

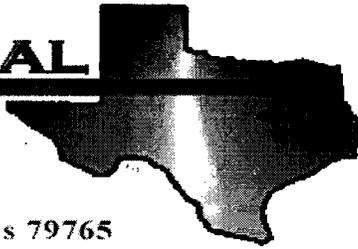
1R - 426-1

**REPORTS**

**DATE:**

5/16/2005

**E** NVIRONMENTAL  
LAB OF



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Sharon Hall

ARCADIS

1004 N. Big Spring Street

Midland, TX 79701

Project: MT000834.0001

Project Number: MT000834.0001

Location: Rice Operating

Lab Order Number: 5E11007

Report Date: 05/16/05

ARCADIS  
1004 N. Big Spring Street  
Midland TX, 79701

Project: MT000834.0001  
Project Number: MT000834.0001  
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:  
05/16/05 07:39

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BDK- 27 North (40'-40.5')	5E11007-01	Soil	05/09/05 15:45	05/11/05 15:30
BDK 27-1 (25'-30')	5E11007-02	Soil	05/10/05 09:37	05/11/05 15:30
BD M14 (60'-61')	5E11007-03	Soil	05/10/05 16:36	05/11/05 15:30
BD M14 (55'-60')	5E11007-04	Soil	05/10/05 16:30	05/11/05 15:30

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Reported:  
05/16/05 07:39

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BDK- 27 North (40'-40.5') (5E11007-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51204	05/12/05	05/12/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		107 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51202	05/12/05	05/12/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		84.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		78.0 %	70-130		"	"	"	"	
<b>BDK 27-1 (25'-30') (5E11007-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51204	05/12/05	05/12/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51202	05/12/05	05/12/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		88.2 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		80.2 %	70-130		"	"	"	"	
<b>BD M14 (60'-61') (5E11007-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51204	05/12/05	05/12/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		91.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51202	05/12/05	05/12/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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.*

Page 2 of 9

ARCADIS  
1004 N. Big Spring Street  
Midland TX, 79701

Project: MT000834.0001  
Project Number: MT000834.0001  
Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:  
05/16/05 07:39

**Organics by GC  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BD M14 (60'-61') (SE11007-03) Soil</b>									
<i>Surrogate: 1-Chlorooctane</i>		87.6 %	70-130		EE51202	05/12/05	05/12/05	EPA 8015M	
<i>Surrogate: 1-Chlorooctadecane</i>		76.8 %	70-130		"	"	"	"	
<b>BD M14 (55'-60') (SE11007-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE51204	05/12/05	05/12/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE51202	05/12/05	05/12/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		80.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		70.0 %	70-130		"	"	"	"	

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Reported:  
05/16/05 07:39

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BDK- 27 North (40'-40.5') (5E11007-01) Soil</b>									
Chloride	486	10.0	mg/kg	20	EE51403	05/13/05	05/13/05	EPA 300.0	
% Moisture	11.2	0.1	%	1	EE51203	05/12/05	05/13/05	% calculation	
<b>BDK 27-1 (25'-30') (5E11007-02) Soil</b>									
Chloride	1360	50.0	mg/kg	100	EE51403	05/13/05	05/13/05	EPA 300.0	
% Moisture	6.7	0.1	%	1	EE51203	05/12/05	05/13/05	% calculation	
<b>BD M14 (60'-61') (5E11007-03) Soil</b>									
Chloride	4710	100	mg/kg	200	EE51403	05/13/05	05/13/05	EPA 300.0	
% Moisture	5.3	0.1	%	1	EE51203	05/12/05	05/13/05	% calculation	
<b>BD M14 (55'-60') (5E11007-04) Soil</b>									
Chloride	8900	1000	mg/kg	2000	EE51403	05/13/05	05/13/05	EPA 300.0	
% Moisture	5.9	0.1	%	1	EE51203	05/12/05	05/13/05	% calculation	

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Reported:  
05/16/05 07:39

**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
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**Batch EE51202 - Solvent Extraction (GC)**

**Blank (EE51202-BLK1)**

Prepared & Analyzed: 05/12/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	36.6		mg/kg	50.0		73.2	70-130			
Surrogate: 1-Chlorooctadecane	40.9		"	50.0		81.8	70-130			

