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REPORTS

DATE:

ARCADIS

Infrastructure, buildings, environment, communications

ED MARTIN 1R0080

Mr. Wayne Price
New Mexico Energy, Mineral and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

ARCADIS G&M, Inc.
5100 E Skelly Drive
Suite 1000
Tulsa
Oklahoma 74135
Tel 918 664 9900
Fax 918 664 9925

ENVIRONMENTAL

Subject:
2004 Annual Groundwater Sampling and Reporting; Lea Crude Oil Station, Lea County, New Mexico

Tulsa, Oklahoma
3 March 2005

Contact:
Michael M. Gates

Contact Number:
(918) 664-9900

Dear Mr. Price:

On December 9, 2004, ARCADIS conducted the annual groundwater sampling at the former Sunoco Crude Oil Station in Lea County, New Mexico. The sampling event was conducted to comply with requirements outlined by the New Mexico Oil Conservation Division (OCD) in your letter dated July 5, 2001.

Specifically, the OCD scope of work requires Sunoco to (1) sample and analyze groundwater from each monitor well on an annual basis for concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX); total dissolved solids; and major cations and anions using USEPA approved methods and quality assurance/quality control (QA/QC) procedures; and (2) submit an annual report to the OCD by April 1 of each year that includes the following:

a) A description of the sampling activities, which occurred during the past calendar year.
b) A water-table map showing the location of the station, excavated areas, monitor wells, and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient created using the water-table elevation from each monitor well.
c) Summary tables of all groundwater quality sampling results and copies of all recent laboratory analytical data sheets and associated QA/QC data.
d) The disposition of all wastes generated.

This letter report summarizes the 2004 annual sampling event and provides the information required for annual reporting to the OCD.

Groundwater Sampling Activities

On December 9, 2004, ARCADIS collected groundwater samples from the three monitor wells located at the former Sunoco Lea County Crude Oil Station (SE1/4, NW1/4 Section 28, Township 20 South, Range 37 East). A site map showing the location of the monitor wells and other pertinent site features is attached as Figure 1. Prior to sampling, the water level in each well was measured using an electronic interface probe. Liquid hydrocarbons were not present in any site monitor well and the depth to groundwater averaged 30.05 feet below the top of casing. The groundwater elevation and general groundwater flow direction are shown on Figure 1. The gauging data are provided in Table 3. The general groundwater flow direction remains to the east-southeast consistent with past measurements.

Prior to collecting groundwater samples each monitor well was purged of three well volumes of water. Purging and sampling was conducted with disposable bailers dedicated for each well. Groundwater samples were collected in approved laboratory containers, labeled and preserved on ice and shipped to Severn Trent Laboratory in Corpus Christi, Texas under appropriate chain of custody.

Groundwater Sample Results

All groundwater samples were submitted to Severn Trent Laboratory in Corpus Christi, Texas for analysis of BTEX, total dissolved solids, and major cations and anions. The BTEX results are summarized in the attached Table 1. BTEX concentrations were not detected except for traces of ethylbenzene, which are well below New Mexico Water Quality Control Commission groundwater standards.

The results of the general water chemistry are summarized in the attached Table 2. The analyses include major cations and anions, and total dissolved solids. The results for this sampling event are consistent with historical water quality data and no significant deviations or trends have been established.

Conclusions

Since groundwater monitoring began in December 2000, BTEX concentrations have remained at non-detectable to trace amounts below New Mexico Water Quality Control Commission groundwater standards. The general water quality has been stable over this monitoring time period with no significant trends observed. Chloride levels in MW-3 remain elevated above New Mexico Water Quality Control Commission groundwater standards but have shown no increasing or decreasing trends. It should be noted that chloride levels up-gradient of the station exceed water quality standards as well.

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Please call me at 918-664-9900 if you have any questions concerning this report or our annual sampling. Thank you for you assistance.

Sincerely,

ARCADIS G&M, Inc.

Michael M. Gates
Project Advisor

cc: Brad Fish Sunoco

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Table 1. Groundwater Analytical Results, Sunoco, Inc., Lea Truck Station.

Sample Number	Date Collected	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW99-1	12/9/04	<2.0	<2.0	<2.0	<6.0
	11/13/03	<2.0	<2.0	<2.0	<6.0
	12/9/02	<1.0	<1.0	<1.0	<3.0
	12/12/01	<1.0	<1.0	<1.0	<3.0
	12/5/00	<1.0	<1.0	<1.0	<3.0
MW99-2	12/9/04	<2.0	<2.0	5.0	<6.0
	11/13/03	<2.0	<2.0	3.0	<6.0
	12/9/02	<1.0	<1.0	<1.0	<3.0
	12/12/01	1.3	<1.0	2.2	<3.0
	12/5/00	2.6	1.5	3.7	<3.0
MW99-3	12/9/04	<2.0	<2.0	3.0	<6.0
	11/13/03	<2.0	<2.0	12.0	<6.0
	12/9/02	<1.0	<1.0	37.0	4.0
	12/12/01	<1.0	<1.0	6.0	<3.0
	12/5/00	<1.0	<1.0	22.0	<3.0

(µg/L) micrograms per liter.
< less than.

