg, Na, K) Report Format: 9001 XI 9001 XI 3 0:0 Ime 80128 M2108 1.815 Hell 38 4-5-67 4201 AND CHARGE AND STREET Date Oate Office (Specify) rozanne@valornet.com Mone (1) 1 Liter HDPE Preservation & # of Containers COSSEN rozanne@valomet.com HOPN (505) 397-1471 *05°H OH HMO 901 anemistro of Containers beid Filtered Fax No: e-mail. 19:20 beigmed emiT matt@riceswd.com kpope@riceswd.com るのなって Received by ELOT: Received by: / 4/4/2007 Received by, balqma2 alsQ Alded Balba3 Hobbs, New Mexico 88240 2 00:7 RICE Operating Company Rozanne Johnson (505)631-9310 Beginning Depth purvis@ríceswd.com kpope@riceswd.com 122 W. Taylor Street Kristin Farris Pope 4507 4.60 Date (505) 393-9174 FIELD CODE 36.25 00000 Please email to: Sampler Signature: Company Address: Project Manager: Company Name Monitor Well #1 Telephone No: City/State/Zip: Special Instructions: Vinc esu dell ORDER #: elinquished C (Vino seu dei) # 8A.

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

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ate/ Time:	4-5-07 1:20				
ab ID#:	7005010				
l hitials:	GL				
[Sample Receipt	Chacklist			
	ounipre receipt	Onconial		Clien	t Initials
1 Temper	rature of container/ cooler?	∠γes	No	770°C	
	g container in good condition?	Yes	No		
	y Seals intact on shipping container/ cooler?	(Yes)	No	Not Present	
**************************************	y Seals intact on sample bottles/ container?	Yes)	No	Not Present	
	of Custody present?	Yes.	No		
6 Sample	instructions complete of Chain of Custody?	Yes)	No		
	of Custody signed when relinquished/ received?	(Yes)	No		
	of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
~,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ner label(s) legible and intact?	(Yes)	No	Not Applicable	
	e matrix/ properties agree with Chain of Custody?	Z es	No		
	ners supplied by ELOT?	Yes	No		
The same of the sa	ies in proper container/ bottle?	⊘Yes	No	See Below	
***************************************	les properly preserved?	Yes	No	See Below	
	e bottles intact?	े एंडिंड	No		
	rvations documented on Chain of Custody?	ZYes	No		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	iners documented on Chain of Custody?	∕∕∕es)	No		
	ent sample amount for indicated test(s)?	(Yes)	No	See Below	
	mples received within sufficient hold time?	Yes	No	See Below	
	ontract of sample(s)?	Yes	No	<b>Not</b> Applicable	
*****************************	samples have zero headspace?	Yes	No	Not Applicable	
				1 Not Applicable	
	Variance Docu	mentation			
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i	Client understands and wou	uld like to prod	ceed with	n analysis	
,	Cooling process had begun				
	Li Goomig process and began	with a second		g wrwss	



A Xenco Laboratories Company

## Analytical Report

### **Prepared for:**

Kristin Farris-Pope Rice Operating Co. 122 W. Taylor Hobbs, NM 88240

Project: ABO Apache Leak
Project Number: None Given

Location: T19S R36E Sec1 G ~ Lea County New Mexico

Lab Order Number: 7F06016

Report Date: 06/26/07

Project: ABO Apache Leak
Project Number: None Given

Fax: (505) 397-1471

Project Manager: Kristin Farris-Pope

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well # 1	7F06016-01	Water	05/31/07 07:30	06-06-2007 12:51

Project: ABO Apache Leak
Project Number: None Given

Fax: (505) 397-1471

### Organics by GC

### **Environmental Lab of Texas**

Project Manager: Kristin Farris-Pope

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Anałyzed	Method	Notes
Monitor Well # 1 (7F06016-01) Water									
Benzene	0.00237	0.00100	mg/L	1	EF70802	06/08/07	06/09/07	EPA 8021B	
Toluene	ND	0.00100	,,	•	*	"	,,	"	
Ethylbenzene	ND	0.00100			10	"	**	**	
Xylene (p/m)	ND	0.00100	**		**	"		H	
Xylene (o)	ND	0.00100	"	**		**	н	,,	
Surrogate: a,a,a-Trifluorotoluene		113 %	80-1	20	,,	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	80-1	20	"	,,	"	"	

Project: ABO Apache Leak

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### General Chemistry Parameters by EPA / Standard Methods

### **Environmental Lab of Texas**

Analyte  Monitor Well # 1 (7F06016-01) Water	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Alkalinity	224	2.00	mg/L		EF71309	06/13/07	06/13/07	EPA 310.1M	
Chloride	334	5.00		10	EF71204	06/12/07	06/12/07	EPA 300.0	
Total Dissolved Solids	1210	10.0	17	1	EF71110	06/06/07	06/11/07	EPA 160.1	
Sulfate	83.8	5.00		10	EF71204	06/12/07	06/12/07	EPA 300.0	

Project: ABO Apache Leak

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### Total Metals by EPA / Standard Methods

### **Environmental Lab of Texas**

Analyte  Monitor Well # 1 (7F06016-01) Water	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	179	4.05	mg/L	50	EF70807	06/08/07	06/08/07	EPA 6010B	
Magnesium	24.6	0.360		10		"	**	"	
Potassium	2.97	0.600	,,	**	**	,,	**	**	
Sodium	60.8	2.15	"	50		*	**	**	(

