1R - 426 - 02

# Annual GW Mon. REPORTS

DATE: 2007



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Mr. Ed Hansen New Mexico Energy, Minerals, & Natural Resources Dept. Oil Conservation Division, Environmental Bureau 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

Subject: 2007 MONITOR WELL REPORT/SAMPLING SUMMARY Jcts. K-27, BD SWD SYSTEM Unit K, SEC. 27, T21S, R37E NMOCD CASE #s 1R0426-02 and 1R0426-03

K-27 K-27-1

Dear Mr. Hansen:

き、記録

On behalf of Rice Operating Company (ROC), ARCADIS G&M, Inc. (ARCADIS) respectfully submits the 2007 Monitor Well Report for the BD K-27 site located in the Blinebry-Drinkard (BD) Salt Water Disposal (SWD) System.

One monitoring well was installed at each of two junction box locations (K-27-1 and K-27 North) on May 9 and 10, 2005 during delineation as part of the NMOCD approved ICP.

A letter informing NMOCD that due to their proximity to each other the sites would be combined as one site referred to as the K-27 site was submitted on June 12, 2006. The letter also informed NMOCD of our intent to drill 4 additional monitoring wells at the K-27 site. Approval to drill the monitor wells was received on July 18, 2007.

Monitor wells MW-2 through MW-5 were installed on July 24 and 25, 2006. All wells are sampled quarterly per NMOCD guidelines. The attached tables summarize the analytical results from groundwater samples collected from the monitor wells at the site. 2007 groundwater laboratory reports are also attached.

Based on data collected for published reports, groundwater in this area has been impacted by brine as far back as 1953. This site is adjacent to the City of Eunice. Impacted groundwater conditions are documented in this area since the 1950s. (Ground- Water Report 6; Geology and Ground-Water Conditions in Southern Lea

ARCADIS G&M, Inc. 1004 North Big Spring Street Sund 300 Midlage Texas 79701 Tel 432 687 5400

> Fax 432 687 5401 www.arcadis-us.com

Environmental

Date: 21 March 2008

Contact: Sharon E. Hall

Phone: 432 687-5400

Email: shall@arcadis-us.com

Our ref: MT000834.0001

#### ARCADIS

Mr. Ed Hansen 21 March 2008

County, New Mexico; Alexander Nicholson, Jr. and Alfred Clebsch, Jr.; U.S. Geological Survey in cooperation with State Bureau of Mines and Mineral Resources Division of the New Mexico Institute of Mining and Technology and with the New Mexico State Engineer.)

Based on the widespread chloride impacts documented since the 1950s and the fact that the potential sources of additional impacts to groundwater (the junction boxes and impacted soil) at this site have been removed ROC requests closure of this site.

ROC is the service provider (agent) for the BD Salt Water Disposal System and has no ownership of any portion of pipeline, well or facility. The BD SWD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this annual summary of groundwater monitoring information and request for closure. If you have any questions, do not hesitate to contact me.

Sincerely, ARCADIS G&M, Inc.

Sham E. Hall

Sharon E. Hall Site Evaluation Department Manager

Copies: Kristin Farris Pope- ROC (3 copies)

Attachments: MW Summary Tables Monitor Well Location Figure Laboratory Analytical Results

Use or disclosure of information contained on this sheet is subject to the restriction and disclaimer located on the signature page of this document.

G:VAPROJECT/Rice Oper/MT834.01 K-27s/2007 annual report/Rice K-27s 2007 annual report.doc

	Sulfate	422	290	357	280	345	462	315	334	383		341
ng/kg)	<b>Total Xylenes</b>	<0.001	<0.001	J{0.000886}	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003
-aboratory and Field Results (mg/kg)	Ethyl Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
oratory and	Benzene Toluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Labo	Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	TDS	060 2760	2270	2240	1980	1980	2070	1980	1550	1720	1670	1679
	CI	1060	810	978	621	740	704	494	518	511	549	470
	Sample Date	6/27/2005	9/6/2005	10/17/2005	1/16/2006	4/10/2006	7/10/2006	10/4/2006	2/7/2007	4/17/2007	7/25/2007	10/3/2007
	Volume Purged	17.5	18	18	20	20	20	20	20	20	20	20
	Well Volume	XXX	XXX	9	6.1	6.3	9.5	5.8	9	6'9	6.2	9
	Total Depth	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.45	52.45	52.45	52.45
	<b>Depth to Water</b>	43.5	43.31	43.21	43.13	43.45	43.94	43.52	43.28	43.42	42.98	43.15

BD Jct. K-27-N MW-1 Groundwater Results

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**Groundwater Results** 

	Sulfate	624	460	619	465	527	604	460	512	490	<0.002	516
	⊢		7	9				4	-	7	° 2	
ng/kg)	<b>Total Xylenes</b>	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	an	<0.003
Laboratory and Field Results (mg/kg)	Ethyl Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
oratory and	Toluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Labo	Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	TDS	2800	2850	3390	2610	1970	1830	1760	1750	1820	2980	1964
	Ū	975	885	1280	679	442	430	314	378	367	1040	420
	Sample Date	7/15/2005	9/6/2005	10/17/2005	1/19/2006	4/10/2006	7/10/2006	10/4/2006	2/7/2007	4/17/2007	7/25/2007	10/3/2007
	Volume Purged	17	17.08	17.5	20	20	20	20	20	20	20	20
	Well Volume	XXX	XXX	5.8	5.8	5.4	5	5.6	5.7	5.8	6.3	9
	Total Depth	44	44	44	44	44	44	44	44.05	44.05	44.05	44.05
	Depth to Water   Total Depth   Well Volume	35.45	35.28	35.14	35.03	35.63	36.25	35.43	35.23	35.09	34.38	34.89

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# ROC BD Jct. K-27 MW-2 Groundwater Results

							Lab	oratory an	Laboratory and Field Results (mg/kg)	mg/kg)	
epth to Water	Total Depth	Depth to Water Total Depth Well Volume	Volume Purged	Sample Date	CIT	TDS B	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
41.44	51.15	1.6	10	10/4/2006	543 18	1850	<0.001	<0.001	<0.001	<0.001	275
41.16	50.91	1.6	Ø	2/7/2007	576 14	1420	<0.001	<0.001	<0.001	<0.001	268
41.29	50.91	1.5	9	4/17/2007	604 1(	1670	<0.001	<0.001	<0.001	<0.001	270
40.9	50.91	1.6	9	7/25/2007	581 2	2140	<0.001	<0.001	<0.001	<0.002	QN
41.05	50.91	1.6	6.	10/3/2007	600 1879	879	<0.001	<0.001	<0.001	<0.003	270

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BD Jct. K-27 MW-3 Groundwater Results

			-			Lab	oratory an	Laboratory and Field Results (mg/kg)	mg/kg)	
Depth to Water	Total Depth	Nell Volume	Volume Purged	Sample Date	CI TDS	Benzene	Toluene	Ethyl Benzene	<b>Total Xylenes</b>	Sulfate
43.71	52.5	1.4	6	10/4/2006	227 1480	<0.001	<0.001	<0.001	<0.001	324
43.38	52.36	. 1.4	6	2/7/2007	256 1300	<0.001	<0.001	<0.001	<0.001	327
43.51	52.36	1.4	6	4/17/2007	264 1340	<0.001	<0.001	<0.001	<0.001	314
43.02	53.36	1.5	6	7/25/2007	274 1420	<0.001	<0.001	<0.001	<0.002	
43.24	52.36	1.5	6	10/3/2007	308 1500	<0.001	<0.001	<0.001	<0.003	352

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BD Jct. K-27 MW-4 Groundwater Results

							Lab	oratory an	-aboratory and Field Results (mg/kg)	mg/kg)	
Depth to Water   Total Depth   Well Volume	Total Depth	Well Volume	Volume Purged	Sample Date	บี	CI TDS	Benzene	Toluene	Ethyl Benzene	<b>Total Xylenes</b>	Sulfate
37.42	45.3	1.3	9	10/4/2006	516	2020	<0.001	<0.001	<0.001	<0.001	540
36.94	45.15	1.3	9	2/7/2007	525	525 1860	<0.001	<0.001	<0.001	<0.001	577
36.92	45.15	1.3	9	4/17/2007	526	526 1940	<0.001	<0.001	<0.001	<0.001	556
36.33	45.15	1.4	9	7/25/2007	349	1930	<0.001	<0.001	<0.001	<0.002	
36.7	45.15	1.4	9	10/3/2007	390	1938	<0.001	<0.001	<0.001	<0.003	- 579

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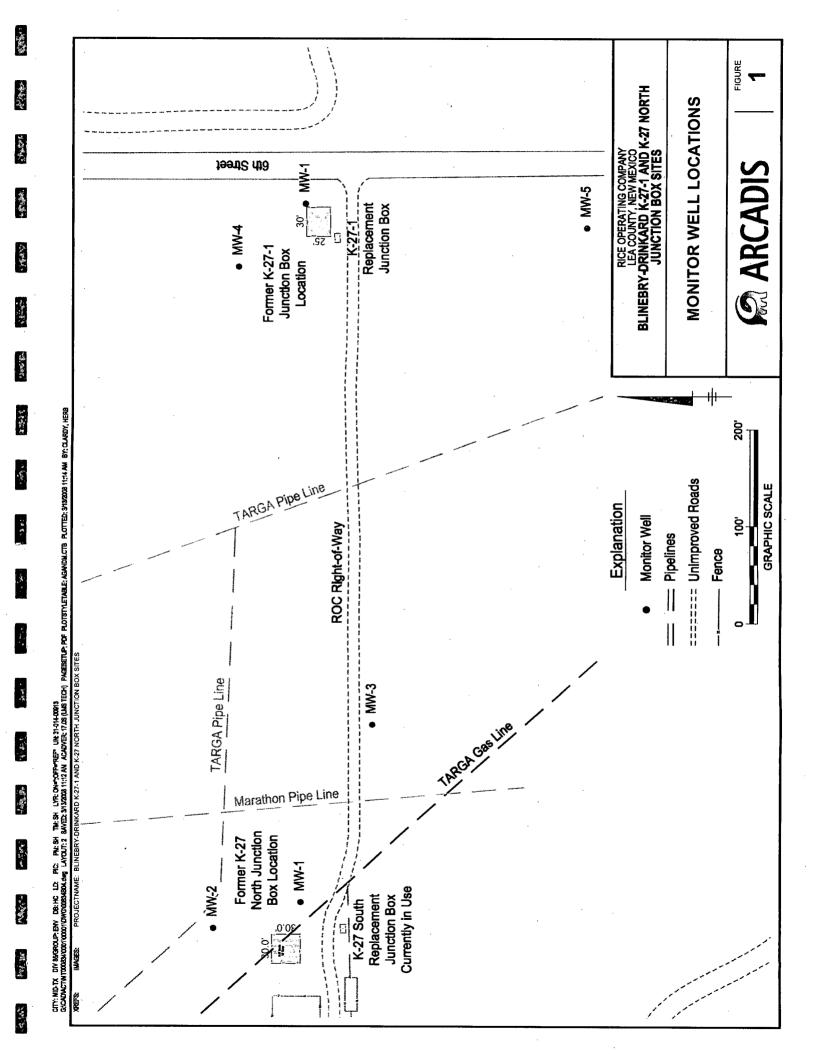
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BD Jct. K-27 MW-5 Groundwater Results

							Labo	oratory an	Laboratory and Field Results (mg/kg)	mg/kg)	
Depth to Water Total Depth	Total Depth	Well Volume	Volume Purged	Sample Date	CI TDS		Benzene Toluene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
31.84	39	1.1	5	10/4/2006	282 1950	1950	<0.001	<0.001	<0.001	<0.001	551
32.55	38.94	1	4	2/7/2007	317 1730	1730	<0.001	<0.001	<0.001	<0.001	677
35.09	44.05	5.8	20	4/17/2007	272 1	1890	<0.001	<0.001	<0.001	<0.001	591
31.97	38.94	1.1	5	7/25/2007	208 1	1700	<0.001	<0.001	<0.001	<0.002	
32.35	38.94	1.1	5	10/3/2007	260 1799	1799	<0.001	<0.001	<0.001	<0.003	632





