

AP - 008

**STAGE 1 & 2
REPORTS**

DATE:

April 9, 2003



Infrastructure, buildings, environment, communications

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87505

ARCADIS G&M, Inc.
1004 N. Big Spring Street
Suite 300
Midland Texas 79701
Tel 915.687.5400
Fax 915.687.5401
www.arcadis-us.com

Environmental

Subject:

February 17, 2003 Request for Additional Information:

Revised Stage 2 Abatement Plan (AP-8)
Junction I-9 Release Site
NE 1/4 SE 1/4 Section 09-Ts19s-R38e
Hobbs Salt Water Disposal System
Lea County, New Mexico

Date:
April 9, 2003

Contact:
Sharon Hall

Phone:
915 687-5400

Email:
shall@arcadis-us.com

Dear Mr. Price:

On behalf of Rice Operating Company (ROC) ARCADIS G&M (ARCADIS) respectfully submits this response to your request for information dated February 17, 2003. Attached are the analytical results for the three existing monitor wells at the Junction I-9 site.

If you have any questions or require additional information please do not hesitate to contact me at 915 687-5400.

Very truly yours,

ARCADIS G&M, Inc.

A handwritten signature in cursive script that reads "Sharon E. Hall".

Sharon E. Hall
Site Evaluation Department Manager

Copies:

Carolyn Doran Haynes ROC
Frank McCallum

Part of a bigger picture

ENVIRONMENTAL LAB OF TEXAS**SAMPLE WORK LIST**

ARCADIS GERAGHTY & MILLER, INC.
1004 N. BIG SPRING STREET, STE. 300
MIDLAND, TX 79701
687-5401

Order#: G0306169
Project:
Project Name: RICE
Location: Hobbs, NM

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0306169-01	MW-1	WATER	4/3/03	4/3/03 16:15	40mL	HCl
<u>Lab Testing:</u>		Rejected: No	Temp:	6 C		
8021B/5030 BTEX						
METALS RCRA 7 Total						
Chloride						
Mercury, Total						
0306169-02	MW-4	WATER	4/3/03	4/3/03 16:15	40mL	HCl
<u>Lab Testing:</u>		Rejected: No	Temp:	6 C		
8021B/5030 BTEX						
METALS RCRA 7 Total						
Chloride						
Mercury, Total						
0306169-03	MW-2	WATER	4/3/03	4/3/03 16:15	40mL	HCl
<u>Lab Testing:</u>		Rejected: No	Temp:	6 C		
8021B/5030 BTEX						
METALS RCRA 7 Total						
Chloride						
Mercury, Total						
0306169-04	Trip Blank	WATER	4/3/03	4/3/03 16:15	40mL	HCl
<u>Lab Testing:</u>		Rejected: No	Temp:	6 C		
8021B/5030 BTEX						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Mike Hagan
ARCADIS GERAGHTY & MILLER, INC.
1004 N. BIG SPRING STREET, STE. 300
MIDLAND, TX 79701

Order#: G0306169
Project:
Project Name: RICE
Location: Hobbs, NM

Lab ID: 0306169-01
Sample ID: MW-1

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0005153-02		4/4/03 19:51	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	100%	80	120
Bromofluorobenzene	96%	80	120

Lab ID: 0306169-02
Sample ID: MW-4

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0005153-02		4/4/03 20:11	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	101%	80	120
Bromofluorobenzene	95%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Mike Hagan
ARCADIS GERAGHTY & MILLER, INC.
1004 N. BIG SPRING STREET, STE. 300
MIDLAND, TX 79701

Order#: G0306169
Project:
Project Name: RICE
Location: Hobbs, NM

Lab ID: 0306169-03
Sample ID: MW-2

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0005153-02		4/4/03 20:31	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	98%	80	120
Bromofluorobenzene	90%	80	120

Lab ID: 0306169-04
Sample ID: Trip Blank

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0005153-02		4/4/03 20:51	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	105%	80	120
Bromofluorobenzene	95%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Mike Hagan
ARCADIS GERAGHTY & MILLER, INC.
1004 N. BIG SPRING STREET, STE. 300
MIDLAND, TX 79701

Order#: G0306169
Project:
Project Name: RICE
Location: Hobbs, NM

Approval: Raland K. Tuttle 4-08-03
Raland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Mike Hagan
ARCADIS GERAGHTY & MILLER, INC.
1004 N. BIG SPRING STREET, STE. 300
MIDLAND, TX 79701