G:\Aproject\SUNPIPE\OK1351001\[TBL1.XLS]BTEX

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Table 2. General Chemistry and Total Metals, Sunoco, Inc., Lea Truck Station.

Sample Number	Date Collected	Bicarbonate Alkalinity (mg/l)	Bromide (mg/l)	Carbonate Alkalinity (mg/l)	Chloride (mg/l)	Fluoride (mg/l)	Nitrate (mg/l)	Sulfate (mg/l)	Total Dissolved Solids (mg/l)	Calcium (mg/l)	Iron (mg/l)	Potassium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
MW99-1	12/9/04	379	3	ND	350	5	ND	200	1,400	86	<4.0	<100	69	314
	11/13/03	352	3	ND	380	5.4	0.4	250	1,350	73.3	0.28	14.8	59.7	341
	12/9/02	336	6.1	ND	359	6	ND	237	1,390	81	0.86	17.9	66.2	305
	12/12/01	332	3.1	ND	387	5.5	ND	244	1,360	102	17.2	21.3	80.6	ND
	12/5/00	185	3.4	ND	344	4.6	46.4	237	1,530	80.5	2.79	14.2	65.5	285
MW99-2	12/9/04	370	3	ND	360	1.2	ND	300	1,550	87	<4.0	<100	69	314
	11/13/03	344	3	ND	370	5.9	0.4	251	1,380	69.6	<0.25	14.9	55.8	32.2
	12/9/02	341	7.1	ND	361	6.2	ND	238	1,720	82.7	0.82	19.1	65.3	327
	12/12/01	352	3.0	ND	364	5.9	ND	237	1,300	91.7	56.8	21.8	71.9	280
	12/5/00	227	3.2	ND	344	5.1	48.6	245	1,580	93.8	13.1	17.9	72.5	295
MW99-3	12/9/04	610	9	ND	1,720	10	3.5	800	4,760	404	0.53	83.4	458	202
	11/13/03	532	9	ND	1,250	6.7	1.2	500	3,310	231	0.47	49.4	240	578
	12/9/02	640	17.8	ND	1,480	10.5	ND	513	3,760	285	0.99	70.4	336	509
	12/12/01	525	7.7	ND	1,120	7.7	ND	366	2,790	208	19.2	68	220	495
	12/5/00	445	9.9	ND	1,210	3.6	45.6	367	3,460	288	52.6	70	301	550

ND Non detect.
mg/L Milligrams per liter.
G:\Aproject\SUNPIPE\OK1351001\[TBL2.XLS]Table 2

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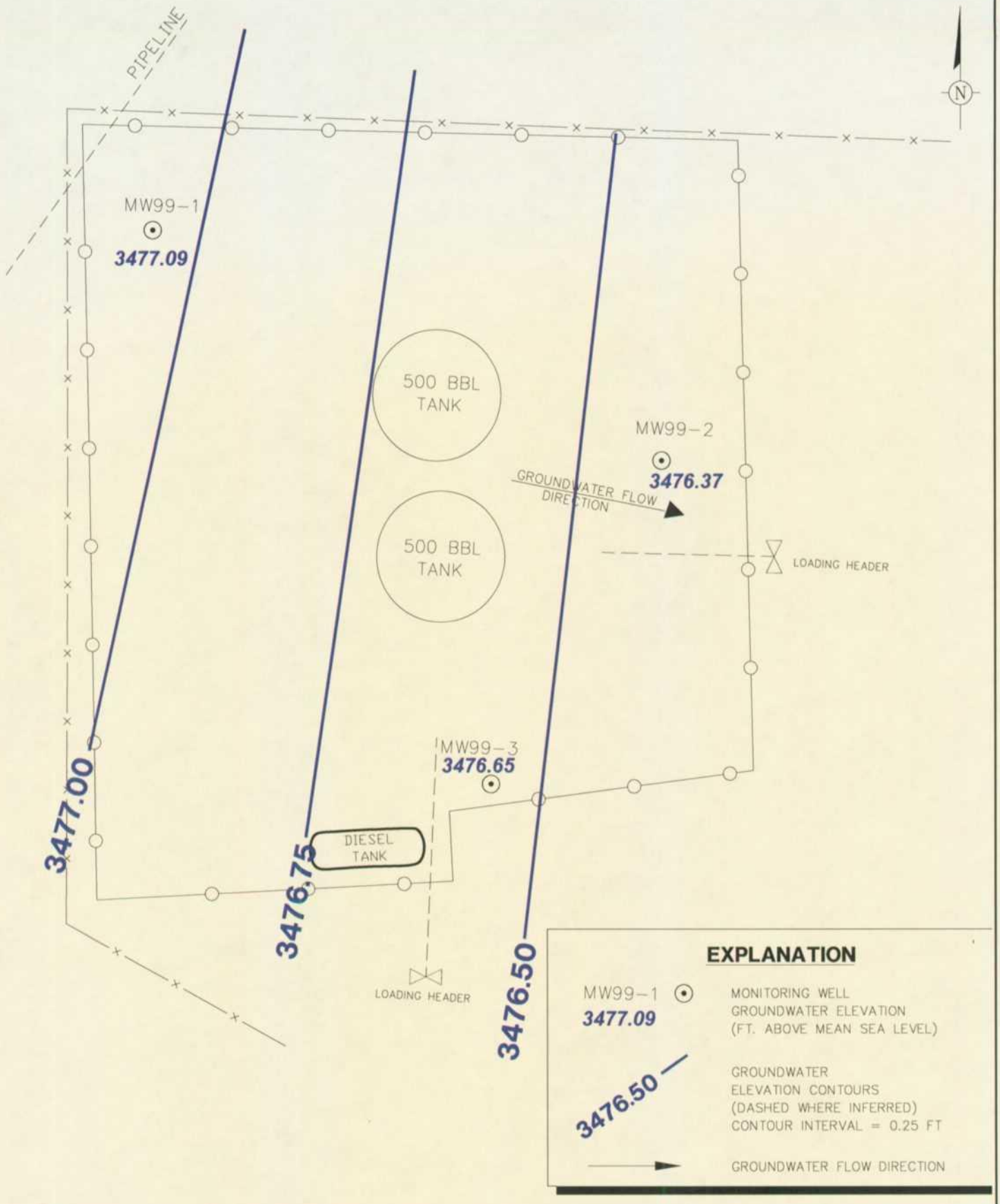
Table 3. Summary of Fluid Level Measurements, Sunoco, Inc., Lea Truck Station.