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A Xenco Laboratories Company

### Analytical Report

Prepared for:

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

Project: BD Jct. K-27 & K-27-1 Project Number: None Given Location: T21S R37E Sec27 K ~ Lea County New Mexico

Lab Order Number: 7B09006

Report Date: 02/19/07

Rice Operating Co. 122 W. Taylor

Hobbs NM, 88240

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#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### ANALYTICAL REPORT FOR SAMPLES

······································		······		
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
K-27 Monitor Well #1	7B09006-01	Water	02/07/07 12:10	02-08-2007 16:50
K-27 Monitor Well #2	7B09006-02	Water	02/07/07 09:15	02-08-2007 16:50
K-27 Monitor Well #3	7B09006-03	Water	02/07/07 11:40	02-08-2007 16:50
K-27 Monitor Well #4	7B09006-04	Water	02/07/07 11:00	02-08-2007 16:50
K-27 Monitor Well #5	7B09006-05	Water	02/07/07 13:05	02-08-2007 16:50
K-27-1 Monitor Well #1	7B09006-06	Water	02/07/07 10:20	02-08-2007 16:50

#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### Organics by GC

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
K-27 Monitor Well #1 (7B09006-01) Water									
Benzene	ND	0.00100	mg/L	1	EB71210	02/12/07	02/13/07	EPA 8021B	
Toluene	ND	0.00100		"			11	11	•
Ethylbenzene	ND	0.00100		"	"	"	. "		
Xylene (p/m)	ND	0.00100	11	"	"	n	"	11 ,	
Xylene (o)	ND	0.00100	"	IJ		**	. "	"	
Surrogate: a,a,a-Trifluorotoluene		80.6 %	80-12	)	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.8 %	80-12	)	"	. "	· "	"	
X AT M						,			
K-27 Monitor Well #2 (7B09006-02) Water									
Benzene	ND	0.00100	mg/L	1	EB71210	02/12/07	02/13/07	EPA 8021B	
Toluene	ND	0.00100	'n	"	"	"	"	11	
Ethylbenzene	ND	0.00100	"	"	"	"		11	
Xylene (p/m)	ND	0:00100	11	"	"	**	"	. "	
Xylene (o)	ND	0.00100	"	. "	. *			H	
Surrogate: a,a,a-Trifluorotoluene		73.6 %	80-12	)	"	"	n	"	S-0
Surrogate: 4-Bromofluorobenzene		80.6 %	80-12	)	"	"	"	H	
K-27 Monitor Well #3 (7B09006-03) Water									
Benzene	ND	0.00100	mg/L	1	EB71210	02/12/07	02/13/07	EPA 8021B	
Toluene	ND	0.00100	н	"	11	. "	"	н	
Ethylbenzene	ND	0.00100	a		"	"	"	11	
Xylene (p/m)	ND	0.00100	н	п		"	n		
Xylene (o)	ND	0.00100	"	"	11	n	"	n	
Surrogate: a,a,a-Trifluorotoluene	,	80.4 %	80-12	)	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.0 %	80-12	).	"	"	"	"	
K-27 Monitor Well #4 (7B09006-04) Water			,						
Benzene	ND	0.00100	mg/L	1	EB71210	02/12/07	02/14/07	EPA 8021B	
Toluene	ND	0.00100	19	11	11	"	"	"	
Ethylbenzene	ND	0.00100	"	, u	"	"		"	
Xylene (p/m)	ND	0.00100		"	"	"	"	n	
Xylene (o)	ND	0.00100	н .	"	**		"	"	
Surrogate: a,a,a-Trifluorotoluene	······································	85.2 %	80-12	)	"	"	"	"	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

A Xenco Laboratories Company

Page 2 of 11

Rice Operating Co. 122 W. Taylor

Hobbs NM, 88240

and the

#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

#### Organics by GC

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
K-27 Monitor Well #5 (7B09006-05) Wat	er								
Benzene	ND	0.00100	mg/L	1	EB71210	02/12/07	02/14/07	EPA 8021B	
Toluene	ND	0.00100	11	0	11	"	"		
Ethylbenzene	ND	0.00100	14	"	"	11	11	4	
Xylene (p/m)	ND	0.00100	"	"	"	"	н	u	
Xylene (o)	ND	0.00100	"	"	"		"	o .	
Surrogate: a,a,a-Trifluorotoluene		81.6 %	80-12	0	n	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.8 %	80-12	0	u	"	"	"	
K-27-1 Monitor Well #1 (7B09006-06) Wa	iter								
Benzene	ND	0.00100	mg/L	1	EB71210	02/12/07	02/14/07	EPA 8021B	
Toluene	ND	0.00100	. "	11	"	"	"	n .	
Ethylbenzene	ND	0.00100	*1	n	**	"			
Xylene (p/m)	ND <sup>1</sup>	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	**	"	11		
Surrogate: a,a,a-Trifluorotoluene		80.8 %	80-12	0	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.8 %	80-12	0	"	"	"	"	

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#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### General Chemistry Parameters by EPA / Standard Methods

**Environmental Lab of Texas** 

Analyte K-27 Monitor Well #1 (7B09006-01) Water	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
K-27 Monitor Well #1 (7B09006-01) Water				· ·			······································	······	
Total Alkalinity	270	2.00	mg/L	1	EB71213	02/10/07	02/10/07	EPA 310.1M	
Chloride	518	10.0	"	20	EB71202	02/12/07	02/13/07	EPA 300.0	
Chloride Total Dissolved Sòlids	1550	10.0	"	1	EB71003	02/09/07	02/10/07	EPA 160.1	
Sulfate	334	10.0		20	EB71202	02/12/07	02/13/07	EPA 300.0	
Sulfate K-27 Monitor Well #2 (7B09006-02) Water									
Total Alkalinity	336	2.00	mg/L	1	EB71213	02/10/07	02/10/07	EPA 310.1M	
Total Alkalinity Chloride	576	12.5	11	25	EB71202	02/12/07	02/13/07	EPA 300.0	
Total Dissolved Solids	1420	10.0	n	1	EB71003	02/09/07	02/10/07	EPA 160.1	
Sulfate	268	12.5	н	25	EB71202	02/12/07	02/13/07	EPA 300.0	
K-27 Monitor Well #3 (7B09006-03) Water									
Total Alkalinity Chloride	380	2.00	mg/L	1	EB71213	02/10/07	02/10/07	EPA 310.1M	
Chloride	256	10.0	"	20	EB71202	02/12/07	02/13/07	EPA 300.0	
Total Dissolved Solids	1300	10.0	"	1	EB71003	02/09/07	02/10/07	EPA 160.1	
Sulfate	327	10.0	• ••	20	EB71202	02/12/07	02/13/07	EPA 300.0	
Sulfate K-27 Monitor Well #4 (7B09006-04) Water									
Total Alkalinity	364	2.00	mg/L	1	EB71213	02/10/07	02/10/07	EPA 310.1M	
Chloride	525	12.5	υ.	25	EB71202	02/12/07	02/13/07	EPA 300.0	
Total Dissolved Solids	1860	10.0	"	1	EB71003	02/09/07	02/10/07	EPA 160.1	
Sulfate	577	12.5	"	25	EB71202	02/12/07	02/13/07	EPA 300.0	
K-27 Monitor Well #5 (7B09006-05) Water		· .							
Total Alkalinity	428	2.00	mg/L	. 1	EB71213	02/10/07	02/10/07	EPA 310.1M	
Chloride	317	12.5	"	25	EB71202	02/12/07	02/13/07	EPA 300.0	
Total Dissolved Solids	1730	10.0	"	1	EB71003	02/09/07	02/10/07	EPA 160.1	
Sulfate	677	12.5	"	25	EB71202	02/12/07	02/13/07	EPA 300.0	
K-27-1 Monitor Well #1 (7B09006-06) Water									
Total Alkalinity	346	2.00	mg/L	1	EB71213	02/10/07	02/10/07	EPA 310.1M	
Chloride	378	5.00	<b>n</b> '	10	EB71202	02/12/07	02/13/07	EPA 300.0	
Total Dissolved Solids	1750	10.0	"	1	EB71003	02/09/07	02/10/07	EPA 160.1	
Sulfate	512	5.00	*1	10	EB71202	02/12/07	02/13/07	EPA 300.0	

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#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given

#### Total Metals by EPA / Standard Methods

Project Manager: Kristin Farris-Pope

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	No
K-27 Monitor Well #1 (7B09006-01) Water				Dilution	Daicii		Allalyzeu		
Calcium	175	4.05	mg/L	50	EB70903	02/09/07	02/09/07	EPA 6010B	
Magnesium	88.6	1.80	"	u	"				
Potassium	9.78	0.600	"	10	"		"		
Sodium	256	2.15	11	50	. "	n	"	Ħ	
K-27 Monitor Well #2 (7B09006-02) Water							•		
Calcium	184	4.05	mg/L	50	EB70903	02/09/07	02/09/07	EPA 6010B	
Aagnesium	82.0	1.80	"		0	n	"		
Potassium	9.22	0.600	۱٢	10	14	R	"	n	
Sodium	253	2.15	"	50	н	н	n		
K-27 Monitor Well #3 (7B09006-03) Water									
Calcium	120	4.05	mg/L	50	EB70903	02/09/07	02/09/07	EPA 6010B	
lagnesium	46.2	0.360	"	10	н	۳.	17	"	
Potassium	7.53	0.600	**	"	н	"	"		
Godium	206	2.15	, <b>u</b>	50	н <sup>4</sup> ,	n	"	U	
K-27 Monitor Well #4 (7B09006-04) Water									1
Calcium	191	4.05	mg/L	50	EB70903	02/09/07	02/09/07	EPA 6010B	
lagnesium	80.1	1.80		н.	"	"	"	п	
otassium	9.98	0.600		10	11	"	"	и	
odium	364	2.15		50	**	M	n	11	
2-27 Monitor Well #5 (7B09006-05) Water				· .					
Calcium	106	4.05	mg/L	50	EB70903	02/09/07	02/09/07	EPA 6010B	
lagnesium	50.8	0.360	"	10		н <sup>.</sup>	••	11	
otassium	8.22	0.600	**	"	"	"	"	"	
odium	402	10.8		250	11	<b>u</b> .	Ħ	**	
-27-1 Monitor Well #1 (7B09006-06) Water						, 			
Calcium	153	4.05	mg/L	50	EB70903	02/09/07	02/09/07	EPA 6010B	
lagnesium	65.5	1.80	· 11	11		н .		۳.,	

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The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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Page 5 of 11

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#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### **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 EB71210 - EPA 5030C (GC)										
Blank (EB71210-BLK1)				Prepared: 0	2/12/07 A	nałyzed: 02	/13/07			
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (0)	ND	0.00100	**							
Surrogate: a,a,a-Trifluorotoluene	42.1		ug/l	50.0		84.2	80-120			
Surrogate: 4-Bromofluorobenzene	44.1		"	50.0		88.2	80-120			
LCS (EB71210-BS1)				Prepared: 0	2/12/07 Ai	nalyzed: 02	/13/07			
Benzene	0.0473	0.00100	mg/L	0.0500		94.6	80-120			
Toluene	0.0462	0.00100	"	0.0500		92.4	80-120			
Ethylbenzene	0.0424	0.00100	11	0.0500		84.8	80-120			
Xylene (p/m)	0.0971	0.00100	"	0.100		97.1	80-120			
Xylene (0)	0.0411	0.00100	"	0.0500		82.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	42.9		ug/l	50.0	· · ·	85.8	80-120			
Surrogate: 4-Bromofluorobenzene	45.4		"	50.0		90.8	80-120			
Calibration Check (EB71210-CCV1)				Prepared: 0	2/12/07 Ai	nalyzed: 02	/14/07			
Benzene	54.3		ug/l	50.0		109	80-120			
Toluene	51.1			50.0		102	80-120			
Ethylbenzene	48.1		"	50.0		96.2	80-120			
Xylene (p/m)	93.3		**	100		93.3	80-120			
Kylene (0)	40.3			50.0		80.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	50.2		"	50.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	44.3		"	50.0		88.6	80-120			
Matrix Spike (EB71210-MS1)	Sou	rce: 7B09003-(	01	Prepared: 0	2/12/07 Ai	nalyzed: 02	/14/07	·		
3enzene	0.0448	0.00100	mg/L	0.0500	ND	89.6	80-120			
foluene	0.0427	0.00100	**	0.0500	ND	85.4	80-120			
thylbenzene	0.0409	0.00100	"	0.0500	ND	81.8	80-120			
Cylene (p/m)	0.0831	0.00100		0.100	ND	83.1	80-120			
(ylene (o)	0.0406	0.00100	"	0.0500	ND	81.2	80-120			
urrogate: a,a,a-Trifluorotoluene	42.5	· · ·	ug/l	50.0		85.0	80-120			
urrogate: 4-Bromofluorobenzene	41.2		"	50.0		82.4	80-120			