Project: ABO Apache Leak

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF70802 - EPA 5030C (GC)										
Blank (EF70802-BLK1)				Prepared &	Analyzed:	06/08/07				
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	**							
Ethylbenzene	ND	0.00100	+							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	54.1		ug·l	50.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	45.4		"	50.0		90.8	80-120			
LCS (EF70802-BS1)				Prepared &	. Analyzed:	06/08/07				
Benzene	0.0548	0.00100	mg/L	0.0500		110	80-120			
Toluene	0.0556	0.00100	"	0.0500		111	80-120			
Ethylbenzene	0.0543	0.00100		0.0500		109	80-120			
Xylene (p/m)	0.101	0.00100	"	0.100		101	80-120			
Xylene (o)	0.0569	0.00100	"	0.0500		114	80-120			
Surrogate: a,a,a-Trifluorotoluene	54.6		ng I	50.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	51.7		"	50.0		103	80-120			
Calibration Check (EF70802-CCV1)				Prepared: 0	6/08/07 Ai	nalyzed: 06	/09/07			
Benzene	0.0576		mg/L	0.0500		115	80-120			
Toluene	0.0567			0.0500		113	80-120			
Ethylbenzene	0.0537		**	0.0500		107	80-120			
Xylene (p/m)	0.0999		**	0.100		99.9	80-120			
Xylene (o)	0.0573		**	0.0500		115	80-120			

Matrix Spike (EF70802-MS1)	Sour	rce: 7F06019-	03	Prepared: 0	6/08/07	Analyzed: 0	6/09/07	
Benzene	0.0598	0.00100	mg/L	0.0500	ND	120	80-120	
Toluene	0.0593	0.00100	**	0.0500	ND	119	80-120	
Ethylbenzene	0.0584	0.00100	"	0.0500	ND	117	80-120	
Xylene (p/m)	0.107	0.00100	**	0.100	ND	107	80-120	
Xylene (o)	0.0614	0.00100	-	0.0500	ND	123	80-120	N.
Surrogate: a,a,a-Trifluorotoluene	58.4		ng l	50.0		117	80-120	
Surrogate: 4-Bromofluorobenzene	56.2		**	50.0		112	80-120	

50.0

50.0

57.9

53.0

Surrogate: a,a,a-Trifluorotoluene

Surrogate: 4-Bromofluorohenzene

116

80-120

80-120

Surrogate: 4-Bromofluorobenzene

Project: ABO Apache Leak

Spike

50.0

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

RPD

%REC

80-120

108

### Organics by GC - Quality Control

### **Environmental Lab of Texas**

Reporting

54.2

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF70802 - EPA 5030C (GC)										
Matrix Spike Dup (EF70802-MSD1)	Sour	rce: 7F06019-	03	Prepared: 0	6/08/07 A	nalyzed: 06	5/09/07			
Benzene	0.0565	0.00100	mg/L	0.0500	ND	113	80-120	6.01	20	
Foluene	0.0566	0.00100		0.0500	ND	113	80-120	5.17	20	
Ethylbenzene	0.0556	0.00100	,,	0.0500	ND	111	80-120	5.26	20	
Kylene (p/m)	0.102	0.00100		0.100	ND	102	80-120	4.78	20	
Xylene (0)	0.0584	0.00100		0.0500	ND	117	80-120	5.00	20	
Surrogate: a.a.a-Trifluorotolnene	58.3		113:1	50.0		117	80-120			

Rice Operating Co.

Project: ABO Apache Leak

122 W. Taylor

Project Number: None Given

Fax: (505) 397-1471

Hobbs NM, 88240

Project Manager: Kristin Farris-Pope

# General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF71110 - General Preparation (\	WetChem)									
Blank (EF71110-BLK1)				Prepared: (	06/07/07 A	nalyzed: 06	/11/07			
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (EF71110-DUP1)	Source	re: 7F06016-	01	Prepared: (	06/07/07 A	nalyzed: 06	/11/07			
Total Dissolved Solids	1270	10.0	mg/L		1210			4.84	20	
Duplicate (EF71110-DUP2)	Source	ce: 7F06019-	03	Prepared: (	06/07/07 A	nalyzed: 06	/11/07			
Total Dissolved Solids	7020	10.0	mg/L		6900			1.72	20	
Batch EF71204 - General Preparation (\)	WetChem)									
Blank (EF71204-BLK1)				Prepared &	: Analyzed:	06/12/07				
Sulfate	ND	0.500	mg/L							
Chloride	ND	0.500								
LCS (EF71204-BS1)				Prepared &	: Analyzed:	06/12/07				
Sulfate	10.0	0.500	mg/L	10.0		100	80-120			
Chloride	10.8	0.500		10.0		108	80-120			
Calibration Check (EF71204-CCV1)				Prepared &	: Analyzed:	06/12/07				
Sulfate	10.0		mg/L	10.0		100	80-120			
Chloride	10.8		*	10.0		108	80-120			
Duplicate (EF71204-DUP1)	Source	re: 7F06020-	03	Prepared &	: Analyzed:	06/12/07				
Sulfate	4550	250	mg/L		4670			2.60	20	
Chloride	17500	250	ь		18100			3.37	20	
Matrix Spike (EF71204-MS1)	Source	ce: 7F06020-	03	Prepared &	. Analyzed:	06/12/07				
Chloride	21100	250	mg/L	5000	18100	60.0	80-120			QM-
Sulfate	7770	250	*	5000	4670	62.0	80-120			QM-

Rice Operating Co.Project:ABO Apache LeakFax: (505) 397-1471122 W. TaylorProject Number:None GivenHobbs NM, 88240Project Manager:Kristin Farris-Pope

### General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF71309 - General Preparatio	n (WetChem)									
Blank (EF71309-BLK1)				Prepared &	Analyzed:	06/13/07				
Total Alkalinity	ND	2.00	mg/L							
Carbonate Alkalinity	ND	0.100	**							
Bicarbonate Alkalinity	ND	2.00	**							
Hydroxide Alkalinity	ND	0.100								
LCS (EF71309-BS1)				Prepared &	Analyzed:	06/13/07				
Bicarbonate Alkalinity	174	2.00	mg/L	200		87.0	85-115			
Duplicate (EF71309-DUP1)	Sou	rce: 7F06017-	02	Prepared &	Analyzed:	06/13/07				
Total Alkalinity	348	2.00	mg/L		348			0.00	20	
Reference (EF71309-SRM1)				Prepared &	Analyzed:	06/13/07				
Total Alkalinity	250		mg/L	250		100	90-110			

Rice Operating Co.