Well Number	Date Measured	Measuring Point Elevation (i.e. TOC) (ft)	Depth to Water (ft bTOC)	Water Level Elevation (ft)	Depth to Product (ft bTOC)	Product Level Elevation (ft)	Product Thickness (ft)	Corrected Water Level Elevation (ft)
MW99-1	12/9/04	3507.15	30.06	3477.09	--	--	--	3477.09
	11/13/03		33.51	3473.64	--	--	--	3473.64
	12/9/02		32.06	3475.09	--	--	--	3475.09
	12/12/01		33.1	3474.05	--	--	--	3474.05
MW99-2	12/9/04	3506.51	30.14	3476.37	--	--	--	3476.37
	11/13/03		33.63	3472.88	--	--	--	3472.88
	12/9/02		32.21	3474.30	--	--	--	3474.30
	12/12/01		32.94	3473.57	--	--	--	3473.57
MW99-3	12/9/04	3506.59	29.94	3476.65	--	--	--	3476.65
	11/13/03		33.56	3473.03	--	--	--	3473.03
	12/9/02		32.14	3474.45	--	--	--	3474.45
	12/12/01		33.06	3473.53	--	--	--	3473.53

TOC Top of Casing.
ft bTOC Feet below top of casing.
NA Not applicable.

G:\Aproject\SUNPIPE\OK1351001\[GWELE.XLS]TIER 2

G:\Aproject\SUNPIPE\OK1351001\CADD\DEC2004 GW.dwg, 03/03/2005 11:36:45 AM



DRAWN BY: SHANON WALKER | PROJECT MANAGER: MIKE GATES | COMPILED BY: MIKE GATES | FILE NAME: DEC2004 GW | DATE:

ARCADIS G&M
5100 EAST SKELLY DRIVE SUITE 1000
TULSA, OKLAHOMA 74135
Tel: (918) 664-9900 Fax: (918) 664-9925

NOT TO SCALE

GROUNDWATER ELEVATION CONTOURS DECEMBER 2004

SUN PIPE LINE COMPANY
LEA CRUDE OIL STATION
LEA CO. NEW MEXICO

PROJECT NUMBER
OK001351.0001

FIGURE NUMBER
1

ATTACHMENT 1

SEVERN TRENT STL

RECEIVED
JAN 10 2005
ARCADIS G & M

ANALYTICAL REPORT

JOB NUMBER: 228096

Prepared For:

ARCADIS / G&M
5100 East Skelly Drive
Suite 1000
Tulsa, OK 74135

Attention: Mike Gates

Date: 01/03/2005

Signature

1/8/05
Date

Name: Chip Meador

Title: Laboratory Director

E-Mail: cmeador@stl-inc.com

Severn Trent Laboratories
1733 N. Padre Island Drive
Corpus Christi, TX 78408

PHONE: 361/289-2673
FAX..: 361/289-2471

TOTAL # OF PAGES 24

SEVERN TRENT STL

SAMPLE INFORMATION
Date: 01/03/2005

Job Number.: 228096
Customer...: ARCADIS / G&M
Attn.....: Mike Gates

Project Number.....: 98000084
Customer Project ID....: OK001351.0001.00001
Project Description....: Project - OVM

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
228096-1	WEST WELL	Liquid	12/09/2004	15:20	12/11/2004	10:33
228096-2	NORTH EAST WELL	Liquid	12/09/2004	15:55	12/11/2004	10:33
228096-3	SOUTH WELL	Liquid	12/09/2004	16:20	12/11/2004	10:33
228096-4	TRIP BLANL	Water	12/09/2004	00:00	12/11/2004	10:33

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SEVERN TRENT STL

LABORATORY TEST RESULTS

Job Number: 228096 Date: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Customer Sample ID: WEST WELL
Date Sampled.....: 12/09/2004
Time Sampled.....: 15:20
Sample Matrix.....: Liquid

Laboratory Sample ID: 228096-1
Date Received.....: 12/11/2004
Time Received.....: 10:33