**LCS (EE51202-BS1)**

Prepared & Analyzed: 05/12/05

Gasoline Range Organics C6-C12	430	10.0	mg/kg wet	500		86.0	75-125			
Diesel Range Organics >C12-C35	474	10.0	"	500		94.8	75-125			
Total Hydrocarbon C6-C35	904	10.0	"	1000		90.4	75-125			
Surrogate: 1-Chlorooctane	36.5		mg/kg	50.0		73.0	70-130			
Surrogate: 1-Chlorooctadecane	36.5		"	50.0		73.0	70-130			

**Calibration Check (EE51202-CCV1)**

Prepared & Analyzed: 05/12/05

Gasoline Range Organics C6-C12	468		mg/kg	500		93.6	80-120			
Diesel Range Organics >C12-C35	529		"	500		106	80-120			
Total Hydrocarbon C6-C35	997		"	1000		99.7	80-120			
Surrogate: 1-Chlorooctane	47.3		"	50.0		94.6	70-130			
Surrogate: 1-Chlorooctadecane	41.7		"	50.0		83.4	70-130			

**Matrix Spike (EE51202-MS1)**

Source: 5E11007-01

Prepared & Analyzed: 05/12/05

Gasoline Range Organics C6-C12	539	10.0	mg/kg dry	563	ND	95.7	75-125			
Diesel Range Organics >C12-C35	585	10.0	"	563	ND	104	75-125			
Total Hydrocarbon C6-C35	1120	10.0	"	1130	ND	99.1	75-125			
Surrogate: 1-Chlorooctane	48.6		mg/kg	50.0		97.2	70-130			
Surrogate: 1-Chlorooctadecane	38.5		"	50.0		77.0	70-130			

**Matrix Spike Dup (EE51202-MSD1)**

Source: 5E11007-01

Prepared & Analyzed: 05/12/05

Gasoline Range Organics C6-C12	511	10.0	mg/kg dry	563	ND	90.8	75-125	5.33	20	
Diesel Range Organics >C12-C35	604	10.0	"	563	ND	107	75-125	3.20	20	
Total Hydrocarbon C6-C35	1120	10.0	"	1130	ND	99.1	75-125	0.00	20	
Surrogate: 1-Chlorooctane	47.6		mg/kg	50.0		95.2	70-130			
Surrogate: 1-Chlorooctadecane	38.4		"	50.0		76.8	70-130			

ARCADIS  
1004 N. Big Spring Street  
Midland TX, 79701

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Reported:  
05/16/05 07:39

**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
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**Batch EE51204 - EPA 5030C (GC)**

**Blank (EE51204-BLK1)**

Prepared & Analyzed: 05/12/05

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	89.7		ug/kg	100		89.7	80-120			
Surrogate: 4-Bromofluorobenzene	82.0		"	100		82.0	80-120			

**LCS (EE51204-BS1)**

Prepared & Analyzed: 05/12/05

Benzene	101		ug/kg	100		101	80-120			
Toluene	96.4		"	100		96.4	80-120			
Ethylbenzene	94.8		"	100		94.8	80-120			
Xylene (p/m)	210		"	200		105	80-120			
Xylene (o)	99.9		"	100		99.9	80-120			
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			

**Calibration Check (EE51204-CCV1)**

Prepared & Analyzed: 05/12/05

Benzene	99.3		ug/kg	100		99.3	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	95.8		"	100		95.8	80-120			
Xylene (p/m)	217		"	200		108	80-120			
Xylene (o)	103		"	100		103	80-120			
Surrogate: a,a,a-Trifluorotoluene	99.8		"	100		99.8	80-120			
Surrogate: 4-Bromofluorobenzene	94.1		"	100		94.1	80-120			

**Matrix Spike (EE51204-MS1)**

Source: 5E11007-01

Prepared & Analyzed: 05/12/05

Benzene	91.4		ug/kg	100	ND	91.4	80-120			
Toluene	85.8		"	100	ND	85.8	80-120			
Ethylbenzene	85.9		"	100	ND	85.9	80-120			
Xylene (p/m)	196		"	200	ND	98.0	80-120			
Xylene (o)	90.4		"	100	ND	90.4	80-120			
Surrogate: a,a,a-Trifluorotoluene	99.0		"	100		99.0	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