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Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### **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 EB71210 - EPA 5030C (GC)					Kesun	/oKEC		KFD		NOICS

Matrix Spike Dup (EB71210-MSD1)	Sou	rce: 7B09003-	-01	Prepared: 02	2/12/07 A	nalyzed: 0.	2/14/07		
Benzene	0.0439	0.00100	mg/L	0.0500	ND	87.8	80-120	2.03	20
Toluene	0.0420	0:00100		0.0500	ND	84.0	80-120	1.65	20
Ethylbenzene	0.0417	0.00100	"	0.0500	ND	83.4	80-120	1,94	20
Xylene (p/m)	0.0817	0.00100	п	0.100	ND	81.7	80-120	1.70	20
Xylene (0)	0.0400	0.00100	"	0.0500	ND	80.0	80-120	1.49	20
Surrogate: a,a,a-Trifluorotoluene	41.0	····	ug/l	50.0		82.0	80-120		
Surrogate: 4-Bromofluorobenzene	40.3		"	50.0		80.6	80-120		

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Rice Operating Co.		. Pr	oject: Bl	D Jct. K-27 &	K-27-1				Fax: (505)	397-147
122 W. Taylor		Project Nu	5							
Hobbs NM, 88240		•		ristin Farris-P	ope					
General Ch	iemistry Para	-				ls - Qua	lity Cont	trol		
		Environm	iental I	Lab of Te	xas	·····				·
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB71003 - Filtration Preparation										
Blank (EB71003-BLK1)				Prepared: (	02/09/07 A	nalyzed: 02	2/10/07			
Total Dissolved Solids	ND	10.0	mg/L							·
Duplicate (EB71003-DUP1)	Sou	rce: 7B09002-	01	Prepared: (	)2/09/07 A	nalyzed: 02	2/10/07			
Total Dissolved Solids	852	10.0	mg/L		908			6.36	20	
Duplicate (EB71003-DUP2)	Sou	rce: 7B09006-	02	Prepared: (	02/09/07 A	nalyzed: 02	2/10/07			
Total Dissolved Solids	1550	10.0	mg/L	<b>1</b>	1420			8.75	20	
Batch EB71202 - General Preparation (N										
	veichem)			Prepared: (	)2/12/07 A	nalvzed: 00	2/13/07			
Blank (EB71202-BLK2)	ND	0.500	mg/L	Prepared: (	)2/12/07 A	nalyzed: 02	2/13/07		· · · · · · · · · · · · · · · · · · ·	,
Blank (EB71202-BLK2) Chloride		0.500	mg/L	Prepared: (	02/12/07 A	nalyzed: 02	2/13/07			
Blank (EB71202-BLK2) Chloride Sulfate	ND									, ,
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1)	ND				02/12/07 A					
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate	ND ND	0.500	u	Prepared: (		nalyzed: 02	2/13/07			
	ND ND 11.1	0.500	mg/L	Prepared: ( 10.0 10.0		nalyzed: 02 111 105	2/13/07 80-120 80-120			
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate Chloride Calibration Check (EB71202-CCV1)	ND ND 11.1	0.500	mg/L	Prepared: ( 10.0 10.0	)2/12/07 A	nalyzed: 02 111 105	2/13/07 80-120 80-120			
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate Chloride Calibration Check (EB71202-CCV1) Chloride	ND ND 11.1 10.5	0.500	" mg/L "	Prepared: ( 10.0 10.0 Prepared: (	)2/12/07 A	nalyzed: 02 111 105 nalyzed: 02	2/13/07 80-120 80-120 2/13/07			
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate Chloride	ND ND 11.1 10.5 10.3 10.1	0.500	" " mg/L "	Prepared: ( 10.0 10.0 Prepared: ( 10.0 10.0	)2/12/07 A	nalyzed: 02 111 105 nalyzed: 02 103 101	2/13/07 80-120 80-120 2/13/07 80-120 80-120			
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate Chloride Calibration Check (EB71202-CCV1) Chloride Sulfate	ND ND 11.1 10.5 10.3 10.1	0.500	" " mg/L "	Prepared: ( 10.0 10.0 Prepared: ( 10.0 10.0	)2/12/07 A	nalyzed: 02 111 105 nalyzed: 02 103 101	2/13/07 80-120 80-120 2/13/07 80-120 80-120	3.39	20	
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate Chloride Calibration Check (EB71202-CCV1) Chloride Sulfate Duplicate (EB71202-DUP1)	ND ND 11.1 10.5 10.3 10.1 <b>Sou</b>	0.500 0.500 0.500	" mg/L " mg/L " 01RE1	Prepared: ( 10.0 10.0 Prepared: ( 10.0 10.0	)2/12/07 A )2/12/07 A	nalyzed: 02 111 105 nalyzed: 02 103 101	2/13/07 80-120 80-120 2/13/07 80-120 80-120	3.39 9.99	20 20 20	· · · · · · · · · · · · · · · · · · ·
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate Chloride Calibration Check (EB71202-CCV1) Chloride Sulfate Duplicate (EB71202-DUP1) Sulfate Chloride	ND ND 11.1 10.5 10.3 10.1 <b>Sou</b> 20.3 33.3	0.500 0.500 0.500 rce: 7B09002- 10.0	" mg/L " 01RE1 mg/L "	Prepared: ( 10.0 10.0 Prepared: ( 10.0 10.0	)2/12/07 A )2/12/07 A )2/12/07 A )2/12/07 A 21.0 36.8	nalyzed: 02 111 105 nalyzed: 02 103 101 nalyzed: 02	2/13/07 80-120 80-120 2/13/07 80-120 80-120 2/13/07			· · · · · · · · · · · · · · · · · · ·
Blank (EB71202-BLK2) Chloride Sulfate LCS (EB71202-BS1) Sulfate Chloride Calibration Check (EB71202-CCV1) Chloride Sulfate Duplicate (EB71202-DUP1) Sulfate	ND ND 11.1 10.5 10.3 10.1 <b>Sou</b> 20.3 33.3	0.500 0.500 0.500 rce: 7B09002- 10.0 10.0	" mg/L " 01RE1 mg/L "	Prepared: ( 10.0 10.0 Prepared: ( 10.0 10.0 Prepared: (	)2/12/07 A )2/12/07 A )2/12/07 A )2/12/07 A 21.0 36.8	nalyzed: 02 111 105 nalyzed: 02 103 101 nalyzed: 02	2/13/07 80-120 80-120 2/13/07 80-120 80-120 2/13/07			

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Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas** Reporting Spike %REC RPD Source Analyte Result Limit Units %REC RPD Limit Level Result Limits Notes Batch EB71202 - General Preparation (WetChem) Matrix Spike (EB71202-MS1) Source: 7B09002-01RE1 Prepared: 02/12/07 Analyzed: 02/13/07 Sulfate 256 10.0 200 21.0 118 80-120 mg/L Chloride 255 10.0 200 36.8 109 80-120 Matrix Spike (EB71202-MS2) Source: 7B09006-02 Prepared: 02/12/07 Analyzed: 02/13/07 Chloride 845 12.5 250 576 108 80-120 mg/L Sulfate 533 12.5 250 268 106 80-120 Batch EB71213 - General Preparation (WetChem) Blank (EB71213-BLK1) Prepared & Analyzed: 02/10/07 Total Alkalinity ND 2.00 mg/L AP40 LCS (EB71213-BS1) Prepared & Analyzed: 02/10/07 Bicarbonate Alkalinity 194 2.00 200 mg/L 97.0 85-115 Duplicate (EB71213-DUP1) Source: 7B09002-01 Prepared & Analyzed: 02/10/07

 Total Ałkalinity
 226
 2.00
 mg/L
 228
 0.881
 20

 Reference (EB71213-SRM1)
 Prepared & Analyzed: 02/10/07
 0.881
 20

 Total Alkalinity
 250
 mg/L
 250
 100
 90-110

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Project: BD Jct. K-27 & K-27-1

Project Number: None Given

Project Manager: Kristin Farris-Pope

Το	tal Metals by	y EPA / St	andard	I Methods	- Quali	ty Conti	ol	-		
		Environm	iental l	Lab of Tex	kas					
		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EB70903 - 6010B/No Digestion										
Blank (EB70903-BLK1)				Prepared &	Analyzed:	02/09/07			. ,	
Calcium	ND	0.0810	mg/L							
Magnesium	ND	0.0360	"							
Potassium	ND	0.0600								
Sodium	ND	0.0430	••							
Calibration Check (EB70903-CCV1)				Prepared &	: Analyzed:	02/09/07				
Calcium	2.10		mg/L	2.00		105	85-115			
Magnesium	2.17		"	2.00		108	85-115			
Potassium	1.73		t+	2.00		86.5	85-115			
Sodium	1.78		"	2.00	·.	89.0	85-115			
Duplicate (EB70903-DUP1)	Sou	rce: 7B09002-	01	Prepared &	Analyzed:	02/09/07				
Calcium	139	4.05	mg/L		137			1.45	20	
Magnesium	25.4	0.360	"		26.3			3.48	20	
Potassium	2.51	0.600			2.58			2.75	20	
Sodium	108	2.15	11		110			1.83	20	

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Rice Op 122 W. 7	erating Co.	Project: E Project Number: N	BD Jct. K-27 & K-27-1 Jone Given	Fax: (505) 397-1471
Hobbs N	IM, 88240	Project Manager: k		
		Notes and Defi	nitions	
S-04	The surrogate recovery for this sample is	outside of established control lin	nits due to a sample matrix effect.	
DET	Analyte DETECTED			
ND	Analyte NOT DETECTED at or above the rep	orting 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			

Report Approved By:

y: Bur Birion

Date: 2/19/2007

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

Environmental Lab of Texas

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Iter Weil #2       217/2007       9:15       3       X       2       11       GW       X<		Well #1	<b> </b>		2/7/2007	12:10	<u>}</u>										++				×			<b> </b>	$\vdash$
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Iter Well #5         2772007         13.05         3         X         2         1         GW         X		Well #4			2/7/2007	11:00				~		~		NO NO											귀
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Ease email to :     kpope@riceswd.com     mfranks@riceswd.com     rozanne@valornet.com       Base email to :     kpope@riceswd.com     mfranks@riceswd.com     rozanne@valornet.com       Base email to :     kpope@riceswd.com     mfranks@riceswd.com     rozanne@valornet.com       Base email to :     kpope@riceswd.com     rozanne@valornet.com     A       Date     Time     Received by:     Base       Date     Time     Received by:     Base       Date     Time     Received by:     Base       Date     Time     Sample/Deliter Rep.     B       Date     Time     Received by:     Date     Base       Date     Time     Received by:     Date     Date     Base       Date     Time     Received by:     Date     Date     Date     Base																					+				
ase email to : kpope@riceswd.com mfranks@riceswd.com rozanne@valornet.com 《 Simple Containers Intact? 28.00 [Laboratory Comments: Date Time Received by: VOGS Free of Headspace? VOGS Free of Headspace? VOGS Free of Headspace? VOGS Free of Headspace? Custody seals on container(s) Date Time Received by: [Lot 1] [Laboratory comments] Date Time Received by: [Lot 2] [Si 1] [Laboratory Comments]									+						-			+							
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Date     Time     Received by:     Date     Time     Labels on container(s)       2.8.     A. 'SO     A. 'SO     A. 'SO     Custody seals on container(s)     B       Date     Time     Received by:     Date     Time     Custody seals on container(s)     B       Date     Time     Received by:     Date     Time     Sample Hand Delivered     B       Date     Time     Received by:     Date     Time     Sample Oplivered     B       Date     Time     Received by ELOT:     (D.Q.V.)     Z/K/b/T     A. 'SO     PHL	Special Instructions: Please	1	щ	3	ranks@rice	swd.com		, szanr	e@	alorn	et.cc	Ę	-		. 6.	$\mathcal{O}_{\mathcal{I}}$	Sam	rator) le Co	Comn ainer f Hea	Intag Intag	0		80		遡_
Date     Time     Received by:     Date     Time     Sample Hand Delivered       Date     Time     Sample Hand Delivered     by Sample Delivered     By Sample Delivered       Date     Time     Received by ELOT:     [O.O.b.]     [O.O.b.]     Date     Time	Beingursted by:	Date Date	Time 1 1 1 1 1 1 1 1 1 1 1 1 1		ceived by:								Da	e	<del>ال</del>	це	Cust	s on c dy se	ntaine s on c s on c	r(s) ontai	ler(s)		(UE)	zzz	
Date Time Received by ELOT: 1000, 2/8/67 A-50 Température Upon Receipt: 2.5	Relinquished by:	Date	Time		ceived by:							+	ñ	e	F	me	Sam	e He S	G G G	nt Re			e n	ZZ	ži –
	Relinquished by:	Date	Time			11.0	3	15	{			11	$\vdash \infty$	a 5		e R	Tem	ëratu	Upor	Rece	i ti	23.	1 e .		

#### Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

	Variance/ Corrective Action Re
Client:	Rive op.
Date/ Time:	2/8/07/ 4:50
Lab ID # :	n B 69006
Initials:	<u> </u>

#### Sample Receipt Checklist

			-	Client Initi
#1	Temperature of container/ cooler?	Yes	No	2,5 °C
#2	Shipping container in good condition?	Xes	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?	Xes>	No	
#7	Chain of Custody signed when relinquished/ received?	(Fes	No	
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid
#9	Container label(s) legible and Intact?	Kes	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	Fes	No	
#11	Containers supplied by ELOT?	Xes	No	
#12	Samples in proper container/ bottle?	Fes	No	See Below
#13	Samples properly preserved?	res	No	See Below
#14		Yes	No	
#15	Preservations documented on Chain of Custody?	Yes	No	
#16		Yes	No	
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below
#18	All samples received within sufficient hold time?	Yes	No	See Below
#19		Yes	No	Not Applicable
#20	VOC samples have zero headspace?	Yes	No	Not Applicable
Cor	Variance Docur	nentation	<u>.</u>	Date/ Time:
Reg	garding:			· .
Co	rective Action Taken:		,	
Ch	eck all that Apply: See attached e-mail/ fax			

 $\Box$ 

Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event

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12600 West I-20 East - Odessa, Texas 79765

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## Analytical Report

Prepared for:

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

Project: BD Jct. K-27 & K-27-1 Project Number: None Given Location: T21S R37E Sec27 K ~ Lea County New Mexico

Lab Order Number: 7D18018

Report Date: 05/07/07

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#### Project: BD Jct. K-27 & K-27-1 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
K-27 Monitor Well # 1	7D18018-01	Water	04/17/07 11:00	04-18-2007 14:55
K-27 Monitor Well # 2	7D18018-02	Water	04/17/07 10:00	04-18-2007 14:55
K-27 Monitor Well # 3	7D18018-03	Water	04/17/07 13:35	04-18-2007 14:55
K-27 Monitor Well # 4	7D18018-04	Water	04/17/07 11:45	04-18-2007 14:55
K-27 Monitor Well # 5	7D18018-05	Water	04/17/07 14:20	04-18-2007 14:55
K-27-1 Monitor Well # 1	7D18018-06	Water	04/17/07 12:45	04-18-2007 14:55

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Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### Organics by GC

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
K-27 Monitor Well # 1 (7D18018-01) Water		·····							•
Benzene	ND	0.00100	mg/L	1	ED71904	04/19/07	04/20/07	EPA 8021B	
Toluene	ND	0.00100	"	"	п	**	"	"	
Ethylbenzene	ND	0.00100	п	tr	14	(r	"	"	
Xylene (p/m)	ND	0.00100	۳	**	11	<b>n</b>	"	n	
Xylene (o)	ND	0.00100	11	"	"	11	"		
Surrogate: a,a,a-Trifluorotoluene		116 %	80-1.	20	<i>u</i> .	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-1.	20	".	"	"	"	
K-27 Monitor Well # 2 (7D18018-02) Water									
Benzene	ND	0.00100	mg/L	1	ED71904	04/19/07	04/20/07	EPA 8021B	
Toluene	ND	0.00100	"		11	"	п	n	
Ethylbenzene	ND	0.00100	"	"	н	"	"	"	
Xylene (p/m)	ND	0.00100	"	P	"				
Xylenc (0)	ND	0.00100	H	н	"	н	"	"	
Surrogate: a,a,a-Trifluorotoluene	····	116 %	80-1.	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-1.	20	"	u	"	"	
K-27 Monitor Well # 3 (7D18018-03) Water									
Benzene	ND	0.00100	mg/L	1	ED72007	04/20/07	04/24/07	EPA 8021B	
Toluene	ND	0.00100	"	<b>11</b> 1	н	**		11	
Ethylbenzene	ND	0.00100	u	"	"	**	• •	п	
(ylene (p/m)	ND	0.00100	н	**	"	"		и	
ylene (o)	ND	0.00100	"		"	"			
Surrogate: a,a,a-Trifluorotoluene		125 %	80-1.	20	"	"	"	"	S-0
Surrogate: 4-Bromofluorobenzene		116 %	80-12	20	"	"	"	u	
۲-27 Monitor Well # 4 (7D18018-04) Water					ı				
Benzene	ND	0.00100	mg/L	1	ED72007	04/20/07	04/24/07	EPA 8021B	
Toluene	ND	0.00100			n	"	"	11	
Ethylbenzene	ND	0.00100	"	"	"	"		"	
Cylene (p/m)	ND	0.00100	"	"	. "	"	n	**	
(v) (v)	ND	0.00100	11	11	•	"	11	49	
Surrogate: a,a,a-Trifluorotoluene		123 %	80-1.	20	"	"	"	"	S-0
Surrogate: 4-Bromofluorobenzene		112 %	80-12		"	"	"	"	

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Page 2 of 12

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Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

#### Organics by GC

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
K-27 Monitor Well # 5 (7D18018-05) Water									
Benzene	ND	0.00100	mg/L	1	ED72007	04/20/07	04/24/07	EPA 8021B	,
Toluene	ND	0.00100	*1	19	"	11	"		
Ethylbenzene	ND	0.00100	*1	11	"	**		•	
Xylene (p/m)	ND	0.00100	"	**	н	и	11		
Xylene (o)	ND	0.00100	"	"	"	"	ų	n	
Surrogate: a,a,a-Trifluorotoluene		113 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	80-	120	"	"	."	"	
K-27-1 Monitor Well # 1 (7D18018-06) Water									
Benzene	ND	0.00100	mg/L	1	ED72007	04/20/07	04/24/07	EPA 8021B	
Toluene	ND	0.00100	<b>"</b>	"	"	"	u	"	

Ethylbenzene	ND	0,00100		"		"	**		
Xylene (p/m)	ND	0.00100	"	"	11	"	"	11	
Xylene (o)	ND	0.00100	"	"	"	н	n	"	
Surrogate: a,a,a-Trifluorotoluene		122 %	80-120		"	"	"		S-04
Surrogate: 4-Bromofluorobenzene		113 %	80-120		"	"	"	п	

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#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### General Chemistry Parameters by EPA / Standard Methods

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	No
K-27 Monitor Well # 1 (7D18018-01) Water					· ··· • • • • • • • • • • • • • • • • •				
Total Alkalinity	296	2.00	mg/L	1	ED71913	04/19/07	04/19/07	EPA 310.1M	
Chloride	511	5.00	"	10	ED72411	04/24/07	04/27/07	EPA 300.0	
Total Dissolved Solids	1720	10.0	"	1	ED71911	04/19/07	04/20/07	EPA 160.1	
Sulfate	383	5.00	11	10	ED72411	04/24/07	04/27/07	EPA 300.0	
K-27 Monitor Well # 2 (7D18018-02) Water									
Fotal Alkalinity	304	2.00	mg/L	1	ED71913	04/19/07	04/19/07	EPA 310.1M	
Chloride	604	12.5	• ••	25	ED72411	04/24/07	04/27/07	EPA 300.0	
Fotal Dissolved Solids	1670	10.0	"	1	ED71911	04/19/07	04/20/07	EPA 160.1	
Sulfate	270	12.5	10	25	ED72411	04/24/07	04/27/07	EPA 300.0	
K-27 Monitor Well # 3 (7D18018-03) Water						·			
Fotal Alkalinity	364	2.00	mg/L	1	ED71913	04/19/07	04/19/07	EPA 310.1M	
Chloride	264	10.0	*1	20	ED72411	04/24/07	04/27/07	EPA 300.0	
Fotal Dissolved Solids	1340	10.0		1	ED71911	04/19/07	04/20/07	EPA 160.1	
Sulfate	314	10.0		20	ED72411	04/24/07	04/27/07	EPA 300.0	
K-27 Monitor Well # 4 (7D18018-04) Water									
Fotal Alkalinity	370	2.00	mg/L	1	ED71913	04/19/07	04/19/07	EPA 310.1M	
Chloride	526	12.5		25	ED72411	04/24/07	04/27/07	EPA 300.0	
Fotal Dissolved Solids	1940	10.0	"	1	ED71911	04/19/07	04/20/07	EPA 160.1	
Sulfate	556	12.5	**	25	ED72411	04/24/07	04/27/07	EPA 300.0	
K-27 Monitor Well # 5 (7D18018-05) Water									
<b>`otal Alkalinity</b>	488	2.00	mg/L	1	ED71913	04/19/07	04/19/07	EPA 310.1M	
Chloride	272	12.5	"	25	ED72411	04/24/07	04/27/07	EPA 300.0	
Total Dissolved Solids	1890	10.0	"	1	ED71911	04/19/07	04/20/07	EPA 160.1	
Sulfate	591	12.5	"	25	ED72411	04/24/07	04/27/07	EPA 300.0	
K-27-1 Monitor Well # 1 (7D18018-06) Wate	r								. <u></u>
Fotal Alkalinity	384	2.00	mg/L	1	ED71913	04/19/07	04/19/07	EPA 310.1M	
Chloride	367	12.5		25	ED72411	04/24/07	04/27/07	EPA 300.0	
otal Dissolved Solids	1820	10.0	"	1	ED71911	04/19/07	04/20/07	EPA 160.1	
ulfate	490	12.5	11	25	ED72411	04/24/07	04/27/07	EPA 300.0	

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#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### Total Metals by EPA / Standard Methods

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
K-27 Monitor Well # 1 (7D18018-01) Water				Dituitor			T that y Zod		
Calcium	155	4.05	mg/L	50	ED72703	04/27/07	04/27/07	EPA 6010B	
Magnesium	106	1.80		"	"	11	n	"	
Potassium	10.6	0.600		10	"	n	н		
Sodium	373	4.30	"	100	"	"	n		
K-27 Monitor Well # 2 (7D18018-02) Water									
Calcium	157	4.05	mg/L	50	ED72703	04/27/07	04/27/07	EPA 6010B	
Magnesium	107	1.80	"		"	"	14	н	
Potassium	10.6	0.600	"	10	· n	Н	14	"	
Sodium	347	4.30	"	100	"	"	, 11	"	
K-27 Monitor Well # 3 (7D18018-03) Water									
Calcium	132	4.05	mg/L	50	ED72703	04/27/07	04/27/07	EPA 6010B	
Magnesium	70.0	. 1.80	. "	11	"	"	n	11	
Potassium	8.65	0.600		10	"	"	11	"	
Sodium	257	4.30	".	100	"	. n	"	**	
K-27 Monitor Well # 4 (7D18018-04) Water		· .							
Calcium	204	4.05	mg/L	50	ED72703	04/27/07	04/27/07	EPA 6010B	
Magnesium	75.9	1.80			"	п,	11	"	
Potassium	11.6	0.600	"	10	"	"	n	n	
Sodium	465	4.30	"	100	"	n	••	и	
K-27 Monitor Well # 5 (7D18018-05) Water				-					
Calcium	108	4.05	mg/L	50	ED72703	04/27/07	04/27/07	EPA 6010B	_
Magnesium	56.7	1.80	11	**	"	"	"	"	
Potassium	8.60	0.600	"	10	11	"	11	"	
Sodium	505	4.30	*1	100	H	11	н	11	
K-27-1 Monitor Well # 1 (7D18018-06) Water								-	
Calcium	163	4.05	mg/L	<b>50</b>	ED72703	04/27/07	04/27/07	EPA 6010B	
Magnesium	67.6	1.80	"		"	n	*	"	
Potassium	9.94	0.600	"	10	"	"	**	n	
Sodium	332	4.30	"	100	н			"	