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.1	Solids, Total Dissolved (TDS)	4760	10	mg/L	12/15/04	akp
SM 2320 B	Bicarbonate (HCO3)	610	5.0	mg/L CaCO3	12/14/04	smk
SM 2320 B	Carbonate (CO3)	<5.0	5.0	mg/L CaCO3	12/14/04	smk
EPA 300.0	Bromide (Br)	9	2	mg/L	12/29/04	tjo
EPA 300.0	Chloride	1720	50	mg/L	12/30/04	tjo
EPA 300.0	Nitrogen, Nitrate as N (NO3-N)	3.5	0.2	mg/L	12/13/04	akp
EPA 300.0	Sulfate (SO4)	800	100	mg/L	12/30/04	tjo
EPA 340.2	Fluoride (F)	10.0	0.5	mg/L	12/15/04	smk
SW-846 6010B	Calcium (Ca)	404	1.0	mg/L	12/17/04	jem
SW-846 6010B	Iron (Fe)	0.53	0.40	mg/L	12/17/04	jem
SW-846 6010B	Magnesium (Mg)	458	1.0	mg/L	12/17/04	jem
SW-846 6010B	Potassium (K)	83.4	10.0	mg/L	12/17/04	jem
SW-846 6010B	Sodium (Na)	202	1.0	mg/L	12/17/04	jem
SW-846 3010A	Acid Digestion, Total Metals	Complete			12/15/04	jal
SW-846 8021B	Volatile Organics - Aromatics					
	Benzene	ND	2	ug/L	12/15/04	den
	Ethylbenzene	3	2	ug/L	12/15/04	den
	Toluene	ND	2	ug/L	12/15/04	den
	Xylenes (total)	ND	6	ug/L	12/15/04	den

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SEVERN TRENT STL

LABORATORY TEST RESULTS

Job Number: 228096 Date: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Customer Sample ID: NORTH EAST WELL
Date Sampled.....: 12/09/2004
Time Sampled.....: 15:55
Sample Matrix.....: Liquid

Laboratory Sample ID: 228096-2
Date Received.....: 12/11/2004
Time Received.....: 10:33

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.1	Solids, Total Dissolved (TDS)	1400	10	mg/L	12/15/04	akp
SM 2320 B	Bicarbonate (HCO3)	379	5.0	mg/L CaCO3	12/14/04	smk
SM 2320 B	Carbonate (CO3)	<5.0	5.0	mg/L CaCO3	12/14/04	smk
EPA 300.0	Bromide (Br)	3	2	mg/L	12/29/04	tjo
EPA 300.0	Chloride	350	50	mg/L	12/30/04	tjo
EPA 300.0	Nitrogen, Nitrate as N (NO3-N)	<0.2	0.2	mg/L	12/13/04	akp
EPA 300.0	Sulfate (SO4)	200	100	mg/L	12/30/04	tjo
EPA 340.2	Fluoride (F)	5.0	0.5	mg/L	12/15/04	smk
SW-846 6010B	Calcium (Ca)	86	10	mg/L	12/17/04	jem
SW-846 6010B	Iron (Fe)	<4.0	4.0	mg/L	12/17/04	jem
SW-846 6010B	Magnesium (Mg)	69	10	mg/L	12/17/04	jem
SW-846 6010B	Potassium (K)	<100	100	mg/L	12/17/04	jem
SW-846 6010B	Sodium (Na)	314	10	mg/L	12/17/04	jem
SW-846 3010A	Acid Digestion, Total Metals	Complete			12/15/04	jal
SW-846 8021B	Volatile Organics - Aromatics					
	Benzene	ND	2	ug/L	12/15/04	den
	Ethylbenzene	ND	2	ug/L	12/15/04	den
	Toluene	ND	2	ug/L	12/15/04	den
	Xylenes (total)	ND	6	ug/L	12/15/04	den

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SEVERN TRENT STL

LABORATORY TEST RESULTS

Job Number: 228096 Date: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Customer Sample ID: SOUTH WELL
Date Sampled.....: 12/09/2004
Time Sampled.....: 16:20
Sample Matrix.....: Liquid

Laboratory Sample ID: 228096-3
Date Received.....: 12/11/2004
Time Received.....: 10:33

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
EPA 160.1	Solids, Total Dissolved (TDS)	1550	10	mg/L	12/15/04	akp
SM 2320 B	Bicarbonate (HCO3)	370	5.0	mg/L CaCO3		tjo
SM 2320 B	Carbonate (CO3)	<5.0	5.0	mg/L CaCO3		tjo
EPA 300.0	Bromide (Br)	3	2	mg/L	12/29/04	tjo
EPA 300.0	Chloride	360	50	mg/L	12/30/04	tjo
EPA 300.0	Nitrogen, Nitrate as N (NO3-N)	<0.2	0.2	mg/L	12/13/04	akp
EPA 300.0	Sulfate (SO4)	300	100	mg/L	12/30/04	tjo
EPA 340.2	Fluoride (F)	1.2	0.1	mg/L	12/15/04	smk
SW-846 6010B	Calcium (Ca)	87	10	mg/L	12/17/04	jem
SW-846 6010B	Iron (Fe)	<4.0	4.0	mg/L	12/17/04	jem
SW-846 6010B	Magnesium (Mg)	71	10	mg/L	12/17/04	jem
SW-846 6010B	Potassium (K)	<100	100	mg/L	12/17/04	jem
SW-846 6010B	Sodium (Na)	352	10	mg/L	12/17/04	jem
SW-846 3010A	Acid Digestion, Total Metals	Complete			12/15/04	jal
SW-846 8021B	Volatile Organics - Aromatics					
	Benzene	ND	2	ug/L	12/15/04	den
	Ethylbenzene	5	2	ug/L	12/15/04	den
	Toluene	ND	2	ug/L	12/15/04	den
	Xylenes (total)	ND	6	ug/L	12/15/04	den