ARCADIS  
1004 N. Big Spring Street  
Midland TX, 79701

Project: MT000834.0001  
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Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:  
05/16/05 07:39

**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
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**Batch EE51204 - EPA 5030C (GC)**

**Matrix Spike Dup (EE51204-MSD1)**

Source: 5E11007-01

Prepared & Analyzed: 05/12/05

Benzene	80.3		ug/kg	100	ND	80.3	80-120	12.9	20	
Toluene	80.7		"	100	ND	80.7	80-120	6.13	20	
Ethylbenzene	80.3		"	100	ND	80.3	80-120	6.74	20	
Xylene (p/m)	182		"	200	ND	91.0	80-120	7.41	20	
Xylene (o)	88.9		"	100	ND	88.9	80-120	1.67	20	
Surrogate: a,a,a-Trifluorotoluene	85.7		"	100		85.7	80-120			
Surrogate: 4-Bromofluorobenzene	89.9		"	100		89.9	80-120			

ARCADIS  
 1004 N. Big Spring Street  
 Midland TX, 79701

Project: MT000834.0001  
 Project Number: MT000834.0001  
 Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:  
 05/16/05 07:39

**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
<b>Batch EE51203 - General Preparation (Prep)</b>										
<b>Blank (EE51203-BLK1)</b> Prepared: 05/12/05 Analyzed: 05/13/05										
% Moisture	ND	0.1	%							
<b>Duplicate (EE51203-DUP1)</b> Source: 5E11007-01 Prepared: 05/12/05 Analyzed: 05/13/05										
% Moisture	10.8	0.1	%		11.2			3.64	20	
<b>Batch EE51403 - Water Extraction</b>										
<b>Blank (EE51403-BLK1)</b> Prepared & Analyzed: 05/13/05										
Chloride	ND	0.500	mg/kg							
<b>LCS (EE51403-BS1)</b> Prepared & Analyzed: 05/13/05										
Chloride	9.70		mg/L	10.0		97.0	80-120			
<b>Calibration Check (EE51403-CCV1)</b> Prepared & Analyzed: 05/13/05										
Chloride	10.4		mg/L	10.0		104	80-120			
<b>Duplicate (EE51403-DUP1)</b> Source: 5E11007-01 Prepared & Analyzed: 05/13/05										
Chloride	469	10.0	mg/kg		486			3.56	20	

ARCADIS  
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Project: MT000834.0001  
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**Reported:**  
05/16/05 07:39

### 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

Report Approved By: Raland K Tuttle Date: 5-16-05

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

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**  
**Variance / Corrective Action Report – Sample Log-In**

Client: ARCADIS

Date/Time: 5/11/05 15:30

Order #: 5E11007

Initials: CR

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	2.0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No	
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>
Custody Seals intact on sample bottles?	Yes	No	<del>Not present</del>
Chain of custody present?	<input checked="" type="checkbox"/>	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No	
Container labels legible and intact?	<input checked="" type="checkbox"/>	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No	
Samples properly preserved?	<input checked="" type="checkbox"/>	No	
Sample bottles intact?	<input checked="" type="checkbox"/>	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No	
VCC samples have zero headspace?	<input checked="" type="checkbox"/>	No	Not Applicable

Other observations:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_

Regarding:

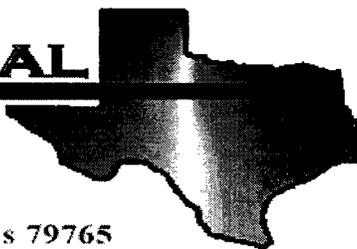
\_\_\_\_\_  
 \_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# **E** NVIRONMENTAL LAB OF



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Sharon Hall

ARCADIS

1004 N. Big Spring Street

Midland, TX 79701

Project: MT000834.0001.00001

Project Number: MT000834.0001.00001

Location: Rice Operating

Lab Order Number: 5E11008

Report Date: 05/17/05

ARCADIS  
1004 N. Big Spring Street  
Midland TX, 79701

Project: MT000834.0001.00001  
Project Number: MT000834.0001.00001  
Project Manager: Sharon Hall