Project: ABO Apache Leak

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: None Given
Project Manager: Kristin Farris-Pope

### Total Metals by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

		Reporting		эріке	Source		70NEC		KrD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF70807 - 6010B/No Digestion										
Blank (EF70807-BLK1)				Prepared &	k Analyzed	06/08/07				
Calcium	ND	0.0810	mg/L							
Magnesium	ND	0.0360								
Potassium	ND	0.0600	,,							
Sodium	ND	0.0430	n							
Calibration Check (EF70807-CCV1)				Prepared &	& Analyzed	06/08/07				
Calcium	1.78		mg/L	2.00		89.0	85-115			
Magnesium	1.83		**	2.00		91.5	85-115			
Potassium	2.28		"	2.00		114	85-115			
Sodium	1.82		"	2.00		91.0	85-115			
Duplicate (EF70807-DUP1)	Sou	rce: 7F05011-	03	Prepared &	& Analyzed	06/08/07				
Calcium	139	4.05	mg/L		139			0.00	20	
Magnesium	29.5	0.360			29.8			1.01	20	
Potassium	6.37	0.600			6.57			3.09	20	
Sodium	121	2.15	n		124			2.45	20	

Rice Operating Co.Project:ABO Apache LeakFax: (505) 397-1471122 W. TaylorProject Number:None GivenHobbs NM, 88240Project Manager:Kristin Farris-Pope

### **Notes and Definitions**

QM-10 LCS/LCSD were analyzed in place of MS/MSD. ΜI The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS). DET Analyte DETECTED Analyte NOT DETECTED at or above the reporting limit ND NRdry Sample results reported on a dry weight basis RPD Relative Percent Difference LCS Laboratory Control Spike MS Matrix Spike Dup Duplicate

Report Approved By: Date: 6/26/2007

Brent Barron, Laboratory Director/Corp. Technical Director Celey D. Keene, Org. Tech Director

Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer Jeanne Mc Murrey, Inorg. Tech Director

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Environmental Lab of Texas

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# **Environmental Lab of Texas**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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### Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Ctient:	Rice				
Date/ Time:	6.6-07 1251				
Lab ID#:	7F06016				
Initials:	al				
	Sample Receipt	Checklist			
		T 25.		Client Initials	s 1
<del></del>	iture of container/ cooler?	Yes	No	20°C	
} <del></del>	container in good condition?	(es	No		1
	Seals intact on shipping container/ cooler?	Yes '	No	Not Present	
	Seals intact on sample bottles/ container?	Yes )	No	Not Present	
	Custody present?	(Yes)	No		
·	instructions complete of Chain of Custody?	res	No		
	Custody signed when relinquished/ received?	) (SS)	No		1
	Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
	er label(s) legible and intact?	(es)	No	Not Applicable	
	matrix/ properties agree with Chain of Custody?	(Yes)	No		
	ers supplied by ELOT?	Ves	No		
	s in proper container/ bottle?	Yes	No	See Below	_
#13 Sample	s properly preserved?	Yes'	No	See Below	<u> </u>
	bottles intact?	Yes)	No		
	ations documented on Chain of Custody?	Yes'	No		
#16 Contain	ers documented on Chain of Custody?	Yes'	No		]
	nt sample amount for indicated test(s)?	Mes	No	See Below	_
#18 All sam	ples received within sufficient hold time?	Yes	No	See Below_	
#19 Subcon	tract of sample(s)?	Yes	No	Not Applicable	
#20 VOC sa	mples have zero headspace?	Yes	No	Not Applicable	]
	Variance Docur	mentation			
Contact:	Contacted by:			Date/ Time:	
0011111111					
Regarding:		· · · · · · · · · · · · · · · · · ·			
Corrective Ac	ction Taken:				
					****
Check all tha					
	<ul><li>Client understands and woul</li><li>Cooling process had begun</li></ul>	·		•	



A Xenco Laboratories Company

# Analytical Report

### **Prepared for:**

Kristin Farris-Pope Rice Operating Co. 122 W. Taylor Hobbs, NM 88240

Project: ABO Apache Leak
Project Number: None Given

Location: T19S R37E Sec1 G ~ Lea County New Mexico

Lab Order Number: 7F14021

Report Date: 06/20/07

Project Number: ABO Apache Leak
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well # 1	7F14021-01	Water	06/14/07 07:10	06-14-2007 13:45

Project: ABO Apache Leak

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### General Chemistry Parameters by EPA / Standard Methods

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Monitor Well # 1 (7F14021-01) Water									
Chloride	285	5.00	mg/L	10	EF71803	06/18/07	06/20/07	EPA 300.0	
Total Dissolved Solids	1350	10.0	"	1	EF72004	06/18/07	06/20/07	EPA 160.1	

Project: ABO Apache Leak

Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### General Chemistry Parameters by EPA / Standard Methods - Quality Control