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SEVERN TRENT STL

LABORATORY TEST RESULTS

Job Number: 228096 Date: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Customer Sample ID: TRIP BLANL
Date Sampled.....: 12/09/2004
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 228096-4
Date Received.....: 12/11/2004
Time Received.....: 10:33

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	REPORTING LIMIT	UNITS	DATE	TECH
SW-846 8021B	Volatile Organics - Aromatics					
	Benzene	ND	2	ug/L	12/16/04	rh
	Ethylbenzene	ND	2	ug/L	12/16/04	rh
	Toluene	ND	2	ug/L	12/16/04	rh
	Xylenes (total)	ND	6	ug/L	12/16/04	rh

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Test Method.....: SM 2320 B Batch.....: 101791 Analyst...: tjo
Method Description.: Carbonate/Bicarbonate/Hydroxide Units.....: mg/L CaCO3 Test Code.: HCO3
Parameter.....: Bicarbonate (HCO3)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MSD	228014-1	ALK041221S	324.0	324.4	100.0	220.0	104.0	%	75-125		
							0.1	R	20		
MS	228014-1	ALK041221S	324.4		100.0	220.0	104.4	%	75-125		

Test Method.....: EPA 300.0 Batch.....: 101933 Analyst...: tjo
Method Description.: Ion Chromatography Analysis Units.....: mg/L Test Code.: BR
Parameter.....: Bromide (Br)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
ICB		122904	0							12/29/2004	1230
ICV		BR041229I	4.9397		5.000		98.8	%	90-110	12/29/2004	1245
MB		122904	0							12/29/2004	1259
LCS		BR041229LS	10.0579		10.00		100.6	%	85-115	12/29/2004	1314
LCD		BR041229LD	9.8395	10.0579	10.00	10.0579	98.4	%	85-115	12/29/2004	1328
							2.2	R	20		
MS	228096-1	BR041229S	18.4909		10.00	8.9364	95.5	%	75-125	12/29/2004	1357
MSD	228096-1	BR041229S	18.5781	18.4909	10.00	8.9364	96.4	%	75-125	12/29/2004	1412
							0.5	R	20		
CCB		122904	0							12/29/2004	1455
CCV		BR041229V	9.8293		10.00		98.3	%	90-110	12/29/2004	1510

Test Method.....: EPA 300.0 Batch.....: 101952 Analyst...: tjo
Method Description.: Ion Chromatography Analysis Units.....: mg/L Test Code.: CHL
Parameter.....: Chloride

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCB		122904	0.0807							12/29/2004	1530
CCV		IC041229V	9.9360		10.00		99.4	%	90-110	12/29/2004	1543
MB		122904	0.0706							12/29/2004	1557
LCS		IC041229LS	10.0615		10.00		100.6	%	85-115	12/29/2004	1610
LCD		IC041229LD	9.6628	10.0615	10.00	10.0615	96.6	%	85-115	12/29/2004	1623
							4.0	R	20		
MS	228044-37	IC041229S	10.1338		10.00	0.2260	99.1	%	75-125	12/29/2004	1849
MSD	228044-37	IC041229S	10.1351	10.1338	10.00	0.2260	99.1	%	75-125	12/29/2004	1902
							0.0	R	20		
CCB		122904	0.0688							12/29/2004	1915
CCV		IC041229V	10.0353		10.00		100.4	%	90-110	12/29/2004	1929
MS	228044-43	IC041229S	10.3463		10.00	0.3311	100.2	%	75-125	12/29/2004	2102
MSD	228044-43	IC041229S	10.1644	10.3463	10.00	0.3311	98.3	%	75-125	12/29/2004	2115
							1.8	R	20		
CCB		122904	0.0709							12/29/2004	2221
CCV		IC041229V	10.0889		10.00		100.9	%	90-110	12/29/2004	2234
MB		122904	0.0931							12/29/2004	2248
LCS		IC041229LS	10.2200		10.00		102.2	%	85-115	12/29/2004	2301
LCD		IC041229LD	9.9917	10.2200	10.00	10.2200	99.9	%	85-115	12/29/2004	2314
							2.3	R	20		
MS	228044-49	IC041229S	11.2178		10.00	0.0476	111.7	%	75-125	12/29/2004	2354
MSD	228044-49	IC041229S	10.1536	11.2178	10.00	0.0476	101.1	%	75-125	12/30/2004	0007
							10.0	R	20		

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Test Method.....: EPA 300.0 Batch.....: 101952 Analyst...: tjo
Method Description.: Ion Chromatography Analysis Units.....: mg/L Test Code.: CHL
Parameter.....: Chloride