Order#: G0306169
Project:
Project Name: RICE
Location: Hobbs, NM

Lab ID: 0306169-01

Sample ID: MW-1

METALS RCRA 7 Total

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Arsenic	0.010	mg/L	1	0.008	3005/6010B	04/04/2003	4/4/03	SM
Barium	0.059	mg/L	1	0.001	3005/6010B	04/04/2003	4/4/03	SM
Cadmium	<0.001	mg/L	1	0.001	3005/6010B	04/04/2003	4/4/03	SM
Chromium	<0.002	mg/L	1	0.002	3005/6010B	04/04/2003	4/4/03	SM
Lead	<0.011	mg/L	1	0.011	3005/6010B	04/04/2003	4/4/03	SM
Selenium	0.016	mg/L	1	0.004	3005/6010B	04/04/2003	4/4/03	SM
Silver	<0.002	mg/L	1	0.002	3005/6010B	04/04/2003	4/4/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Mercury, Total	< 0.00050	mg/L	1	0.00050	7470	04/04/2003	4/4/03	SM

Lab ID: 0306169-02

Sample ID: MW-4

METALS RCRA 7 Total

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Arsenic	0.012	mg/L	1	0.008	3005/6010B	04/04/2003	4/4/03	SM
Barium	0.042	mg/L	1	0.001	3005/6010B	04/04/2003	4/4/03	SM
Cadmium	<0.001	mg/L	1	0.001	3005/6010B	04/04/2003	4/4/03	SM
Chromium	<0.002	mg/L	1	0.002	3005/6010B	04/04/2003	4/4/03	SM
Lead	<0.011	mg/L	1	0.011	3005/6010B	04/04/2003	4/4/03	SM
Selenium	0.009	mg/L	1	0.004	3005/6010B	04/04/2003	4/4/03	SM
Silver	<0.002	mg/L	1	0.002	3005/6010B	04/04/2003	4/4/03	SM

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Mercury, Total	< 0.00050	mg/L	1	0.00050	7470	04/04/2003	4/4/03	SM

Lab ID: 0306169-03

Sample ID: MW-2

METALS RCRA 7 Total

Parameter	Result	Units	Dilution Factor	RL	Method	Date Prepared	Date Analyzed	Analyst
Arsenic	<0.008	mg/L	1	0.008	3005/6010B	04/04/2003	4/4/03	SM
Barium	0.064	mg/L	1	0.001	3005/6010B	04/04/2003	4/4/03	SM
Cadmium	<0.001	mg/L	1	0.001	3005/6010B	04/04/2003	4/4/03	SM
Chromium	<0.002	mg/L	1	0.002	3005/6010B	04/04/2003	4/4/03	SM
Lead	<0.011	mg/L	1	0.011	3005/6010B	04/04/2003	4/4/03	SM
Selenium	0.010	mg/L	1	0.004	3005/6010B	04/04/2003	4/4/03	SM
Silver	<0.002	mg/L	1	0.002	3005/6010B	04/04/2003	4/4/03	SM

N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Mike Hagan
ARCADIS GERAGHTY & MILLER, INC.
1004 N. BIG SPRING STREET, STE. 300
MIDLAND, TX 79701

Order#: G0306169
Project:
Project Name: RICE
Location: Hobbs, NM

Lab ID: 0306169-03
Sample ID: MW-2

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution</u> <u>Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Analyst</u>
Mercury, Total	< 0.00050	mg/L	1	0.00050	7470	04/04/2003	4/4/03	SM

Approval:

Raland K. Tuttle, Lab Director, QA Officer

Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

Raland K. Tuttle 4-08-03

Date

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

Mike Hagan
ARCADIS GERAGHTY & MILLER, INC.
1004 N. BIG SPRING STREET, STE. 300
MIDLAND, TX 79701

Order#: G0306169
Project:
Project Name: RICE
Location: Hobbs, NM

Lab ID: 0306169-01
Sample ID: MW-1

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	213	mg/L	1	5.00	9253	4/7/03	CK

Lab ID: 0306169-02
Sample ID: MW-4

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	160	mg/L	1	5.00	9253	4/7/03	CK

Lab ID: 0306169-03
Sample ID: MW-2

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	168	mg/L	1	5.00	9253	4/7/03	CK

Approval:

Roland K. Tuttle 4-08-03
Roland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

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ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0306169