Environmental Lab of Texas

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August 1

#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### Organics by GC - Quality Control

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**Environmental Lab of Texas** 

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED71904 - EPA 5030C (GC)							<u> </u>			
Blank (ED71904-BLK1)				Prepared: 0	04/19/07 A	nalyzed: 04	/20/07			
Benzene	ND	0.00100	mg/L							
Toluene	ND	. 0.00100	11							
Ethylbenzene	ND	0.00100	u							
Xylene (p/m)	ND	0.00100	"							
Xylene (0)	ND	0.00100	"					,		
Surrogate: a,a,a-Trifluorotoluene	53.3		ug/l	50.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	46.6		"	50.0		93.2	80-120			
LCS (ED71904-BS1)				Prepared: 0	04/19/07 A	nalyzed: 04	/20/07			
Benzene	0.0535	0.00100	mg/L	0.0500		107	80-120			
Toluene	0.0536	0.00100	"	0.0500		107	80-120			
Ethylbenzene	0.0564	0.00100	"	0.0500		113	80-120			
Xylene (p/m)	0.104	0.00100	"	0.100		104	80-120			
Xylene (0)	0.0575	0.00100	"	0.0500		115	80-120			
Surrogate: a,a,a-Trifluorotoluene	55.0		ug/l	50.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	52.2		"	50.0		104	80-120			
Calibration Check (ED71904-CCV1)				Prepared: 0	)4/19/07 A	nalyzed: 04	/20/07			
Benzene	59.7		ug/l	50.0		119	80-120			
foluene	58.1		"	50.0		116	80-120			
Ethylbenzene	59.8		н	50.0		120	80-120			
Kylene (p/m)	109		n	100		109	80-120			
Kylene (0)	58.6		п	50.0		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	56.8		"	50.0		114	80-120			
Surrogate: 4-Bromofluorobenzene	54.3		"	50.0		109	80-120			
Matrix Spike (ED71904-MS1)	Sou	rce: 7D17009-	07	Prepared: 0	04/19/07 A	nalyzed: 04	/23/07	۰.		
Benzene	0.0540	0.00100	mg/L	0.0500	ND	108	80-120			
foluene	0.0546	0.00100	н	0.0500	ND	, 109	80-120			
Ethylbenzene	0.0597	, 0.00100		0.0500	ND	119	80-120			
Cylene (p/m)	0.108	0.00100	"	0.100	ND	108	80-120			
(ylene (o)	0.0594	0.00100	n	0.0500	ND	119	80-120			
Surrogate: a,a,a-Trifluorotoluene	53.4		ug/l	50.0		107	80-120			
Surrogate: 4-Bromofluorobenzene	54.4		"	50.0		109	80-120			

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#### Project: BD Jct. K-27 & K-27-1 Project Number: None Given

Project Manager: Kristin Farris-Pope

#### **Organics by GC - Quality Control**

#### **Environmental Lab of Texas**

	Matrix Spike Dup (ED71904-MSD1)	Sour	-ce: 7D17009-	07	Prepared: (	04/19/07 A	nalyzed: 04	/23/07			
2	Batch ED71904 - EPA 5030C (GC)										
	Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

0.0531	0.00100	mg/L	0.0500	ND	106	80-120	1.87	20	
0.0540	0.00100	"	0.0500	ND	108	80-120	0.922	20	
0.0576	0.00100	n	0.0500	ND	115	80-120	3.42	20	
0.107	0.00100	н	0.100	ND	107	80-120	0.930	20	
0.0584	0.00100		0.0500	ND	117	80-120	1.69	20	
52.9		ug/l	50.0		106	80-120			
53.8		"	50.0		108	80-120			
	0.0540 0.0576 0.107 0.0584 52.9	0.0540 0.00100 0.0576 0.00100 0.107 0.00100 0.0584 0.00100 52.9	0.0540 0.00100 " 0.0576 0.00100 " 0.107 0.00100 " 0.0584 0.00100 " 52.9 ug/l	0.0540         0.00100         "         0.0500           0.0576         0.00100         "         0.0500           0.107         0.00100         "         0.100           0.0584         0.00100         "         0.0500           52.9         ug/l         50.0	0.0540         0.00100         "         0.0500         ND           0.0576         0.00100         "         0.0500         ND           0.107         0.00100         "         0.100         ND           0.0584         0.00100         "         0.0500         ND           52.9         ug/l         50.0         50.0	0.0540         0.00100         "         0.0500         ND         108           0.0576         0.00100         "         0.0500         ND         115           0.107         0.00100         "         0.100         ND         107           0.0584         0.00100         "         0.0500         ND         117           52.9         ug/l         50.0         106	0.0540         0.00100         "         0.0500         ND         108         80-120           0.0576         0.00100         "         0.0500         ND         115         80-120           0.107         0.00100         "         0.100         ND         107         80-120           0.0584         0.00100         "         0.0500         ND         107         80-120           0.0584         0.00100         "         0.0500         ND         117         80-120           52.9         ug/l         50.0         106         80-120	0.0540         0.00100         "         0.0500         ND         108         80-120         0.922           0.0576         0.00100         "         0.0500         ND         115         80-120         3.42           0.107         0.00100         "         0.100         ND         107         80-120         0.930           0.0584         0.00100         "         0.0500         ND         117         80-120         1.69           52.9         ug/l         50.0         106         80-120         1.69	0.0540         0.00100         "         0.0500         ND         108         80-120         0.922         20           0.0576         0.00100         "         0.0500         ND         115         80-120         3.42         20           0.107         0.00100         "         0.100         ND         107         80-120         0.930         20           0.0584         0.00100         "         0.0500         ND         117         80-120         1.69         20           52.9         ug/l         50.0         106         80-120         1.69         20

#### Batch ED72007 - EPA 5030C (GC)

Blank (ED72007-BLK1)				Prepared: 04/20/	07 Analyzed: 04	1/24/07	
Benzene	ND	0.00100	mg/L				
Toluene	ND	0.00100	"				
Ethylbenzene	ND	0.00100	"				
Xylene (p/m)	ND	0.00100	"				
Xylene (0)	ND	0.00100	*				
Surrogate: a,a,a-Trifluorotoluene	57.6		ug/l	50.0	115	80-120	 
Surrogate: 4-Bromofluorobenzene	57.5		"	50.0	115	80-120	
LCS (ED72007-BS1)				Prepared: 04/20/	07 Analyzed: 04	<b>1</b> /24/07	¢
Benzene	0.0528	0.00100	mg/L	0.0500	106	80-120	
Toluene	0.0551	0.00100	"	0.0500	110	80-120	
Ethylbenzene	0.0567	0.00100		0.0500	113	80-120	
Xylene (p/m)	0.107	0.00100	"	0.100	107	80-120	
Xylene (o)	0.0574	0.00100		0.0500	115	80-120	
Surrogate: a,a,a-Trifluorotoluene	56.7		ug/l	50.0	113	80-120	 
Surrogate: 4-Bromofluorobenzene	55.1		"	50.0	110	80-120	

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Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

#### 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 ED72007 - EPA 5030C (GC)										
Calibration Check (ED72007-CCV1)				Prepared: 0	04/20/07 A	nalyzed: 04	/24/07			
Benzene	54.8		ug/l	50.0		110	80-120	and a second		
Toluene	55.1		"	50.0		110	80-120			
Ethylbenzene	56.5		"	50.0		113	80-120			
Xylene (p/m)	106		"	100		106	80-120			
Xylene (0)	57.1		"	50.0		114	80-120			
Surrogate: a,a,a-Trifluorotoluene	56.9		"	50.0		114	80-120			
Surrogate: 4-Bromofluorobenzene	53.1		"	50.0		106	80-120			
Matrix Spike (ED72007-MS1)	Sou	rce: 7D18018-	03	Prepared: 0	04/20/07 A	nalyzed: 04	/24/07			
Benzene	0.0552	0.00100	mg/L	0.0500	ND	110	80-120			
Toluene	0.0573	0.00100	ri	0.0500	ND	115	80-120			
Ethylbenzene	0.0565	0.00100	"	0.0500	ND	113	80-120			
Xylene (p/m)	0.109	0.00100	"	.0.100	ND	109	80-120			
Xylene (o)	0.0598	0.00100	14	0.0500	ND	120	80-120			
Surrogate: a,a,a-Trifluorotoluene	58.3		ug/l	50.0		117	80-120			
Surrogate: 4-Bromofluorobenzene	57.6		"	50.0		115	80-120			
Matrix Spike Dup (ED72007-MSD1)	Sou	rce: 7D18018-	03	Prepared: 0	04/20/07 A	nalyzed: 04	/24/07			
Benzene	0.0549	0.00100	mg/L	0.0500	ND	110	80-120	0.00	20	
Foluene	0.0575	0.00100	"	0.0500	ND	115	80-120	0.00	20	
Ethylbenzene	0.0593	0.00100	*	0.0500	ND	119	80-120	5.17	20	
Xylene (p/m)	0.111	0.00100	••	0.100	ND	111	80-120	1.82	20	
Kylene (0)	0.0611	0.00100	**	0.0500	ND	122	80-120	1.65	20	QM-0
Surrogate: a,a,a-Trifluorotoluene	60.0	·····	ug/l	50.0		120	80-120			
Surrogate: 4-Bromofluorobenzene	58.8		"	50.0		118	80-120			

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Project: BD Jct. K-27 & K-27-1 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 %REC RPD Spike Source Analyte Result RPD Limit Units Level Result %REC Limits Limit Notes **Batch ED71911 - Filtration Preparation** Blank (ED71911-BLK1) Prepared: 04/19/07 Analyzed: 04/20/07 Total Dissolved Solids ND 10.0 mg/L Duplicate (ED71911-DUP1) Source: 7D18006-01 Prepared: 04/19/07 Analyzed: 04/20/07 Total Dissolved Solids 614 10.0 mg/L 674 9.32 20 Duplicate (ED71911-DUP2) Source: 7D18015-03 Prepared: 04/19/07 Analyzed: 04/20/07 Total Dissolved Solids 1660 1820 9.20 20 10.0 mg/L Batch ED71913 - General Preparation (WetChem) Blank (ED71913-BLK1) Prepared & Analyzed: 04/19/07 Total Alkalinity ND 2.00 mg/L LCS (ED71913-BS1) Prepared & Analyzed: 04/19/07 Bicarbonate Alkalinity 176 2.00 mg/L 200 85-115 88.0 Duplicate (ED71913-DUP1) Prepared & Analyzed: 04/19/07 Source: 7D18017-01 Total Alkalinity 226 232 2.62 20 2.00 mg/L Prepared & Analyzed: 04/19/07 Reference (ED71913-SRM1) Total Alkalinity 246 mg/L 250 98.4 90-110 Batch ED72411 - General Preparation (WetChem) Prepared: 04/24/07 Analyzed: 04/27/07 Blank (ED72411-BLK1) ND mg/L Sulfate 0.500 ND 0,500 Chloride

Environmental Lab of Texas

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Project: BD Jct. K-27 & K-27-1 Project Number: None Given Project Manager: Kristin Farris-Pope