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MS	228096-1	IC041229S	26.5307		10.00	17.2355	93.0	%	75-125	12/30/2004	0140
MSD	228096-1	IC041229S	26.5139	26.5307	10.00	17.2355	92.8	%	75-125	12/30/2004	0153
							0.1	R	20		
CCB		122904	0.0739							12/30/2004	0233
CCV		IC041229V	10.1815		10.00		101.8	%	90-110	12/30/2004	0246
CCB		122904	0.1089							12/30/2004	0539
CCV		IC041229V	10.1795		10.00		101.8	%	90-110	12/30/2004	0552
MB		122904	0.2950							12/30/2004	0605
LCS		IC041229LS	10.2409		10.00		102.4	%	85-115	12/30/2004	0619
LCD		IC041229LD	10.0486	10.2409	10.00	10.2409	100.5	%	85-115	12/30/2004	0632
							1.9	R	20		
CCB		122904	0.3261							12/30/2004	0712
CCV		IC041229V	10.1653		10.00		101.7	%	90-110	12/30/2004	0725

Test Method.....: EPA 340.2 Batch.....: 101530 Analyst...: smk
Method Description.: Fluoride (ISE) Units.....: mg/L Test Code.: FL
Parameter.....: Fluoride (F)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
ICB			0.0028							12/15/2004	1400
ICV		FL041215J	0.92		1.000		92.0	%	90-110	12/15/2004	1405
MB			0.0022							12/15/2004	1410
LCS		FL041215K	0.48		0.5000		96.0	%	85-115	12/15/2004	1415
MS	228072-2	FL041215L	2.41		0.5000	1.94	94.0	%	75-125	12/15/2004	1455
MSD	228072-2	FL041215L	2.42	2.41	0.5000	1.94	96.0	%	75-125	12/15/2004	1500
							0.4	R	20		
CCB			0.0							12/15/2004	1520
CCV		FL041215J	0.91		1.000		91.0	%	90-110	12/15/2004	1525
MS	228096-2	FL041215L	1.51		0.5000	1.01	100.0	%	75-125	12/15/2004	1610
MSD	228096-2	FL041215L	1.50	1.51	0.5000	1.01	98.0	%	75-125	12/15/2004	1615
							0.7	R	20		
CCB			0.0							12/15/2004	1625
CCV		FL041215J	0.93		1.000		93.0	%	90-110	12/15/2004	1630

Test Method.....: EPA 300.0 Batch.....: 101628 Analyst...: akp
Method Description.: Ion Chromatography Analysis Units.....: mg/L Test Code.: NO3
Parameter.....: Nitrogen, Nitrate as N (NO3-N)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
ICB		121304	0							12/13/2004	1842
ICV		IC041213IC	2.6347		2.5000		105.4	%	90-110	12/13/2004	1856
MB		121304	0							12/13/2004	1909
LCS		IC041213LS	6.1042		6.0000		101.7	%	85-115	12/13/2004	1923
LCD		IC041213L	5.9829		6.0000		99.7	%	85-115	12/13/2004	1936
MS	228096-2	IC041213S	4.8991		5.0000	-0.0045	98.1	%	75-125	12/13/2004	2031
MSD	228096-2	IC041213S	4.9709	4.8991	5.0000	-0.0045	99.5	%	75-125	12/13/2004	2044
							1.5	R	20		
CCB		121304	0							12/13/2004	2111
CCV		IC041213CV	5.0505		5.0000		101.0	%	90-110	12/13/2004	2125

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Test Method.....: EPA 160.1 Batch.....: 101576 Analyst...: akp
Method Description.: Solids, Total Dissolved (TDS) Units.....: mg/L Test Code.: TDS
Parameter.....: Solids, Total Dissolved (TDS)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MB		121504	0.0							12/15/2004	1243
LCS		TDS041122X	2452		2250		109.0	%	85-115	12/15/2004	1245
LCD		TDS041122X	2464		2250		109.5	%	85-115	12/15/2004	1246
MS	228096-1	TDS041122A	7073		2250	4760	102.8	%	75-125	12/15/2004	1304
MSD	228096-1	TDS041122A	7213	7073	2250	4760	109.0	%	75-125	12/15/2004	1306
							2.0	R	20		
MS	228127-4	TDS041122A	5605		2250	3275	103.6	%	75-125	12/15/2004	1317
MSD	228127-4	TDS041122A	5630	5605	2250	3275	104.7	%	75-125	12/15/2004	1319
							0.4	R	20		