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0005153-02			<0.001		
Toluene-mg/L		0005153-02			<0.001		
Ethylbenzene-mg/L		0005153-02			<0.001		
p/m-Xylene-mg/L		0005153-02			<0.001		
o-Xylene-mg/L		0005153-02			<0.001		
CONTROL		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0005153-03		0.1	0.110	110.0%	
Toluene-mg/L		0005153-03		0.1	0.112	112.0%	
Ethylbenzene-mg/L		0005153-03		0.1	0.111	111.0%	
p/m-Xylene-mg/L		0005153-03		0.2	0.230	115.0%	
o-Xylene-mg/L		0005153-03		0.1	0.109	109.0%	
CONTROL DUP		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0005153-04		0.1	0.115	115.0%	4.4%
Toluene-mg/L		0005153-04		0.1	0.114	114.0%	1.8%
Ethylbenzene-mg/L		0005153-04		0.1	0.113	113.0%	1.8%
p/m-Xylene-mg/L		0005153-04		0.2	0.225	112.5%	2.2%
o-Xylene-mg/L		0005153-04		0.1	0.111	111.0%	1.8%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0005153-05		0.1	0.108	108.0%	
Toluene-mg/L		0005153-05		0.1	0.111	111.0%	
Ethylbenzene-mg/L		0005153-05		0.1	0.109	109.0%	
p/m-Xylene-mg/L		0005153-05		0.2	0.224	112.0%	
o-Xylene-mg/L		0005153-05		0.1	0.102	102.0%	

ENVIRONMENTAL LAB OF TEXAS**QUALITY CONTROL REPORT****METALS RCRA 7 Total**

Order#: G0306169

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Arsenic-mg/L		0005145-02			<0.008		
Barium-mg/L		0005145-02			<0.001		
Cadmium-mg/L		0005145-02			<0.001		
Chromium-mg/L		0005145-02			<0.002		
Lead-mg/L		0005145-02			<0.011		
Selenium-mg/L		0005145-02			<0.004		
Silver-mg/L		0005145-02			<0.002		
CONTROL	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Arsenic-mg/L		0005145-03		0.8	0.782	97.8%	
Barium-mg/L		0005145-03		0.2	0.198	99.9%	
Cadmium-mg/L		0005145-03		0.2	0.196	98.9%	
Chromium-mg/L		0005145-03		0.2	0.197	98.5%	
Lead-mg/L		0005145-03		1.1	1.11	100.9%	
Selenium-mg/L		0005145-03		0.4	0.408	102.9%	
Silver-mg/L		0005145-03		0.1	0.104	104.9%	
CONTROL DUP	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Arsenic-mg/L		0005145-04		0.8	0.793	99.1%	1.4%
Barium-mg/L		0005145-04		0.2	0.197	98.5%	0.5%
Cadmium-mg/L		0005145-04		0.2	0.197	98.5%	0.5%
Chromium-mg/L		0005145-04		0.2	0.190	95.9%	3.6%
Lead-mg/L		0005145-04		1.1	1.11	100.9%	0.9%
Selenium-mg/L		0005145-04		0.4	0.401	100.2%	1.7%
Silver-mg/L		0005145-04		0.1	0.109	109.9%	4.7%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Arsenic-mg/L		0005145-05		1	0.997	99.7%	
Barium-mg/L		0005145-05		1	0.983	98.3%	
Cadmium-mg/L		0005145-05		1	0.993	99.3%	
Chromium-mg/L		0005145-05		1	1.00	100.9%	
Lead-mg/L		0005145-05		1	0.973	97.3%	
Selenium-mg/L		0005145-05		1	0.987	98.7%	
Silver-mg/L		0005145-05		0.5	0.487	97.4%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0306169

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0005156-01			<5.00		
Mercury, Total-mg/L		0005141-01			<0.00050		
CONTROL	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Mercury, Total-mg/L		0005141-02		0.001	0.00101	101.0%	
CONTROL DUP	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Mercury, Total-mg/L		0005141-03		0.001	0.00107	107.0%	5.8%
MS	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0306169-01	213	500	691	95.6%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0306169-01	213	500	691	95.6%	0.0%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0005156-04		5000	4870	97.4%	
Mercury, Total-mg/L		0005141-04		0.001	0.00103	103.0%	

Page ____ of ____

McNeese

Sample ID/Location	Matrix	Date/Time	Time
60169			

[illegible]

Sample Matrix: L = Liquid; S = Solid; A = Air

Relinquished by: A. Louie Organization: _____

Received by: _____
Organization: _____

Relinquished by: A. A. A. Organization:

Received by: Kuldeep
Organization:

Special Instructions/Remarks:

Call Sharon Hall for details
687-5400 fax 687-5401

Delivery Method: ☒ In Person

☐ Common Carrier_☐ Lab Courier☐ Other:

SPECIES

APPENDIX

AG-05-1597



Infrastructure, buildings, environment, communications

ARCADIS G&M, Inc.
1004 N. Big Spring Street
Suite 300
Midland Texas 79701
Tel 815.687.5400
Fax 815.687.5401

TELEFAX

RECEIVED

APR 07 2003

To:
Mr. Wayne Price

Copies:
Copics

Environmental Bureau
Oil Conservation Division

ENVIRONMENTAL

Fax:
505-476-3462

Total pages:
9

Date:
April 3, 2003

Subject:
Analytical Data

ARCADIS Project No :
MT000700.0006.00002

From:
Hank McConnell

If you do not receive all pages, please call to let us know as soon as possible.