Fax: (432) 687-5401

**Reported:**  
05/17/05 13:27

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Trip Blank	5E11008-02	Water	05/10/05 00:00	05/11/05 15:30
BD K Z7-1	5E11008-03	Water	05/10/05 10:22	05/11/05 15:30
BD K North	5E11008-04	Water	05/10/05 11:00	05/11/05 15:30

ARCADIS  
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Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:  
05/17/05 13:27

**Organics by GC  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Trip Blank (SE11008-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE51205	05/12/05	05/12/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		89.2 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		82.6 %	80-120		"	"	"	"	
<b>BD K Z7-1 (SE11008-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE51205	05/12/05	05/12/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85.1 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.9 %	80-120		"	"	"	"	
<b>BD K North (SE11008-04) Water</b>									
Benzene	ND	0.00100	mg/L	1	EE51205	05/12/05	05/12/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		88.7 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		81.1 %	80-120		"	"	"	"	

ARCADIS  
 1004 N. Big Spring Street  
 Midland TX, 79701

Project: MT000834.0001.00001  
 Project Number: MT000834.0001.00001  
 Project Manager: Sharon Hall

Fax: (432) 687-5401

Reported:  
 05/17/05 13:27

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BD K Z7-1 (5E11008-03) Water</b>									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE51207	05/12/05	05/12/05	EPA 310.2M	
Bicarbonate Alkalinity	277	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	2930	25.0	"	50	EE51309	05/11/05	05/11/05	EPA 300.0	
Specific Conductance (EC)	5800	5.00	umhos/cm	1	EE51713	05/17/05	05/17/05	EPA 120.1	
Fluoride	4.00	0.500	mg/L	5	EE51310	05/11/05	05/11/05	EPA 300.0	
Nitrate as N	10.0	0.250	"	"	"	"	"	"	
pH	7.06		pH Units	1	EE51716	05/16/05	05/16/05	EPA 150.1	
Total Dissolved Solids	7730	5.00	mg/L	"	EE51711	05/16/05	05/17/05	EPA 160.1	
Sulfate	676	25.0	"	50	EE51309	05/11/05	05/11/05	EPA 300.0	

**BD K North (5E11008-04) Water**

Carbonate Alkalinity	ND	0.100	mg/L	1	EE51207	05/12/05	05/12/05	EPA 310.2M	
Bicarbonate Alkalinity	269	2.00	"	"	"	"	"	"	
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	
Chloride	770	12.5	"	25	EE51309	05/11/05	05/11/05	EPA 300.0	
Specific Conductance (EC)	2590	5.00	umhos/cm	1	EE51713	05/17/05	05/17/05	EPA 120.1	
Fluoride	4.93	0.500	mg/L	5	EE51310	05/11/05	05/11/05	EPA 300.0	
Nitrate as N	4.30	0.250	"	"	"	"	"	"	
pH	7.35		pH Units	1	EE51716	05/16/05	05/16/05	EPA 150.1	
Total Dissolved Solids	1800	5.00	mg/L	"	EE51711	05/16/05	05/17/05	EPA 160.1	
Sulfate	376	12.5	"	25	EE51309	05/11/05	05/11/05	EPA 300.0	

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**Total Metals by EPA / Standard Methods  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BD K Z7-1 (5E11008-03) Water</b>									
Calcium	683	1.00	mg/L	100	EE51307	05/13/05	05/13/05	EPA 6010B	
Magnesium	234	0.100	"	"	"	"	"	"	
Potassium	35.7	0.500	"	10	"	"	"	"	
Sodium	948	10.0	"	1000	"	"	"	"	
<b>BD K North (5E11008-04) Water</b>									
Calcium	175	0.500	mg/L	50	EE51307	05/13/05	05/13/05	EPA 6010B	
Magnesium	93.4	0.0500	"	"	"	"	"	"	
Potassium	13.0	0.500	"	10	"	"	"	"	
Sodium	392	0.500	"	50	"	"	"	"	

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**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
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**Batch EE51205 - EPA 5030C (GC)**

**Blank (EE51205-BLK1)**

Prepared & Analyzed: 05/12/05

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	85.9		ug/l	100		85.9	80-120			
Surrogate: 4-Bromofluorobenzene	81.1		"	100		81.1	80-120			