Test Method.....: EPA 300.0 Batch.....: 101952 Analyst...: tjo
Method Description.: Ion Chromatography Analysis Units.....: mg/L Test Code.: SO4
Parameter.....: Sulfate (SO4)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCB		122904	0							12/29/2004	1530
CCV		IC041229V	39.6739		40.0032		99.2	%	90-110	12/29/2004	1543
MB		122904	0							12/29/2004	1557
LCS		IC041229LS	40.1475		40.0032		100.4	%	85-115	12/29/2004	1610
LCD		IC041229LD	38.5197	40.1475	40.0032	40.1475	96.3	%	85-115	12/29/2004	1623
							4.1	R	20		
CCB		122904	0							12/29/2004	1915
CCV		IC041229V	40.2907		40.0032		100.7	%	90-110	12/29/2004	1929
CCB		122904	0							12/29/2004	2221
CCV		IC041229V	40.3172		40.0032		100.8	%	90-110	12/29/2004	2234
MB		122904	0							12/29/2004	2248
LCS		IC041229LS	40.4091		40.0032		101.0	%	85-115	12/29/2004	2301
LCD		IC041229LD	39.5250	40.4091	40.0032	40.4091	98.8	%	85-115	12/29/2004	2314
							2.2	R	20		
MS	228096-1	IC041229S	48.4791		40.0032	8.1556	100.8	%	75-125	12/30/2004	0140
MSD	228096-1	IC041229S	48.3699	48.4791	40.0032	8.1556	100.5	%	75-125	12/30/2004	0153
							0.2	R	20		
CCB		122904	0							12/30/2004	0233
CCV		IC041229V	40.5917		40.0032		101.5	%	90-110	12/30/2004	0246
CCB		122904	0							12/30/2004	0539
CCV		IC041229V	40.8624		40.0032		102.1	%	90-110	12/30/2004	0552
MB		122904	0.3746							12/30/2004	0605
LCS		IC041229LS	40.6932		40.0032		101.7	%	85-115	12/30/2004	0619
LCD		IC041229LD	39.8687	40.6932	40.0032	40.6932	99.7	%	85-115	12/30/2004	0632
							2.0	R	20		
CCB		122904	0.3560							12/30/2004	0712
CCV		IC041229V	40.5996		40.0032		101.5	%	90-110	12/30/2004	0725

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: CA
Parameter.....: Calcium (Ca)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
RS		M0386	49.8814		50.0		99.8	%	90-110	12/17/2004	1140
ICV		M0395	1.0052		1.00		100.5	%	90-110	12/17/2004	1320
ICB			-0.0000							12/17/2004	1330
CCV		M0389	24.8866		25.0		99.5	%	90-110	12/17/2004	1338
CCB			0.0040							12/17/2004	1340
CCB			0.0040							12/17/2004	1340
CCV		M0389	26.0703		25.0		104.3	%	90-110	12/17/2004	1423
CCB			0.0037							12/17/2004	1426
CCV		M0389	24.4091		25.0		97.6	%	90-110	12/17/2004	1556
CCB			-0.0028							12/17/2004	1559
CCV		M0389	25.0057		25.0		100.0	%	90-110	12/17/2004	1700
CCB			0.0060							12/17/2004	1701
PDS	228224-3	M351D	12.4512		10.0	2.5390	99.1	%	75-125	12/17/2004	1711
PSD	228224-3	M351D	12.6613	12.4512	10.0	2.5390	101.2	%	75-125	12/17/2004	1714
							1.7	R	20		
PDS	228073-23	M351D	23.7454		10.0	8.9646	147.8	%	75-125	12/17/2004	1731
PSD	228073-23	M351D	23.3877	23.7454	10.0	8.9646	144.2	%	75-125	12/17/2004	1733
							1.5	R	20		
CCV		M0389	23.5377		25.0		94.2	%	90-110	12/17/2004	1735
CCB			0.0036							12/17/2004	1737
MB		3010	0.3240							12/17/2004	2050
LCS		M351	2.6379		2.50		105.5	%	80-120	12/17/2004	2055
MB		3010	0.0555							12/17/2004	2102
LCS		M351	2.5994		2.50		104.0	%	80-120	12/17/2004	2106
MB		3010	-0.0160							12/17/2004	2207
LCS		M351	2.7094		2.50		108.4	%	80-120	12/17/2004	2209
MB		3010	0.0016							12/17/2004	2216
LCS		M351	2.6123		2.50		104.5	%	80-120	12/17/2004	2218
CCV		M0389	24.2818		25.0		97.1	%	90-110	12/17/2004	2248
CCB			-0.0010							12/17/2004	2252
MB		3010	0.0341							12/17/2004	2310
LCS		M351	2.6040		2.50		104.2	%	80-120	12/17/2004	2314
CCV		M0389	23.1708		25.0		92.7	%	90-110	12/17/2004	2336
CCB			0.0002							12/17/2004	2341

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: FE
Parameter.....: Iron (Fe)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
RS		M0386	20.0397		20.0		100.2	%	90-110	12/17/2004	1140
ICV		M0395	1.0482		1.00		104.8	%	90-110	12/17/2004	1320
ICB			-0.0014							12/17/2004	1330
CCV		M0389	10.1306		10.0		101.3	%	90-110	12/17/2004	1338
CCB			0.0026							12/17/2004	1340
CCB			0.0026							12/17/2004	1340
CCV		M0389	10.4330		10.0		104.3	%	90-110	12/17/2004	1423
CCB			-0.0009							12/17/2004	1426
CCV		M0389	10.1066		10.0		101.1	%	90-110	12/17/2004	1556
CCB			-0.0012							12/17/2004	1559
CCV		M0389	10.1716		10.0		101.7	%	90-110	12/17/2004	1700