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL, AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the above address via the U.S. postal service.

Part of a bigger picture

SEVERN
TRENT

STL

ANALYTICAL REPORT

JOB NUMBER: 217538

Prepared For:

ARCADIS / G&M
1004 N. Big Spring Street
Suite 300
Midland, TX 79701

Attention: Steve Tischer

Date: 03/27/2003

REVISED REPORT


Signature

Name: Charles Sassine

Title: Laboratory Supervisor

E-Mail: csassine@stl-inc.com

3/27/2003
DateSevern Trent Laboratories
1733 N. Padre Island Drive
Corpus Christi, TX 78408PHONE: 361/289-2673
FAX...: 361/289-2471

SEVERN
TRENT

STL

REVISED REPORT CASE NARRATIVE**Job Number 217538****March 27, 2003****Reporting Limits**

The reporting limits for Aromatic Volatile Organics reported by Method 8021B have been changed from 2 mg/L to 0.002 mg/L. The reporting limits in the original report had not been converted to mg/L and were actually reported as ug/L.

Please call if you have any questions regarding this report or if we can be of further assistance.



Charlie Sassine
Laboratory Supervisor

**CASE NARRATIVE****Job Number 217538****March 25, 2003****Mercury Analysis**

Sample 217538-1 was analyzed for mercury using EPA Method 7470A. The requested reporting limit for mercury is at our method detection limits (MDL). Results reported at or near the MDL should be flagged as estimated concentrations and used at the client's discretion.

Please call if you have any questions regarding this report or if we can be of further assistance.

A handwritten signature in cursive script, appearing to read "Anh Tran".

Anh Tran
QA Assistant

SEVERN
TRENT

STL

SAMPLE INFORMATION

Date: 03/27/2003

Job Number.: 217538

Customer...: ARCADIS / G&M

Attn.....: Steve Tischer

Project Number.....: 98000024

Customer Project ID....: MT000700.0004.00002

Project Description....: MT000700 Texaco-Report in ppm

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
217538-1	MW066SA	Water	03/03/2003	15:45	03/04/2003	10:00
217538-2	TRIP BLANK	Water	03/03/2003	00:00	03/04/2003	10:00

SEVERN
TRENT

STL

LABORATORY TEST RESULTS						
Job Number: 217538		Date: 03/27/2003				
CUSTOMER: ARCADIS / G&M		PROJECT: NT000700-0004-00002				
		ATTN: Steve Fischer				
Customer Sample ID: MW066SA Date Sampled.....: 03/03/2003 Time Sampled.....: 15:45 Sample Matrix.....: Water		Laboratory Sample ID: 217538-1 Date Received.....: 03/04/2003 Time Received.....: 10:00				
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
SW-846 7197	Hexavalent Chromium, Dissolved	0.20	0.05	mg/L	03/04/03	edr
SW-846 7470A	Mercury (Hg)	<0.0002	0.0002	mg/L	03/06/03	edr
EPA 160.1	Solids, Total dissolved (TDS)	3640	10	mg/L	03/06/03	dml
SM 2320 B	Alkalinity, Total as CaCO3	234	5.0	mg/L CaCO3	03/07/03	hmz
SM 2320 B	Bicarbonate (HCO3)	234	5.0	mg/L CaCO3	03/07/03	hmz
SM 2320 B	Carbonate (CO3)	<5.0	5.0	mg/L CaCO3	03/07/03	hmz
EPA 300.0	Chloride	1600	100	mg/L	03/05/03	cnw
EPA 300.0	Sulfate (SO4)	600	100	mg/L	03/05/03	cnw
SW-846 6010B	Arsenic (As), Total	<0.05	0.05	mg/L	03/05/03	jcm
SW-846 6010B	Barium (Ba), Total	0.17	0.05	mg/L	03/05/03	jcm
SW-846 6010B	Cadmium (Cd), Total	<0.05	0.05	mg/L	03/05/03	jcm
SW-846 6010B	Calcium (Ca), Total	570	100	mg/L	03/13/03	jcm
SW-846 6010B	Chromium (Cr), Dissolved	0.28	0.05	mg/L	03/05/03	jcm
SW-846 6010B	Lead (Pb), Total	<0.05	0.05	mg/L	03/05/03	jcm
SW-846 6010B	Magnesium (Mg), Total	219	0.1	mg/L	03/13/03	jcm
SW-846 6010B	Potassium (K), Total	14.4	1.0	mg/L	03/13/03	jcm
SW-846 6010B	Selenium (Se), Total	<0.05	0.05	mg/L	03/05/03	jcm
SW-846 6010B	Silver (Ag), Total	<0.05	0.05	mg/L	03/05/03	jcm
SW-846 6010B	Sodium (Na), Total	420	100	mg/L	03/13/03	jcm
SW-846 3010A	Acid Dig., Total Metals, 2X Concentrate	Complete			03/04/03	dml
SW-846 3010A	Acid Dig., Total Metals, 2X Concentrate, Dissolved	Complete			03/04/03	dml
SW-846 8021B	Volatile Organics - Aromatics					
	Benzene	ND	0.002	mg/L	03/07/03	rh
	Ethylbenzene	ND	0.002	mg/L	03/07/03	rh
	Toluene	ND	0.002	mg/L	03/07/03	rh
	Xylenes (total)	ND	0.002	mg/L	03/07/03	rh