### **Environmental Lab of Texas**

		Reporting		Spike	Source	:	%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF71803 - General Preparation (W	/etChem)				·					
Blank (EF71803-BLK1)				Prepared: (	06/18/07	Analyzed: 0	6/20/07			
Chloride	ND	0.500	mg/L							
LCS (EF71803-BS1)				Prepared: (	06/18/07	Analyzed: 0	6/20/07			
Chloride	9.87	0.500	mg/L	10.0		98.7	80-120			
Calibration Check (EF71803-CCV1)				Prepared: (	06/18/07	Analyzed: 0	6/20/07			
Chloride	8.94		mg/L	10.0		89.4	80-120			
Duplicate (EF71803-DUP1)	Sou	rce: 7F14003-	06	Prepared: (	06/18/07	Analyzed: 0	6/20/07			
Chloride	8400	100	mg/L		6670			23.0	20	R
Matrix Spike (EF71803-MS1)	Sou	rce: 7F14003-	06	Prepared: (	06/18/07	Analyzed: 0	6/20/07			
Chloride	9860	100	mg/L	2000	6670	160	80-120			QM-10
Batch EF72004 - General Preparation (W	/etChem)									
Blank (EF72004-BLK1)	-			Prepared: (	06/18/07	Analyzed: 0	6/20/07		•	
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (EF72004-DUP1)	Sou	rce: 7F14003-	01	Prepared: (	06/18/07	Analyzed: 0	6/20/07			
Total Dissolved Solids	3220	10.0	mg/L		3180			1.25	20	
Duplicate (EF72004-DUP2)	Sou	rce: 7F14020-	03	Prepared: (	06/18/07	Analyzed: 0	6/20/07			
Total Dissolved Solids	526	10.0	mg/L		534			1.51	20	

Project: ABO Apache Leak Fax: (505) 397-1471 Rice Operating Co. 122 W. Taylor Project Number: None Given

Hobbs NM, 88240 Project Manager: Kristin Farris-Pope

### **Notes and Definitions**

R2 The RPD exceeded the acceptance limit.

QM-10 LCS/LCSD were analyzed in place of MS/MSD.

Analyte DETECTED DET

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Duplicate Dup

	Duens		
Report Approved By:	2000	Date:	6/20/2007

0-22

Brent Barron. Laboratory Director/Corp. Technical Director Celey D. Keene, Org. Tech Director

Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer Jeanne Mc Murrey, Inorg. Tech Director

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# **Environmental Lab of Texas**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East

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

NPDES RUSH TAT (Pie-Schedule) 24, 48, 72 hts Project Loc: 719S R37E Sect G ~ Lea County New Mexico Chlorides Total Dissolved Solids TRRP M.A.O.M. 301 ABO Apache Leak Labels on container(s)
Custody seals on container(s)
Custody seals on cooler(s) 81EX 80218/2030 or 81EX 8260 VOCs Free of Headspace? Sample Containers Intact? Laboratory Comments Volatiles (BTEX-N 8260) X Standard Nefals: As Ag Ba Cd Cr Pb Hg Se TOLP 70 SAR LESP LCEC Anions (Cl. SO4, Alkalinity) PO # Project Name: Cations (Ca, Mg, Na, K) Project #: Report Format: 4X 1006 2001 XT Ha1 10:01 89108 MS108 Partion-Polable Specify Cither 8€ 6-14-07 Other ( abecut) rozanne@valornet.com None (1) 1 Liter HDPE Odessa, Texas 79765 cO2SzeN rozanne@valornet.com HOSN (505) 397-1471 *OS⁴H Dordner HCI HAO 90] otal # of Containers eld Fittered Fax No: e-mail: 7:10 Time Sampled matt@riceswd.com kpope@riceswd.com Raelyn Gardner 6/14/2007 Received by: Date Sampled Ending Depth Hobbs, New Mexico 88240 8 RICE Operating Company Rozanne Johnson (505)631-9310 Beginning Depth kpope@riceswd.com jpurvis@riceswd.com 122 W. Taylor Street Kristin Farris Pope 10-1-1-9 (505) 393-9174 FIELD CODE 12525 Please email to 120117 Sampler Signature: Company Address: Project Manager: Company Name # Telephone No: City/State/Zip: Monitor Well Special Instructions: ORDER #: (lab use only) Ō LAB # (lab use only)

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Temperature Upon Receipt:

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Received by ELO

Time

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10-14-07 Date

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Raelyn Gardner Relinquished by

Relinquished by

Sample Hand Delivered by Sampler/Client Rep. by Courier? UPS

### **Environmental Lab of Texas**

Variance/ Corrective Action Report- Sample Log-In

Client:				
International Line				
ab ID# 14071				
nitials:				
Sample Receipt	Checklist			
	1 7/2	N.L.	Client Initi	als ¬
#1 Temperature of container/ cooler?	Yes	No.	1.5 °C	_
#2 Shipping container in good condition?		No No	Not Droppy	
#3 Custody Seals intact on shipping container/ cooler?	(es	No	Not Present	
#4 Custody Seals intact on sample bottles/ container?	YES YES	No	Not Present	
#5 Chain of Custody present? #6 Sample instructions complete of Chain of Custody?		No		
	Yeş Yeş	No		$\dashv$
#7 Chain of Custody signed when relinquished/ received? #8 Chain of Custody agrees with sample label(s)?	Tes .	No	ID written on Cont / Lid	$\dashv$
	(6)	No	<del></del>	
#9 Container label(s) legible and intact?		No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody? #11 Containers supplied by ELOT?	Yes Yes	No		
#12 Samples in proper container/ bottle?	(es)	No	See Below	
#13 Samples properly preserved?	(es)	No		$\dashv$
#14 Sample bottles intact?	Yes	No	See Below	
#15 Preservations documented on Chain of Custody?	∀es	No		$\dashv$
#16 Containers documented on Chain of Custody?	<u>₩</u> €9	No		$\dashv$
#17 Sufficient sample amount for indicated test(s)?		No	See Below	$\dashv$
#18 All samples received within sufficient hold time?	Yes	No	See Below	_
#19 Subcontract of sample(s)?	Yes	No	Not Applicable	$\dashv$
#20 VOC samples have zero headspace?	Xes.	No	Not Applicable	
#20 VOC samples have zero neadspace :	1 (1-2)	1 140	Not Applicable	
Variance Docu	mentation			
Contacted by:		-	Date/ Time:	
Regarding:				
regarding.				
Corrective Action Taken:				
CONFERENCE FORION FUNCTION				
				<del></del>
Check all that Apply: See attached e-mail/ fax				
Client understands and wou	ıld like to pro	ceed with	n analysis	
Cooling process had begun	shortly after	sampling	event	