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

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED72411 - General Preparation (	WetChem)									
Blank (ED72411-BLK2)				Prepared: (	)4/24/07 A					
Chloride '	ND	0.500	mg/L							
Sulfate	ND	0.500								
LCS (ED72411-BS1)				Prepared &	Analyzed:	04/24/07				
Chloride	9.02	0.500	mg/L	10.0		90.2	80-120			
Sulfate	9.66	0.500	н	10.0		96.6	80-120			
Calibration Check (ED72411-CCV1)			Prepared: 04/24/07 Analyzed: 04/27/07							
Sulfate	11.0		mg/L	10.0		110	80-120			
Chloride	8.05		11	10.0		80.5	80-120			
Duplicate (ED72411-DUP1)	Sour	ce: 7D23008-	-01	Prepared &	: Analyzed:	04/24/07				
Chloride	187	5.00	mg/L		187			0.00	20	
Sulfate	74.3	5.00	н		74.0			0.405	20	
Duplicate (ED72411-DUP2)	Sour	ce: 7D18018-	06	Prepared: (	)4/24/07 A	nalyzed: 04	/27/07			
Sulfate	492	12.5	mg/L		490			0.407	20	
Chloride	361	12.5	"		367			1.65	20	
Matrix Spike (ED72411-MS1)	Sour	ce: 7D23008-	01	Prepared: (	04/24/07 A	nalyzed: 04	/27/07			
Sulfate	166	5.00	mg/L	100	74.0	92.0	80-120			
Chloride	291	5.00		100	187	104	80-120			
Matrix Spike (ED72411-MS2)	Sour	ce: 7D18018-	06	Prepared: (	4/24/07 A	nalyzed: 04	/27/07			
Chloride	631	12.5	mg/L	250	367	106	80-120			
Sulfate	774	12.5	"	250	490	114	80-120			

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The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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#### Rice Operating Co. 122 W. Taylor

Hobbs NM, 88240

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#### Project: BD Jct. K-27 & K-27-1

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

#### Total Metals by EPA / Standard Methods - Quality Control

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED72703 - 6010B/No Digestion										
Blank (ED72703-BLK1)	,			Prepared &	Analyzed:	04/27/07				
Calcium	ND	0.0810	mg/L							
Magnesium	ND	0.0360	"							
Potassium	ND	0.0600	".							
Sodium	ND	0.0430	н							
Calibration Check (ED72703-CCV1)				Prepared &	: Analyzed:	04/27/07				
Calcium	1.90		mg/L	2.00		95.0	85-115			
Magnesium	2.07			2.00		104	85-115			
Potassium	1.98		**	2.00		99.0	85-115			
Sodium	2.29		. "	2.00		114	85-115			
Duplicate (ED72703-DUP1)	Sou	rce: 7D18014-	01	Prepared &	Analyzed:	04/27/07				
Calcium	140	4.05	mg/L		133	•		5.13	20	
Magnesium	76.4	1.80			76.8			0.522	20	
Potassium	15.7	0.600			15.6			0.639	20	
Sodium	350	4.30	"		358			2.26	20	

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Rice Opera 122 W. Tay Hobbs NM	ylor	Project Number:	BD Jct. K-27 & K-27-1 None Given Kristin Farris-Pope		Fax: (505) 397-147
		Notes and De	finitions		
S-04	The surrogate recovery for this sample is ou	tside of established control	limits due to a sample matrix	effect.	
QM-07	The spike recovery was outside acceptance recovery.	limits for the MS and/or MS	D. The batch was accepted I	based on acceptable LCS	•
DET	Analyte DETECTED				
ND	Analyte NOT DETECTED at or above the report	ing limit			
NR	Not Reported				
iry	Sample results reported on a dry weight basis				
₽₽D	Relative Percent Difference				
LCS	Laboratory Control Spike				
MS	Matrix Spike				
Dup	Duplicate				
				· .	
·					
	~				
	KA	Kenn			
Report A	Approved By:		Date: 5/7	/2007	
	·				
	rron, Laboratory Director/Corp. Technic	al Director	James Mathis, QA/Q		
	Keene, Org. Tech Director . Tuttle, Laboratory Consultant	· · ·	Jeanne Mc Murrey, I	norg. Tech Director	· .
- tarana 1					•
	erial is intended only for the use of the in ion that is privileged and confidential.	ndividual (s) or entity to	whom it is addressed, and	may contain	
If you be	we received this material in error, please	notify us immediately at	432-563-1800		
n you na	ive received and material in citor, please	notity as miniculately at	152 505 1000.		

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The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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	Project Manager	Kristin Farris Pope	文	oope	kpope@riceswd.com	mo					ور المحمد الم	1	Projec	ct Nam	BO	Junctio	n K-27	Project Name: BD Junction K-27 and K-27-1	11		
	Company Name	<b>RICE Operating Company</b>	mpan	Х								1	p_	Project#:	 *						
	Company Address.	122 W. Taylor Street	at la									-	Pro	ject Lo	121	S R37E	Project Loc: T21S R37E Sec27 K	- Lea County New Mexico	unty Ne	w Mexi	8
	City/State/Zip:	Hobbs, New Mexico 88240	8824	0		0						-		₩ 04	#						
	Telephone No:	(505) 393-9174			A A A	Fax No:	빈	(505) 3	397-147	171		<u>م</u>	Report Format:	ormat:	$\mathbf{X}$	X Standard	**	🛛 trrp			S
	Sampler Signature:	Sampler Signature: Rozanne Johnson (505)631-9310	-9310		JW/	e-mail:	엔	zann	e@ve	rozanne@valornet.com	com		L				Andress East			-	г
(lab use only)	ŀ			-											Ĩ					1	againing bay of an
ORDER #:	R#: 1018018	18		N	•				Preservatio	Preservation & # of Containers	kiners	M:	Matrix 6			TOTAL:		×1			510.77
(Yin	150/32	151	ų				51		sibiv s		396		ა (დაფ	9001 XT		BH 49 10 bC	8260)		spiloS		81 °67 (ambaua
o əsn qej) # g			iqəQ prinnig	ding Dept	beiqme2 ete	bəlqms2 əm	benetiit t benetiit benetiite beneti	10² ;	keig im 04 (S) K	10252 HO	ihi tetiji ti (t) en	her ( Specify) Crinting Water SL: C	icosos naradanosos: isosos aldenofonola H; 478.7 B/	9001 XT :H	lions (Ca, Mg, N ons (Cl, SO4, A	R / ESP / CEC	N-X3T8) selites zelitelovim	5-B.M. 1 80218/5030	beviossia leh	a m TAT UQ	<b>۲۹۲ H2t ا</b> Piebri TAT bisbri
0	FIELC K-27 Monitor Well #1	FIELD CODE	98 	ua	4/17/2007	11:00			NH N	2N	N T	ñ0 .	-dv	ar 				28			
0		#2			4/17/2007	10:00	(m)	×	~		-		GW		×××			×	×		×
03	K-27 Monitor Well #3	13			4/17/2007	13:35	0	×	2		1	0	GW		× ×			 ×	×		×
40	K-27 Monitor Well #4	X			4/17/2007	- 11:45	<i>с</i>	×	2		¥	U	GW		××			×	×		×
8	K-27 Monitor Well #5	<b>f</b> 5			4/17/2007	14:20	<u>m</u>	×	2			Ű	GW		×××			×	×		×
06	K-27-1 Monitor Well #1	1#1			4/17/2007	12:45	en N	×	N				GW		×			×	×		×
Specia	Special Instructions: Please email to :		- wo		matt@riceswd.com	com	- 2	zanne(	@valor	rozanne@valornet.com			-		aborat	Contain Contain	Laboratory Comments Sample Containers Inter VOCs Erea of Headsmar	Laboratory Comments: Sample Containers Intact?	0@		
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Relinqu	Relinquished by/	Date	Time		Received by ELOT:	d d					i, -1,	Date 4-18-07	Time 7:55	Time SS:	empera	/ , Iture Up	Temperature Upon Receipt:	ipt:	-1.0		ç
				1		×															

# Environmental Lab of Texas

/ariance/	Corrective	Action	Report-	Sample	Log-In
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1		Sample Rec
itials:	al	
16 ID # :	7018018	
ate/ Time:	4-18-07	2:55
lient:	Pice	

### Sample Receipt Checklist

Yes Yes Yes	No No No	- I. O ° C Not Present	
Yes (Yes)	No		· · ·
(Yes)			
the second s	No		
Nee		Not Present	
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Yes	No		
Ves	No		
Yes	No	ID written on Cont./ Lid	
Yes	No	Not Applicable	
(Yes	No		
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Yes	No	See Below	
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	No	See Below	
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	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes       No         Mentation	YesNoID written on Cont./ LidYesNoNot ApplicableYesNoNoNot ApplicableYesNoMentation



PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603

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

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

Receiving Date: 10/05/07 Reporting Date: 10/12/07 Project Number: NOT GIVEN Project Name: BD JUNCTION K-27 and K-27-1 Project Location: T21S R37E SEC27 K~LEA COUNTY, NM Sampling Date: 10/03/07 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: SB Analyzed By: HM/KS

	Na	Са	Mg	к	Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	( <i>u</i> S/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	10/12/07	10/11/07	10/11/07	10/12/07	10/10/07	10/10/07
H13453-1 K-27 MONITOR WELL 1	264	166	77.4	7.15	2,590	300
H13453-2 K-27 MONITOR WELL 2	324	181	67.8	7.40	2,840	320
H13453-3 K-27 MONITOR WELL 3	302	136	35.5	7.70	2,190	352
H13453-4 K-27 MONITOR WELL 4	371	165	62.9	7.58	2,760	336
H13453-5 K-27 MONITOR WELL 5	441	106	56.5	6.53	2,650	440
H13453-6 K-27-1 MONITOR WELL 1	366	170	62.9	7.70	2,830	360
Quality Control	NR	50.6	51.6	1.87	9,760	NR
True Value QC	NR	50.0	50.0	2.00	10,000	NR
% Recovery	NR	101	103	93.6	97.6	NR
Relative Percent Difference	NR	< 0.1	1.6	5.7	0.1	NR
METHODS:	SM3	3500-Ca-D	3500-Mg E	8049	120.1	310.1

0	0-Ca-	υ	3500-Mg E

	310.1
-	

160.1

	CI	SO4	$CO_3$	HCO₃	pH	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	10/11/07	10/11/07	10/10/07	10/10/07	10/10/07	10/09/07
H13453-1 K-27 MONITOR WELL 1	470	341	0	366	7.29	1,679
H13453-2 K-27 MONITOR WELL 2	600	270	0	390	7.20	1,879
H13453-3 K-27 MONITOR WELL 3	308	352	0	429	7.28	1,500
H13453-4 K-27 MONITOR WELL 4	390	579	0	410	7.25	1,938
H13453-5 K-27 MONITOR WELL 5	260	632	0	537	7.36	1,799
H13453-6 K-27-1 MONITOR WELL 1	420	516	0	439	7.25	1,964
Quality Control	500	54.0	NR	1000	7.00	NR
True Value QC	500	50.0	NR	1000	7.00	NR
% Recovery	100	108	NR	100	100	NR
Relative Percent Difference	< 0.1	16.8	NR	< 0.1	0.1	NR

METHODS: SM4500-CI-B 375.4 310.1 310.1 150.1

Úðr

Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. If 13400: PUGBLINE be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries. atfiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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ANALYTICAL RESULTS FOR RICE OPERATING COMPANY ATTN: KRISTIN FARRIS-POPE 122 WEST TAYLOR HOBBS, NM 88240 FAX TO: (505) 397-1471

Receiving Date: 10/05/07 Reporting Date: 10/10/07 Project Number: NOT GIVEN Project Name: BD JUNCTION K-27 AND K-27-1 Project Location: T21S R37E SEC27 K - LEA COUNTY, NM Sampling Date: 10/03/07 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: SB Analyzed By: CK