SEVERN
TRENT

STL

Job Number: 217538		LABORATORY TEST RESULTS			Date: 03/27/2003	
CUSTOMER: ARCADIS / G&M		PROJECT: MT000700, 0004, 00002			ATTN: Steve Tischer	
Customer Sample ID: MW066SA Date Sampled.....: 03/03/2003 Time Sampled.....: 15:45 Sample Matrix.....: Water		Laboratory Sample ID: 217538-1 Date Received.....: 03/04/2003 Time Received.....: 10:00				
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
SW-846 3510C	Extraction (Sep. Funnel) SVOC Separatory Funnel Liq/Liq Extraction	Complete			03/06/03	*he
SW846 8015B	Total Extractable Petroleum Hydrocarbons	ND	0.25	mg/L	03/07/03	*he
	TEPH - Diesel Range Organics	ND	0.05	mg/L	03/07/03	*he
	TVPH - Gasoline Range Organics					

SEVERN
TRENT

STL

ANION-CATION BALANCES

217538-1	
Calcium, mg/L	570
Magnesium, mg/L	219
Sodium, mg/L	420
Potassium, mg/L	14.4
CATION SUM, meq/L	65.1

Silicon, mg/L	
SiO ₃ , mg/L	0.0
Chloride, mg/L	1600
Sulfate, mg/L	800
Carbonate, mg/L	0
Bicarbonate, mg/L	285.29
Fluoride, mg/L	
Nitrate, mg/L	
ANION SUM, meq/L	62.3

measured TDS, mg/L	3640
Calc. TDS, mg/L	3595
Alkalinity, mg/L	285.29
Conductivity, mg/L	5640

TDS ratio (1.0<x<1.2) 1.01

Meas. EC/Ion Sums (0.9-1.1)

Anions 1.1

Cations 1.2

Calc. TDS/EC Ratio (0.55-0.7) 0.64

Meas. TDS/EC Ratio (0.55-0.7) 0.65

Anion-Cation Balance

% Diff. 2.2

Acceptance Criteria for A-C Balance:

Anion Sum (meq/L)	Acceptable % Diff.
0-3.0	+/- 0.2 meq/L
3.0-10.0	+/- 2%
10.0-800	+/- 2.5%

SEVERN
TRENT

STL

Job Number: 217538		LABORATORY TEST RESULTS		Date: 03/27/2003		
CUSTOMER: ARCADIS / G&M		PROJECT: MT000700,0004,00002		ATTN: Steve Tischer		
Customer Sample ID: TRIP BLANK Date Sampled.....: 03/03/2003 Time Sampled.....: 00:00 Sample Matrix.....: Water		Laboratory Sample ID: 217538-2 Date Received.....: 03/04/2003 Time Received.....: 10:00				
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
SW-846 80218	Volatile Organics - Aromatics	ND	0.002	mg/L	03/07/03	rh
	Benzene	ND	0.002	mg/L	03/07/03	rh
	Ethylbenzene	ND	0.002	mg/L	03/07/03	rh
	Toluene	ND	0.002	mg/L	03/07/03	rh
	Xylenes (total)	ND	0.002	mg/L	03/07/03	rh