**LCS (EE51205-BS1)**

Prepared & Analyzed: 05/12/05

Benzene	0.0959	0.00100	mg/L	0.100		95.9	80-120			
Toluene	0.0897	0.00100	"	0.100		89.7	80-120			
Ethylbenzene	0.0897	0.00100	"	0.100		89.7	80-120			
Xylene (p/m)	0.201	0.00100	"	0.200		100	80-120			
Xylene (o)	0.0996	0.00100	"	0.100		99.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	84.4		ug/l	100		84.4	80-120			
Surrogate: 4-Bromofluorobenzene	81.8		"	100		81.8	80-120			

**Calibration Check (EE51205-CCV1)**

Prepared & Analyzed: 05/12/05

Benzene	98.7		ug/l	100		98.7	80-120			
Toluene	91.2		"	100		91.2	80-120			
Ethylbenzene	85.7		"	100		85.7	80-120			
Xylene (p/m)	191		"	200		95.5	80-120			
Xylene (o)	90.0		"	100		90.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	95.5		"	100		95.5	80-120			
Surrogate: 4-Bromofluorobenzene	87.7		"	100		87.7	80-120			

**Matrix Spike (EE51205-MS1)**

Source: 5E11008-04

Prepared & Analyzed: 05/12/05

Benzene	0.105	0.00100	mg/L	0.100	ND	105	80-120			
Toluene	0.0996	0.00100	"	0.100	ND	99.6	80-120			
Ethylbenzene	0.0986	0.00100	"	0.100	ND	98.6	80-120			
Xylene (p/m)	0.217	0.00100	"	0.200	ND	108	80-120			
Xylene (o)	0.104	0.00100	"	0.100	ND	104	80-120			
Surrogate: a,a,a-Trifluorotoluene	103		ug/l	100		103	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

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**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
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**Batch EE51205 - EPA 5030C (GC)**

Matrix Spike Dup (EE51205-MSD1)	Source: 5E11008-04			Prepared & Analyzed: 05/12/05						
Benzene	0.107	0.00100	mg/L	0.100	ND	107	80-120	1.89	20	
Toluene	0.102	0.00100	"	0.100	ND	102	80-120	2.38	20	
Ethylbenzene	0.103	0.00100	"	0.100	ND	103	80-120	4.37	20	
Xylene (p/m)	0.218	0.00100	"	0.200	ND	109	80-120	0.922	20	
Xylene (o)	0.105	0.00100	"	0.100	ND	105	80-120	0.957	20	
Surrogate: a,a,a-Trifluorotoluene	107		ug/l	100		107	80-120			
Surrogate: 4-Bromofluorobenzene	106		"	100		106	80-120			

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**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
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**Batch EE51207 - General Preparation (WetChem)**

**Blank (EE51207-BLK1)**

Prepared & Analyzed: 05/12/05

Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							

**Duplicate (EE51207-DUP1)**

Source: 5E11008-03

Prepared & Analyzed: 05/12/05

Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	276	2.00	"		277			0.362	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	

**Reference (EE51207-SRM1)**

Prepared & Analyzed: 05/12/05

Bicarbonate Alkalinity	230		mg/L	200		115	80-120			
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**Batch EE51309 - General Preparation (WetChem)**

**Blank (EE51309-BLK1)**

Prepared & Analyzed: 05/11/05

Chloride	ND	0.500	mg/L							
Sulfate	ND	0.500	"							

**LCS (EE51309-BS1)**

Prepared & Analyzed: 05/11/05

Chloride	10.3		mg/L	10.0		103	80-120			
Sulfate	10.6		"	10.0		106	80-120			

**Calibration Check (EE51309-CCV1)**

Prepared & Analyzed: 05/11/05

Chloride	10.3		mg/L	10.0		103	80-120			
Sulfate	10.6		"	10.0		106	80-120			

**Duplicate (EE51309-DUP1)**

Source: 5E11008-04

Prepared & Analyzed: 05/11/05

Sulfate	380	12.5	mg/L		376			1.06	20	
Chloride	777	12.5	"		770			0.905	20	

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**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
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**Batch EE51310 - General Preparation (WetChem)**