## **Analytical Report 285440**

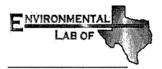
for

Rice Operating Co.

**Project Manager: Kristin Pope** 

**ABP Apache Leak** 

12-JUL-07



12600 West I-20 East Odessa, Texas 79765

A Xenco Laboratories Company

NELAC certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America



12-JUL-07

Project Manager: Kristin Pope

Rice Operating Co. 122 West Taylor Hobbs, NM 88240

Reference: XENCO Report No: 285440

**ABP** Apache Leak

Project Address: T 19 S R37E Sec 1G ~ Lea County, NM

### Kristin Pope:

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 285440. 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. 285440 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** 

Odessa Laboratory Director

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

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Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America



### **Sample Cross Reference 285440**

### Rice Operating Co., Hobbs, NM

ABP Apache Leak

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample 1d
Monitor Well # 1	W	Jun-29-07 07:05		285440-001



### Certificate of Analysis Summary 285440 Rice Operating Co., Hobbs, NM

Project Name: ABP Apache Leak

Project ld:

Date Received in Lab: Jul-03-07 05:05 pm

Contact: Kristin Pope

Report Date:

12-JUL-07

Project Location: T 19 S R37E Sec 1G ~ Lea County, NM

Project Manager: Brent Barron, II

	Lab Id:	285440-001			
Analysis Requested	Field Id:	Monitor Well # 1	!		
,	Depth:				
	Matrix:	WATER			
	Sampled:	Jun-29-07 07:05			
BTEX by EPA 8021B	Extracted:	Jul-10-07 11:54			
DIEM by EIM 0021D	Analyzed:	Jul-10-07 17:12			
	Units/RL:	mg/L RI	_		
Benzene		ND 0.00	10		
Toluene		ND 0.00	10		
Ethylbenzene		ND 0.00	10		
m,p-Xylene		ND 0.002	20		
o-Xylene		ND 0.00	10		
Total Xylenes		ND			
Total BTEX		ND			
Bicarbonate, Alkalinity by EPA	Extracted:				
310.1	Analyzed:	Jul-06-07 15:00			
	Units/RL:	mg/L RL			
Alkalinity, Bicarbonate		240 4.0	00		
Inorganic Anions by EPA 300 Extracted:					
	Analyzed:	Jul-09-07 18:09			
	Units/RL:	mg/L RL			
Chloride		112 5.0	00		
Sulfate		74.4 5.0	00		
Metals per ICP by SW846 6010B Extracte					
• •	Analyzed:	Jul-11-07 14:37			
	Units/RL:	mg/L RL	,		
Calcium		114 0.10		<u> </u>	
Magnesium		13.1 0.0	10		
Potassium		2.65 0.50	00		
Sodium		47.2 0.50	00		
Residue, Filterable (TDS) by EPA	Extracted:				
160.1	Analyzed:	Jul-06-07 15:15			
	Units/RL:	mg/L RL	.		
Total dissolve solids		588 5.0	00		

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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Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America

Brent Barron
Odessa Laboratory Director

# 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 and above the SQL.
- 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.

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## Form 2 - Surrogate Recoveries

Project Name: ABP Apache Leak

**Work Order #: 285440** 

Project ID:

Lab Batch #: 700105

Sample: 285371-018 S / MS

Batch: 1 N

Matrix: Water

Units: mg/L	Su	RROGATE R	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
4-Bromofluorobenzene	0.0483	0.0500	97	80-120	

Lab Batch #: 700105

Sample: 285371-018 SD / MSD

Batch: 1

Matrix: Water

Units: mg/L	SU	RROGATE R	RECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
4-Bromofluorobenzene	0.0504	0.0500	101	80-120	

Lab Batch #: 700105

Sample: 285440-001 / SMP

Batch:

Matrix: Water

Units: mg/L	SU	RROGATE R	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			{D}		
4-Bromofluorobenzene	0.0413	0.0500	83	80-120	·

Lab Batch #: 700105

**Sample:** 496996-1-BKS / BKS

Batch: 1

h: 1 Matrix: Water

Units: mg/L	SU	RROGATE R	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
4-Bromofluorobenzene	0.0531	0.0500	106	80-120	

Lab Batch #: 700105

**Sample:** 496996-1-BLK / BLK

Batch: 1

Matrix: Water

Units: mg/L	SU	RROGATE R	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes		-	[Đ]		
4-Bromofluorobenzene	0.0484	0.0500	97	80-120	

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution



## **Blank Spike Recovery**

Project Name: ABP Apache Leak

Work Order #: 285440

Project ID:

Lab Batch #: 700105 **Date Analyzed:** 07/10/2007 Sample: 496996-1-BKS

Matrix: Water

Reporting Units: mg/L

**Date Prepared:** 07/10/2007

Analyst: CELKEE

Reporting Units: mg/L	Batch #:	BLANK /	BLANK SPI	KE REC	COVERYS	STUDY
BTEX by EPA 8021B	Blank Result	Spike Added	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	[A]	[B]	[C]	[D]	/oK	
Benzene	ND	0.0500	0.0482	96	70-125	
Toluene	ND	0.0500	0.0508	102	70-125	
Ethylbenzene	ND	0.0500	0.0562	112	71-129	
m,p-Xylene	ND	0.1000	0.1006	101	70-131	
o-Xylene	ND	0.0500	0.0549	110	71-133	

Lab Batch #: 700048 **Date Analyzed:** 07/06/2007 Sample: 700048-1-BKS

Matrix: Water

**Date Prepared:** 07/06/2007

Analyst: WRU

Reporting Units: mg/L	Batch #: 1	BLANK /	BLANK SPI	KE REC	OVERY S	STUDY
Bicarbonate, Alkalinity by EPA 310.1	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes			[C]	[D]		
Alkalinity, Bicarbonate	ND	200	174	87	80-120	

Lab Batch #: 699973 **Date Analyzed:** 07/09/2007

**Sample:** 699973-1-BKS **Date Prepared:** 07/09/2007

Matrix: Water

Reporting Units: mg/I

Analyst: LATCOR BLANK/BLANK SPIKE RECOVERY STUDY

Reporting Cines. Alg/L	Daten #:	DLANK /	DLAINK SI	INE NEC	OVERTS	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Inorganic Anions by EPA 300	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	[A]	[6]	[C]	[D]	70K	
Chloride	ND	10.0	9.80	98	90-110	
Sulfate	ND	10.0	9.58	96	90-110	

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



## Form 3 - MS Recoveries

Project Name: ABP Apache Leak

Work Order #: 285440 Lab Batch #: 699973

Project ID:

**Date Analyzed:** 07/09/2007

**Date Prepared:** 07/09/2007

Analyst: LATCOR

**QC-Sample ID:** 285440-001 S Batch #:

Matrix: Water

Reporting Units: mg/L	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]				
Chloride	112	100	206	94	90-110	
Sulfate	74.4	100	169	95	90-110	

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



## Form 3 - MS / MSD Recoveries

Project Name: ABP Apache Leak

Work Order #: 285440

Lab Batch ID: 700105

Date Analyzed: 07/11/2007

QC- Sample ID: 285371-018 S Date Prepared: 07/10/2007

Batch #: Analyst:

l Matrix: Water CELKEE

Project ID:

Reporting Units: mg/L		Σ	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	/ MAT	RIX SPII	KE DUPLICA	TE RECO	VERY:	STUDY		
BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Spiked Result Sample	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	<u>[</u>	%R [D]		Result [F]	%R [G]	%	%R	%RPD	)
Benzene	QN	0.0500	0.0509	102	0.0500	0.0494	66	3	70-125	25	
Toluene	ΩN	0.0500	0.0516	103	0.0500	0.0500	001	3	70-125	25	
Ethylbenzene	QN	0.0500	0.0553	Ξ	0.0500	0.0537	107	4	71-129	25	
m.p-Xylenc	ΩN	0.1000	0.0972	76	0.1000	0.0946	95	2	70-131	25	
o-Xylene	ND	0.0500	0.0536	107	0.0500	0.0524	105	2	71-133	25	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



## **Sample Duplicate Recovery**

Project Name: ABP Apache Leak

Work Order #: 285440

Lab Batch #: 700048

Project ID:

**Date Analyzed: 07/06/2007 Date Prepared:** 07/06/2007 Analyst: WRU

**QC- Sample ID:** 285425-001 D Batch #:

Matrix: Water

Reporting Units: mg/L	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Bicarbonate, Alkalinity by EPA 310.1	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Alkalinity, Bicarbonate	210	210	0	20	
Alkalinity, Carbonate	ND	ND	NC	20	

Lab Batch #: 699973

**Date Analyzed:** 07/09/2007

**Date Prepared:** 07/09/2007

Analyst: LATCOR

QC- Sample ID: 285440-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte	[]	{B}			
Chloride	112	111	1	20	
Sulfate	74.4	74.1	0	20	

Lab Batch #: 700076 **Date Analyzed:** 07/11/2007

**Date Prepared:** 07/11/2007

Analyst: LATCOR

QC- Sample ID: 284692-001 D

Batch #:

Matrix: Water

Reporting Units: mg/L	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Metals per ICP by SW846 6010B	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		{B}			
Calcium	659	653	1	25	
Magnesium	85.0	88.8	4	25	
Potassium	21.2	20.4	4	25	
Sodium	4180	4190	0	25	

Lab Batch #: 699879

**Date Analyzed: 07/06/2007 QC-Sample ID:** 285440-001 D **Date Prepared:** 07/06/2007

Analyst: IRO

Batch #:

Matrix: Water

Reporting Units: mg/L	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Residue, Filterable (TDS) by EPA 160.1  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolve solids	588	602	2	30	

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

## **Analytical Report 286347**

for

Rice Operating Co.