		•		ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
ANALYSIS DAT	E	10/06/07	10/06/07	10/06/07	10/06/07
H13453-1	K-27 MONITOR WELL #1	<0.001	< 0.001	<0.001	< 0.003
H13453-2	K-27 MONITOR WELL #2	< 0.001	< 0.001	<0.001	< 0.003
H13453-3	K-27 MONITOR WELL #3	<0.001	< 0.001	< 0.001	< 0.003
H13453-4	K-27 MONITOR WELL #4	<0.001	< 0.001	<0.001	< 0.003
H13453-5	K-27 MONITOR WELL #5	<0.001	< 0.001	<0.001	< 0.003
H13453-6	K-27-1 MONITOR WELL #1	<0.001	<0.001	<0.001	< 0.003
		·			
Quality Control		0.114	0.106	0.106	0.108
True Value QC		0.100	0.100	0.100	0.300
% Recovery		114	106.0	106.0	108.0
Relative Percent	Difference	9.3	11.6	12.1	12.7

METHOD: EPA SW-846 8021B

Chemist

#### H13453b Rice

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

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Delivered By: Sampler	Relinguished by:	Rozanneyohyson	Rélificationed by:	2 A		6	5		. 3	2	H13452 - 1	LAB #		Project Location: T21S R37F	Project #:	(505) 393-9174	122 W Taylor Str Phone #:	Address: (Str	Kristin Farri	Project Manager:		Misxico 88240 Tel (505) 393-2326 Fax (505) 393-2476	101 East Marland - Hobbs, New
(Circle One) UPS - Bus - Other:	Date: Time:	3	Date: Time:	T.	5	K-27-1 Monitor Well 1	K-27 Monitor Well 5	K-27 Monitor Well 4	K-27 Monitor Well 3	K-27 Monitor Well 2	K-27 Monitor Well 1	FIELD CODE		Sec27 K ~ Lea County New Mexico	Project Name: BD Junction K-27		122 W Taylor Street ~ Hobbs, New Mexico 88240	(Street, City, Zip)	Kristin Farris-Pope, Project Scientist			C	2
Sample Condition Yes No	Received By:	n Stu	Received by:			G	G	G	G	G	G	(G)rab or (C)omp		w Mexico	7 and K-27-1	(505) 397-1471	Fax#					arqinai	
Condi Yes No	ed By	Bur	ed by:			లు	з	3	з	ω	ა	# CONTAINERS			7-1	397-	(505		122 W Taylor Street ~ Hobbs, New Mexico 88240				
		1				×	×	×	×	×	×	WATER	N	I		-147	(505) 393-9174		Taylo	ļ	5 2	Laboratories,	)
Yes	(Laboratory Staff)	ŀ,										SOIL	Ę	Sample			3-91	Phone#:	or Stre	Address	Operating	D	5
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Email Results to	ARKS:	Results	ne Results			×	×	×	×	×	X	TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E	Ba Cd C	r Pb S	ie Hg		3/200.	.7		-  		LAI	CHAIN-C
Email Results to:						×	X	X	X	x	X	TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles	Ba Cd C Ba Cd C	r Pb S	ie Hg		3/200	7		(Cir	AI	LAB Orc	CHAIN-UF-C
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·		Yes	Yes			X	X	x		X		TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides	Ba Cd C Ba Cd C	r Pb S	ie Hg		3/200	.7	· · · · · · · · · · · · · · · · · · ·	9	E,	LAB Order ID #	CHAIN-OF-CUSIO
						X	X	X		X		TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI	Ba Cd C Ba Cd C S	r Pb S	ie Hg		3/200	7	· · · · · · · · · · · · · · · · · · ·	9	LYSIS	LAB Order ID #	CHAIN-OF-CUSIOD1
·		Yes No	Yes			x	x	x		x	X	TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI GC/MS Vol. 8260B/	Ba Cd C Ba Cd C S	r Pb S Sr Pb S	ie Hg		3/200	7	· · · · · · · · · · · · · · · · · · ·	9	LYSIS	LAB Order ID #	CHAIN-OF-COSTODT AN
·		Yes No	Yes			x	x	x			X	TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI	Ba Cd C Ba Cd C S	r Pb S Sr Pb S	ie Hg		3/200	7		or Specify Method	LYSIS REQUI	LAB Order ID #	CHAIN-OF-CUSIODI AND A
·		Yes No	Yes			X	x	X			X	TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI GC/MS Vol. 8260B/ GC/MS Semi. Vol. 8	Ba Cd C Ba Cd C S /624 3270C/6	r Pb S Sr Pb S	ie Hg		3/200	7		9	LYSIS REQUI	LAB Order ID #	CHAIN-OF-CUSIODT AND ANAL
·		Yes No	Yes			X	x	x			X	TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI GC/MS Vol. 8260B/ GC/MS Semi. Vol. 8 PCB's 8082/608	Ba Cd C Ba Cd C S /624 3270C/6	r Pb S Sr Pb S	ie Hg		3/200	7		or Specify Method	LYSIS REQUI	LAB Order ID #	CHAIN-UF-CUSIODT AND ANALTS
		Yes No	Yes			X	x	x				TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI GC/MS Vol. 8260B/ GC/MS Semi. Vol. 8 PCB's 8082/608 Pesticides 8081A/60	Ba Cd C Ba Cd C S /624 3270C/6	r Pb S Sr Pb S	ie Hg		3/200.	7		or Specify Method	LYSIS REQUI	LAB Order ID #	CHAIN-UF-CUSIODT AND ANALTSIS
		Yes	Yes									TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RC1 GC/MS Vol. 8260B/ GC/MS Semi. Vol. 8 PCB's 8082/608 Pesticides 8081A/60 BOD, TSS, pH Moisture Content	Ba Cd C Ba Cd C S /624 3270C/6 08	r Pb S Sr Pb S	ie Hg		3/200.	7		or Specify Method	LYSIS REQUI	LAB Order ID #	CHAIN-UF-CUSIODI AND ANALISIS REI
		Yes No	Yes									TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI GC/MS Vol. 8260B/ GC/MS Semi. Vol. 8 PCB's 8082/608 Pesticides 8081A/60 BOD, TSS, pH Moisture Content Cations (Ca, Mg, Na	Ba Cd C Ba Cd C S % % % % % % % % % % % % % % % % % %	r Pb S Sr Pb S 25	ie Hg		3/200	7		or Specify Method	LYSIS REQUI	LAB Order ID #	CHAIN-OF-CUSIODY AND ANALTSIS REGUL
·		Yes No	Yes								x x	TPH 418.1/TX1005 PAH 8270C Total Metals Ag As E TCLP Metals Ag As TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RC1 GC/MS Vol. 8260B/ GC/MS Semi. Vol. 8 PCB's 8082/608 Pesticides 8081A/60 BOD, TSS, pH Moisture Content	Ba Cd C Ba Cd C Ba Cd C S 5 /624 3270C/6 08 a, K) O3, HC	r Pb S Sr Pb S 25	ie Hg		3/200.	7		or Specify Method	LYSIS REQUI	LAB Order ID #	CHAIN-OF-CUSIODY AND ANALYSIS REQUEST
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# Analytical Report 286633

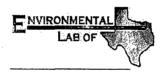
for

**Rice Operating Co.** 

**Project Manager: Kristin Pope** 

BD Junction K-27 and K-27-1

#### 13-AUG-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

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13-AUG-07



Project Manager: Kristin Pope Rice Operating Co. 122 West Taylor Hobbs, NM 88240

Reference: XENCO Report No: 286633

**BD Junction K-27 and K-27-1** Project Address: T21S R37E Sec27 K ~ 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 286633. 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. 286633 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.

Respectfu

Brent Barron Odessa Laboratory Director

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# Certificate of Analysis Summary 286633 Rice Operating Co., Hobbs, NM



Project Name: BD Junction K-27 and K-27-1

	rroj	ect name:	DD J	unction K-	-27 and	I N-2/-1			
Project Id:				Dat	e Recei	ed in Lab	Jul-26-07	7 02:15 pm	
Contact: Kristin Pope					Rep	ort Date:	13-AUG	-07	
Project Location: T21S R37E Sec27 1	K ~ Lea Cour	ity New N		1	Project I	Manager:	Brent Ba	rron, II	
	Lab Id:	286633-0	)01	286633-0	)02	286633-0	003	286633-0	04
Analysis Requested	Field Id:	K-27 Monitor	Well # 1	K-27 Monitor	Well # 2	K-27 Monitor	Well # 3	K-27 Monitor	Well # 4
	Depth:								
	Matrix:	WATE	R	WATE	R	WATE	R	WATE	R
	Sampled:	Jul-25-07 (	9:20	Jul-25-07 (	08:15	Jul-25-07	12:25	Jul-25-07 1	0:10
Alkalinity by EPA 310.1	Extracted:								
	Analyzed:	Jul-27-07	4:45	Jul-27-07	14:45	Jul-27-07	14:45	Jul-27-07 1	4:45
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Alkalinity, Total (as CaCO3)		1230	4.00	1330	4.00	1420	4.00	1390	4.00
BTEX by EPA 8021B	Extracted:	Jul-27-07 1	3:38	Jul-27-07	13:38	Jul-27-07	13:38	Jul-27-07 1	3:38
DILIKO DI KOUZID	Analyzed:	Jul-30-07 2	21:52	Jul-30-07 2	22:13	Jul-30-07 2	22:33	Jul-30-07/2	2:54
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Toluene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
m,p-Xylene		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Total Xylenes		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND	
Inorganic Anions by EPA 300	Extracted:			····					
morganic ranons by EI 11 500	Analyzed:	Jul-27-07 1	4:53	Jul-27-07	4:53	Jul-27-07	14:53	Jul-27-07	14:53
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		549	12.5	581	12.5	274	10.0	349	12.5
Metals per ICP by SW846 6010B	Extracted:	Jul-31-07 0	9:16	Jul-31-07 (	)9:16	Jul-31-07 (	09:16	Jul-31-07 (	)9:16
metals per ter by Smolo outob	Analyzed:	Jul-31-07 1	4:58	Jul-31-07	4:59	Jul-31-07	15:03	Jul-31-07	15:04
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Calcium		184	1.00	230	1.00	144	1.00	184	1.00
Magnesium		89.4	0.100	96.3	0.100	74.4	0.100	72.5	0,100
Potassium		8.43	2.00	8.64	2.00	7.65	2.00	8.55	2.00
Sodium		276	5.00	299	5.00	23.5	5.00	352	5.00
Residue, Filterable (TDS) by EPA	Extracted:								
160.1	Analyzed:	Jul-26-07 1	6:30	Jul-26-07 1	6:30	Jul-26-07	16:30	Jul-26-07 1	6:30
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Total dissolved solids		1670	5.00	2140	5.00	1420	5.00	1930	5.00

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.