Blank (EE51310-BLK1) Prepared & Analyzed: 05/11/05										
Nitrate as N	ND	0.0500	mg/L							
Fluoride	ND	0.100	"							

LCS (EE51310-BS1) Prepared & Analyzed: 05/11/05										
Nitrate as N	2.15		mg/L	2.00		108	80-120			
Fluoride	2.12		"	2.00		106	80-120			

Calibration Check (EE51310-CCV1) Prepared & Analyzed: 05/11/05										
Nitrate as N	2.13		mg/L	2.00		106	80-120			
Fluoride	2.08		"	2.00		104	80-120			

Duplicate (EE51310-DUP1) Source: 5E11008-04 Prepared & Analyzed: 05/11/05										
Nitrate as N	4.31	0.250	mg/L		4.30			0.232	20	
Fluoride	4.96	0.500	"		4.93			0.607	20	

**Batch EE51711 - Filtration Preparation**

Blank (EE51711-BLK1) Prepared: 05/16/05 Analyzed: 05/17/05										
Total Dissolved Solids	ND	5.00	mg/L							

Duplicate (EE51711-DUP1) Source: 5E12013-01 Prepared: 05/16/05 Analyzed: 05/17/05										
Total Dissolved Solids	11200	5.00	mg/L		10700			4.57	20	

**Batch EE51713 - General Preparation (WetChem)**

Calibration Check (EE51713-CCV1) Prepared & Analyzed: 05/17/05										
Specific Conductance (EC)	1420		umhos/cm	1410		101	80-120			

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**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
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**Batch EE51713 - General Preparation (WetChem)**

<b>Duplicate (EE51713-DUP1)</b>		<b>Source: 5E11008-03</b>		<b>Prepared &amp; Analyzed: 05/17/05</b>						
Specific Conductance (EC)	5820	5.00	umhos/cm		5800			0.344	20	

**Batch EE51716 - General Preparation (WetChem)**

<b>Calibration Check (EE51716-CCV1)</b>		<b>Prepared &amp; Analyzed: 05/16/05</b>								
pH	6.99		pH Units	7.00		99.9	97.5-102.5			

<b>Duplicate (EE51716-DUP1)</b>		<b>Source: 5E11008-03</b>		<b>Prepared &amp; Analyzed: 05/16/05</b>						
pH	7.05		pH Units	7.06				0.142	2.5	

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**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
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**Batch EE51307 - 6010B/No Digestion**

**Blank (EE51307-BLK1)**

Prepared & Analyzed: 05/13/05

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (EE51307-CCV1)**

Prepared & Analyzed: 05/13/05

Calcium	1.86		mg/L	2.00		93.0	85-115			
Magnesium	2.19		"	2.00		110	85-115			
Potassium	1.97		"	2.00		98.5	85-115			
Sodium	2.18		"	2.00		109	85-115			

**Duplicate (EE51307-DUP1)**

Source: 5E11008-04

Prepared & Analyzed: 05/13/05

Calcium	172	0.500	mg/L		175			1.73	20	
Magnesium	92.9	0.0500	"		93.4			0.537	20	
Potassium	13.4	0.500	"		13.0			3.03	20	
Sodium	356	0.500	"		392			9.63	20	

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### 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

Report Approved By: Raland K Tuttle Date: 5-18-05

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

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**

**Variance / Corrective Action Report – Sample Log-In**

Client: ARCADIS

Date/Time: 5/11/05 15:30

Order #: SEL1008

Initials: CR

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	2.0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No	
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>
Custody Seals intact on sample bottles?	see note *	No	Not present
Chain of custody present?	<input checked="" type="checkbox"/>	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No	
Container labels legible and intact?	<input checked="" type="checkbox"/>	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No	
Samples properly preserved?	<input checked="" type="checkbox"/>	No	
Sample bottles intact?	<input checked="" type="checkbox"/>	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No	
VCC samples have zero headspace?	<input checked="" type="checkbox"/>	No	Not Applicable

Other observations:

\* Custody seals were present (labels placed over lid) on the 40mL vials; however, there were no custody seals on the plastic liter containers.

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
Regarding: \_\_\_\_\_

Corrective Action Taken:

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