Project Manager: Kristin Pope

ABO Apache Leak

27-JUL-07



12600 West I-20 East Odessa, Texas 79765

A Xenco Laboratories Company

NELAC certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America





27-JUL-07

Project Manager: Kristin Pope

Rice Operating Co. 122 West Taylor Hobbs, NM 88240

Reference: XENCO Report No: 286347

**ABO** Apache Leak

Project Address: T19S R37E Sec 1 G ~ Lea County New Mexico

### Kristin Pope:

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 286347. 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. 286347 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** 

Odessa Laboratory Director

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## **Sample Cross Reference 286347**



## Rice Operating Co., Hobbs, NM

ABO Apache Leak

Sample IdMatrixDate CollectedSample DepthLab Sample IdMonitor Well # 1WJul-19-07 09:35286347-001



# Certificate of Analysis Summary 286347 Rice Operating Co., Hobbs, NM

Project Name: ABO Apache Leak



Project Location: T19S R37E Scc 1 G ~ Lca County New M

Contact: Kristin Pope

Project Id:

Date Received in Lab: Fri Jul-20-07 01:45 pm

Project Manager: Brent Barron, II Report Date: 27-JUL-07

	Field Id:	Monitor Well # 1		
Amulysis Nequesieu	Depth:			
	Matrix:	WATER		
**	Sampled:	Jul-19-07 09:35		
Inorganic Anions hy FPA 300	Extracted:			
	Analyzed:	Jul-22-07 01:11		
7	Units/RL:	mg/L RL	 	
Chloride		328 5.00		
Residue Filterable (TDS) by EPA	Extracted:			
	Analyzed:	Analyzed: Jul-25-07 16:30		
	Units/RL:	Units/RL: mg/L RL	 	
Total dissolved solids		912 5.00		

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

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Odessa Laboratory Director Brent Barron

## 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 and above the SQL.
- 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.

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## **Blank Spike Recovery**



Project Name: ABO Apache Leak

Work Order #: 286347

Project ID:

Lab Batch #: 700978 Date Analyzed: 07/21/2007 Sample: 700978-1-BKS

Matrix: Water

**Date Prepared:** 07/21/2007

Analyst: IRO

Reporting Units: mg/L	Batch #:	BLANK /	BLANK SPI	KE REC	COVERY	STUDY
Inorganic Anions by EPA 300	Blank Result	Spike Added	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	[A]	[B]	[C]	[D]	70K	
Chloride	ND	10.0	10.3	103	90-110	



## Form 3 - MS Recoveries

Project Name: ABO Apache Leak



**Work Order #: 286347** 

**Lab Batch #:** 700978 **Date Analyzed:** 07/21/2007

QC- Sample ID: 286343-001 S

Project ID:

**Date Prepared:** 07/21/2007

Analyst: IRO

Batch #:

Matrix: Water

Reporting Units: mg/L	MATI	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	661	250	907	98	90-110	

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



## Sample Duplicate Recovery



Project Name: ABO Apache Leak

Work Order #: 286347

 Lab Batch #: 700978
 Project ID:

 Date Analyzed: 07/21/2007
 Date Prepared: 07/21/2007
 Analyst: IRO

 QC- Sample ID: 286343-001 D
 Batch #: 1
 Matrix: Water

Reporting Units: mg/L SAMPLE / SAMPLE DUPLICATE RECOVERY Control Parent Sample **Inorganic Anions by EPA 300** Sample Result Duplicate RPD Limits Flag %RPD Result [A][B] Analyte Chloride 661 663 20

Lab Batch #: 701044

 Date Analyzed: 07/25/2007
 Date Prepared: 07/25/2007
 07/25/2007
 Analyst: IRO

 QC- Sample ID: 286343-001 D
 Batch #: 1
 Matrix: Water

Reporting Units: mg/L SAMPLE / SAMPLE DUPLICATE RECOVERY Residue, Filterable (TDS) by EPA 160.1 Control Parent Sample Sample Result Duplicate RPD Limits Flag Result %RPD [A] [B] Analyte Total dissolved solids 2090 2160 30

Lab Batch #: 701044

Date Analyzed: 07/25/2007 Date Prepared: 07/25/2007 Analyst: JRO
QC- Sample ID: 286396-001 D

Batch #: 1

Matrix: Water

SAMPLE / SAMPLE DUPLICATE DE

Reporting Units: mg/L	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Residue, Filterable (TDS) by EPA 160.1  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	2560	2580	1	30	

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

## **Environmental Lab of Texas**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
12600 West I-20 East
Odessa, Texas 79765
Fax: 432-563-1713

TAT brebnet2 アプロッカ □ NPDES RUST HAT (Pre-Schedule) 24, 48, 12 hra ç Project Loc: T19S R37E Sect G - Lea County New Mexico Ø たえ Chlorides 7 Fotal Dissolved Solids TRRP M.A.O.M. 유 **BCI** ABO Apache Leak Labels on container(s) Custody seals on container(s) by Sampler/Client Rep. ? by Courier? UPS BTEX 80216/5030 or BTEX 8260 Temperature Upon Receipt VOCs Free of Headspace? Sample Containers Intact? Custody seals on cooler(s) Laboratory Comments: Sample Hand Delivered Seminoletiles Analyze Volables (BTEX-N 8260) X Standard Metals: As Ag Ba Cd Cr Pb Hg Se SAR / ESP / CEC 걸 Amons (CI, SO4, Alkalinity) Р 6 Project Name: Project #: Cations (Ca. Mg. Na. K) Report Format: 9001 XT 1X 1002 Hau 1.45 126 Time <u>a</u> MSTOB 1814 Hal Specify Other P=Non-Potable <u>გ</u> SW = Groundwater S=Soil/Soild 7.2.7 12-02 W=Drinking Water SLaSludge Date Date Other (Specify) rozanne@valornet.com None (1) 1 Liter HDPE £O_SS₅6N rozanne@valornet.com HOPN (505) 397-1471 'OS²H ЮН HMO² 90] Fotal #, of Containers benetiil blei zax No: e-mail: 9:35 47.5% DalqmeS amiT matt@riceswd.com kpope@riceswd.com ved by ELO Z 7/19/2007 James Johnsg Received by eceived by Date Sampled rttqeQ gnibn3 Hobbs, New Mexico 88240 9:05 RICE Operating Company e E Rozanne Johnson (505)631-9310, Beginning Depth kpope@riceswd.com purvis@riceswd.com 122 W. Taylor Street Kristin Farris Pope 7-26-57 62.2-6 Date (505) 393-9174 Date FIELD CODE Please email to Company Address: Sampler Signature: Project Manager: Company Name Monitor Well #1 Telephone No: City/State/Zip: Special Instructions Rezanne Johnson lab use only) ORDER #: Relinguished (kino seu dsi) # 8A

## Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

	Variation Correction Notes	on oumpro	, real		
Client:	Rice				
Date/ Time:	7.20.07 1:45				
ab ID#	<u> 786347</u>				
n:tials	al				
	Sample Receipt	Checklist			
			·		Client Initials
	ature of container/ cooler?	Yes	No	-20 °C	Not Frozen
	container in good condition?	YES	No		
	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?	(es)	No		
	instructions complete of Chain of Custody?	Yes	No		
	f Custody signed when relinquished/ received?	YES	No		
#8 Chain of	f Custody agrees with sample label(s)?	Xes	No	ID written on Cont./ Lid	
	er label(s) legible and intact?	Yes)	No	Not Applicable	
	e matrix/ properties agree with Chain of Custody?	¿ (es)	No		
	ners supplied by ELOT?	Yes	No		
	es in proper container/ bottle?	Yes	No	See Below	<del>   </del>
	es properly preserved?	Ves	No	See Below	1
	bottles intact?	Yes	No	OGC DOIGH	<del>                                     </del>
	vations documented on Chain of Custody?	Ves	No		<del> </del>
	ners documented on Chain of Custody?	Yes	No		<del> </del>
	ent sample amount for indicated test(s)?	Ves	No	See Below	<del></del>
	pples received within sufficient hold time?	Yés	No	See Below	
	ntract of sample(s)?	Yes	No	tet Applicable	
		∠Yes>	No	<del></del>	
#20 VOC \$	amples have zero headspace?	CTAA	INO	Not Applicable	
	Variance Docui	mentation			
Contact:	Contacted by:			Date/ Time:	
Regarding:					
			<del></del> -		
Corrective A	action Taken:				
		···.	····		
theck all th					
	Client understands and wou				
	Cooling process had begun				



ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: KRISTIN FARRIS-POPE 122 W. TAYLOR STREET HOBBS, NM 88240

FAX TO: (575) 397-1471

Receiving Date: 11/30/07 Reporting Date: 12/07/07 Project Number: NOT GIVEN

Project Name: ABO APACHE LEAK

Project Location: T19S-RE-SEC1 G~LEA COUNTY, NM

Sampling Date: 11/28/07 Sample Type: WATER

Sample Condition: COOL & INTACT

Sample Received By: NF Analyzed By: HM/KS

	Na	Ca	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(uS/cm)	(mgCaCO ₃ /L)
ANALYSIS DATE:	12/04/07	12/04/07	12/04/07	12/04/07	12/04/07	12/04/07
H13806-1 MONITOR WELL #1	87	125	21.8	4.41	1,207	236
Quality Control	NR	49.2	50.8	2.88	1,423	NR
True Value QC	NR	50.0	50.0	3.00	1,413	NR
% Recovery	NR	98.5	102	96.0	101	NR
Relative Percent Difference	NR	< 0.1	1.6	12.4	1.1	NR
METHODS:	SMC	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	CI_	SO ₄	CO ₃	HCO ₃	рН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	12/06/07	12/04/07	12/04/07	12/04/07	12/04/07	12/03/07
H13806-1 MONITOR WELL #1	200	76.6	0	288	7.36	791
	500	20.0		000		
Quality Control	500	28.0	NR	988	7.05	NR
True Value QC	500	25.0	NR	1000	7.00	NR
% Recovery Relative Percent Difference	100 < 0.1	112 5.8	NR NR	98.8 1.2	101 0.1	NR NR
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Busta Superito

12/07/07 Date



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: KRISTIN FARRIS-POPE 122 W. TAYLOR **HOBBS, NM 88240** FAX TO: (575) 397-1471

Receiving Date: 11/30/07 Reporting Date: 12/03/07

Project Number: NOT GIVEN

Project Name: ABO APACHE LEAK

Project Location: T19S-RE-SEC1 G ~ LEA COUNTY, NM

Sampling Date: 11/28/07 Sample Type: WATER

Sample Condition: COOL & INTACT

Sample Received By: NF

Analyzed By: AB

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
<b>ANALYSIS DAT</b>	E	11/30/07	11/30/07	11/30/07	11/30/07
H13806-1	MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
Quality Control		0.107	0.096	0.095	0.300
True Value QC		0.100	0.100	0.100	0.300
% Recovery		107	96	95	100
Relative Percen	t Difference	1.7	3.4	3.3	4.1

METHOD: EPA SW-846 8021B

Page 1 of

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Address: (3	(Street, City, Zip)			Ph	Phone#:				Fax#:	**					Z												
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( LAB USE )		(G)rab or (	# CONTA	MATER SOIL	SLUDGE SLUDGE		HNO ³ HCF ⁽⁵ 40 ^w	^p OSH <b>s</b> N	ICE (1-1File H ^S 2O ⁴	NONE	DATE (200	TIME 802	BTEX 802	1.814 H9T 07S8 HA9	Total Metal	TCLP Meta	TCLP Sem	RCI	GCW2 A9	CC/WS 26	Pesticides	BOD, TSS, Moisture C		O) anoinA	Total Disso	Chlorides	
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