Brent Barron

Odessa Laboratory Director

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# Certificate of Analysis Summary 286633





#### Project Name: BD Junction K-27 and K-27-1

**Project Id:** Date Received in Lab Jul-26-07 02:15 pm Contact: Kristin Pope **Report Date:** 13-AUG-07 Project Location: T21S R37E Sec27 K ~ Lea County New N **Project Manager:** Brent Barron, II Lab Id: 286633-005 286633-006 Field Id: Analysis Requested K-27 Monitor Well # 5 K-27-1 Monitor Well # 1 Depth: Matrix: WATER WATER Sampled: Jul-25-07 13:15 Jul-25-07 11:15 Extracted: Alkalinity by EPA 310.1 Analyzed: Jul-27-07 14:45 Jul-27-07 14:45 Units/RL: mg/L RL mg/L RL Alkalinity, Total (as CaCO3) 1870 4.00 8600 4.00 Extracted: Jul-27-07 13:38 Jul-27-07 13:38 BTEX by EPA 8021B Analyzed: Jul-30-07 23:15 Jul-30-07 23:35 Units/RL mg/L RL mg/L RL Benzene 0.0010 0.0010 ND ND Toluene ND 0.0010 ND 0.0010 Ethylbenzene 0.0010 0.0010 ND ND m,p-Xylene ND 0.0020 ND 0.0020 o-Xylene ND 0.0010 ND 0.0010 Total Xylenes ND ND Total BTEX ND ND Extracted: **Inorganic Anions by EPA 300** Jul-27-07 14:53 Jul-27-07 14:53 Analyzed: mg/L Units/RL: RL mg/L RL 10.0 1040 25.0 Chloride 208 Extracted: Jul-31-07 09:16 Jul-31-07 09:16 Metals per ICP by SW846 6010B Analyzed: Jul-31-07 15:06 Jul-31-07 15:05 Units/RL: mg/L mg/L RL RL 111 1.00 322 1.00 Calcium Magnesium 53.4 0.100 110 0.100 Potassium 7.40 2.00 12.7 2.00 Sodium 408 5.00 615 5.00 Extracted: Residue, Filterable (TDS) by EPA Analyzed: Jul-26-07 16:30 Jul-26-07 16:30 160.1 Units/RL: mg/L RL mg/L RL Total dissolved solids 1700 5.00 2980 5.00

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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Brent Barron

Odessa Laboratory Director



- 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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(210) 509-3334	(201) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555



# Form 2 - Surrogate Recoveries



Project Name: BD Junction K-27 and K-27-1

Vork Order #: 286633		Project II	):		
Lab Batch #: 701442 Sample: 286633-001 / SMP	В	atch: 1 Matri	x: Water		
Units: mg/L	S	URROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0490	0.0500	98	80-120	
Lab Batch #: 701442 Sample: 286633-002 / SMP Units: mg/L		atch: <sup>1</sup> Matri URROGATE RI	x: Water ECOVERY	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0461	0.0500	92	80-120	
Lab Batch #: 701442 Sample: 286633-003 / SMP	В	atch: 1 Matri	x: Water	·	
Units: mg/L	S	URROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0475	0.0500	95	80-120	
Lab Batch #:         701442         Sample:         286633-004 / SMP           Units:         mg/L	_	atch: 1 Matri URROGATE RI	x: Water ECOVERY	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits % R	Flags
4-Bromofluorobenzene	0.0497	0.0500	99	80-120	
Lab Batch #: 701442 Sample: 286633-005 / SMP	В	atch: l Matri	x: Water		
Units: mg/L	S	URROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery % R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0484	0.0500	97	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

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



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# Form 2 - Surrogate Recoveries



Project Name: BD Junction K-27 and K-27-1

Vork Order #:         286633           Lab Batch #:         701442         Sample:         286633-006           Units:         mg/L		Project I ch: 1 Matr RROGATE R	ix: Water	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D}	Control Limits %R	Flags
4-Bromofluorobenzene	0.0501	0.0500	100	80-120	
Lab Batch #: 701442 Sample: 286638-004 Units: mg/L		ch: 1 Matr RROGATE R	ix: Water ECOVERY	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
4-Bromofluorobenzene	0.0524	0.0500	105	80-120	
Lab Batch #: 701442 Sample: 286638-004 Units: mg/L		ch: 1 Matr	ix: Water ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits % R	Flag
Analytes 4-Bromofluorobenzene	0.0532	0.0700	[D]	80,120	
	0.0532	0.0500	106	80-120	
Lab Batch #: 701442 Sample: 497682-1-B Units: mg/L		ch: <sup>1</sup> Matr RROGATE R	ix: Water ECOVERY	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
4-Bromofluorobenzene	0.0410	0.0500	82	80-120	
Lab Batch #: 701442 Sample: 497682-1-B	LK / BLK Bate	ch: l Matr	ix: Water	<u> </u>	
Units: mg/L		RROGATE R		STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
4-Bromofluorobenzene	0.0451	0,0500	90	80-120	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery  $[D] \approx 100 * A / B$ All results are based on MDL and validated for QC purposes.



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### Project Name: BD Junction K-27 and K-27-1

<b>Work Order #: 286633</b>			P	roject ID:			
Lab Batch #: 701211		ample: 701211-		Matri	x: Water		
Date Analyzed: 07/27/2007	Date Prep	ared: 07/27/20	. 007	Analys	st: WRU		
Reporting Units: mg/L	Ba	itch #: 1	BLANK /	BLANK SPI	KE REC	COVERY	STUDY
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, Total (as CaCO3)		ND	400	340	85	80-120	
Lab Batch #: 701442	Sa	mple: 497682-	1-BKS	Matri	x: Water		
Date Analyzed: 07/30/2007	Date Prep	ared: 07/27/20	007	Analys	st: CELKI	EE	
Reporting Units: mg/L	Ba	itch #: 1	BLANK /	BLANK SPI	KE REC	COVERY	STUDY
BTEX by EPA 8021B		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike % R	Control Limits % R	Flags
Analytes			(-)	[C]	[D]		
Benzene		ND	0.0500	0.0457	91	70-125	
Toluene		ND	0.0500	0.0468	94	70-125	
Ethylbenzene	ND 0.0500		0.0500	0.0501	100	71-129	
m,p-Xylene		ND	0.1000	0.0898	90	70-131	
o-Xylene		ND	0.0500	0.0475	95	71-133	
Lab Batch #: 701264	Sa	mple: 701264-	1-BKS	Matri	x: Water		
Date Analyzed: 07/27/2007	Date Prep	ared: 07/27/20	007	Analys	st: IRO		
Reporting Units: mg/L	Ba	tch #: 1	BLANK /	BLANK SPI	KE REG	COVERY	STUDY
Inorganic Anions by EPA 300		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes				[C]	[D]		
Chloride		ND	10.0	9.94	99	90-110	

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

AANCO Inboratorites

BS / BSD Recoveries



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Project Name: BD Junction K-27 and K-27-1

Work Order #: 286633 Analyst: DAT

Lab Batch ID: 701350

Date Prepared:07/31/2007Sample:497762-1-BKSBatch #:1

Project ID: Date Analyzed: 07/31/2007 Matrix: Water

Units: mg/L		BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	PIKE / B	LANK S	PIKE DUPL	ICATE	RECOVE	RY STUD	X	
Metals per ICP by SW846 6010B	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]	[0]	[E]	Result [F]	5	2			
Calcium	DN	1.00	1.02	102	1.0	1.05	105	e	75-125	25	
Magnesium	DN	1.00	1.13	113	1.0	1.12	112	-	75-125	25	
Potassium	DN	10.0	9.95	100	10.0	9.89	66	-	75-125	25	
Sodium	QN	11.0	10.8	86	11.0	10.7	67	-	75-125	25	

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

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### Form 3 - MS Recoveries



Project Name: BD Junction K-27 and K-27-1

In	organic Anions by FPA 300
Reporting Units:	mg/L
QC- Sample ID:	286626-003 S
Date Analyzed:	07/27/2007
Lab Batch #:	701264
Work Order #:	286633

Lab Batch #: 701264			Pr	oject ID	:	
Date Analyzed: 07/27/2007	Date Prepared:	07/27/2007	7.	Analyst:	IRO	
QC- Sample ID: 286626-003 S	Batch #:	1		Matrix:	Water	
Reporting Units: mg/L	MAT	RIX / MA	TRIX SPIKE	RECO	VERY STU	JDY
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]		(2)		
Chloride	. 1040	500	1630	118	90-110	· X

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative 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: BD Junction K-27 and K-27-1

Matrix: Water

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Batch #:

286638-004 S

QC- Sample ID: Date Prepared:

07/27/2007

CELKEE

Analyst:

Project ID:

Date Analyzed: 07/31/2007 Work Order # 286633 Lab Batch ID: 701442

Flag Limits %RPD Control 25 52 25 25 25 Control Limits %R 70-125 70-125 71-133 71-129 70-131 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % 4 4 ~ ξ ŝ Matrix: Water Spiked Dup. %R [G] 114 106 123 118 93 Duplicate Spiked Sample Result [F] 0.1103 0.0613 0.0774 0.0581 0.0591 ----Spike Added [E] 0.0500 0.0500 0.0500 0.0500 0.1000 Batch #: Spiked Sample %R [D] 110 122 100 119 127 Spiked Sample Result 0.0808 0.0633 0.1137 0.0603 0.0609 <u></u> 286807-001 S 0.0500 0.1000 Spike Added [B] 0.0500 0.0500 0.0500 QC- Sample ID: Parent Sample Result 0.0309 0.0010 0.0042 QN QN P BTEX by EPA 8021B Analytes 701350 mg/L **Reporting Units:** Lab Batch ID: Ethylbenzene m,p-Xylene o-Xylene Toluene Benzene

07/31/2007 Date Analyzed:

mg/L

Reporting Units:

07/31/2007 Date Prepared:

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY DAT Analyst:

Flag XF Control %RPD Limits 20 20 20 20 Control Limits 75-125 75-125 75-125 %R 75-125 RPD % 80 4 Ś ----Spiked %R [G] 150 Dup. 104 119 105 Duplicate Spiked Sample Result [F] 12.0 38.9 27.5 303 Spike Added 20.0 22.0 2.00 2.00 Ξ Spiked Sample %R [D] 350 120 109 109 Spiked Sample Result 28.3 12.1 39.1 307  $\overline{\mathbf{O}}$ Spike Added [B] 22.0 2.00 20.0 2.00 Parent Sample Result 4.39 300 15.1 Z 9.93 Metals per ICP by SW846 6010B Analytes Magnesium Potassium Sodium Calcium

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

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

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Sample Duplicate Recovery



### Project Name: BD Junction K-27 and K-27-1

Work Order #: 286633

Lab Batch #: Date Analyzed: QC- Sample ID:	07/27/2007 Date I	Prepared: 07/2 Batch #:	27/2007 I		I <b>D:</b> rst: WRU rix: Water	
<b>Reporting Units:</b>	mg/L	SAMPLE	/ SAMPLE	DUPLIC	CATE REC	OVERY
Alk	alinity by EPA 310.1 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Alkalinity, Total (as (	······	2200	2200	0	20	
Lab Batch #:	701264				<u> </u>	I
Date Analyzed:		repared: 07/2	27/2007	Analy	st: IRO	
QC- Sample ID:		Batch #: 1	l	•	ix: Water	
Reporting Units:	mg/L	SAMPLE	/ SAMPLE			OVERY
Inorga	nic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
	Analyte			ļ		
Chloride		1040	1060	2	20	
Lab Batch #:						
Date Analyzed:		repared: 07/2 Batch #: 1	26/2007	•	st: IRO	
QC- Sample ID: Reporting Units:			/ SAMPLE		ix: Water	OVEDV
· ·	Iterable (TDS) by EPA 160.1 Analyte	Parent Sample Result		RPD	Control Limits %RPD	Flag
				1		
Total dissolved solids	· · · · · · · · · · · · · · · · · · ·	5020	5370	7	30	
Total dissolved solids Lab Batch #: Date Analyzed: QC- Sample ID:	701255 07/26/2007 Date P	5020 . repared: 07/2 Batch #: 1	5370 26/2007	•	30 st: IRO ix: Water	
Lab Batch #: Date Analyzed:	701255 07/26/2007 Date P 286633-006 D	repared: 07/2 Batch #: 1	.6/2007	Analy Matr	st: IRO ix: Water	OVERY
Lab Batch #: Date Analyzed: QC- Sample ID: Reporting Units:	701255 07/26/2007 Date P 286633-006 D	repared: 07/2 Batch #: 1	26/2007 / SAMPLE	Analy Matr	st: IRO ix: Water	OVERY Flag

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

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	Company Name	RICE Operating Company	mpan					ļ	1						2	Project #:	,   #	ľ		'	ļ				
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歡	Antonia and a		1. 2. C		Received by:	72. 2	l	12	4		.	N	Date 7-26-07		an I		ustod	on co	dainer on or o o	Labels on container(s) Custody seals on container(s) Custody seals on container(s)	er(s)		હછા	Z Z Z	
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### Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Chent	Rice	
Date/ Time:	7.26 07	215
Lab ID # .	186632	
foitials:	au	

#### Sample Receipt Checklist

#1	Temperature of container/ cooler?	res	No	1.5 °C
#2	Shipping container in good condition?	(es)	No	
#3	Custody Seals intact on shipping container/ cooler?	(es)	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	(es)	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	
#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
#10	Sample matrix/ properties agree with Chain of Custody?	(es)	No	
#11	Containers supplied by ELOT?	Yes)	No	
#12	Samples in proper container/ bottle?	Yes	No	See Below
#13	Samples properly preserved?	(es)	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

Date/ Time:

Contacted by:

Contact:

Regarding;

Corrective Action Taken:

Check all that Apply:

See attached e-mail/ fax Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event

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