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: FE
Parameter.....: Iron (Fe)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCB			-0.0015							12/17/2004	1701
PDS	228224-3	M351D	4.1175		4.00	0.0033	102.9	%	75-125	12/17/2004	1711
PSD	228224-3	M351D	4.1818	4.1175	4.00	0.0033	104.5	%	75-125	12/17/2004	1714
							1.5	R	20		
PDS	228073-23	M351D	4.7861		4.00	0.4672	108.0	%	75-125	12/17/2004	1731
PSD	228073-23	M351D	4.6735	4.7861	4.00	0.4672	105.2	%	75-125	12/17/2004	1733
							2.4	R	20		
CCV		M0389	9.5931		10.0		95.9	%	90-110	12/17/2004	1735
CCB			-0.0036							12/17/2004	1737
MB		3010	0.2981							12/17/2004	2050
LCS		M351	1.0734		1.00		107.3	%	80-120	12/17/2004	2055
MB		3010	0.1269							12/17/2004	2102
LCS		M351	1.0996		1.00		110.0	%	80-120	12/17/2004	2106
MB		3010	-0.0191							12/17/2004	2207
LCS		M351	1.0880		1.00		108.8	%	80-120	12/17/2004	2209
MB		3010	-0.0167							12/17/2004	2216
LCS		M351	1.0511		1.00		105.1	%	80-120	12/17/2004	2218
CCV		M0389	9.8655		10.0		98.7	%	90-110	12/17/2004	2248
CCB			0.0005							12/17/2004	2252
MB		3010	0.0850							12/17/2004	2310
LCS		M351	1.1856		1.00		118.6	%	80-120	12/17/2004	2314
CCV		M0389	9.5115		10.0		95.1	%	90-110	12/17/2004	2336
CCB			0.0011							12/17/2004	2341

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: MG
Parameter.....: Magnesium (Mg)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
RS		M0386	50.3406		50.0		100.7	%	90-110	12/17/2004	1140
ICV		M0395	1.0224		1.00		102.2	%	90-110	12/17/2004	1320
ICB			0.0110							12/17/2004	1330
CCV		M0389	24.9040		25.0		99.6	%	90-110	12/17/2004	1338
CCB			0.0407							12/17/2004	1340
CCB			0.0407							12/17/2004	1340
CCV		M0389	25.9779		25.0		103.9	%	90-110	12/17/2004	1423
CCB			0.0089							12/17/2004	1426
CCV		M0389	25.4132		25.0		101.7	%	90-110	12/17/2004	1556
CCB			0.0067							12/17/2004	1559
CCV		M0389	25.2351		25.0		100.9	%	90-110	12/17/2004	1700
CCB			0.0190							12/17/2004	1701
PDS	228224-3	M351D	10.9536		10.0	0.6187	103.3	%	75-125	12/17/2004	1711
PSD	228224-3	M351D	11.0775	10.9536	10.0	0.6187	104.6	%	75-125	12/17/2004	1714
							1.1	R	20		
PDS	228073-23	M351D	11.2447		10.0	0.6499	105.9	%	75-125	12/17/2004	1731
PSD	228073-23	M351D	10.9795	11.2447	10.0	0.6499	103.3	%	75-125	12/17/2004	1733
							2.4	R	20		
CCV		M0389	23.9250		25.0		95.7	%	90-110	12/17/2004	1735
CCB			0.0007							12/17/2004	1737
MB		3010	0.0364							12/17/2004	2050
LCS		M351	2.6132		2.50		104.5	%	80-120	12/17/2004	2055

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: MG
Parameter.....: Magnesium (Mg)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
MB		3010	0.0060							12/17/2004	2102
LCS		M351	2.5937		2.50		103.7	%	80-120	12/17/2004	2106
MB		3010	0.0110							12/17/2004	2207
LCS		M351	2.6706		2.50		106.8	%	80-120	12/17/2004	2209
MB		3010	0.0024							12/17/2004	2216
LCS		M351	2.5514		2.50		102.1	%	80-120	12/17/2004	2218
CCV		M0389	24.1335		25.0		96.5	%	90-110	12/17/2004	2248
CCB			-0.0396							12/17/2004	2252
MB		3010	-0.0316							12/17/2004	2310
LCS		M351	2.5507		2.50		102.0	%	80-120	12/17/2004	2314
CCV		M0389	23.5207		25.0		94.1	%	90-110	12/17/2004	2336
CCB			-0.0171							12/17/2004	2341

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: K
Parameter.....: Potassium (K)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
RS		M0386	50.5527		50.0		101.1	%	90-110	12/17/2004	1140
ICV		M0396	9.9213		10.00		99.2	%	90-110	12/17/2004	1325
ICB			0.1854							12/17/2004	1330
CCV		M0389	24.5397		25.0		98.2	%	90-110	12/17/2004	1338
CCB			0.1307							12/17/2004	1340
CCB			0.1307							12/17/2004	1340
CCV		M0389	26.3074		25.0		105.2	%	90-110	12/17/2004	1423
CCB			0.0593							12/17/2004	1426
CCV		M0389	25.5097		25.0		102.0	%	90-110	12/17/2004	1556
CCB			0.0127							12/17/2004	1559
CCV		M0389	23.6763		25.0		94.7	%	90-110	12/17/2004	1700
CCB			0.2549							12/17/2004	1701
PDS	228224-3	M351D	10.4847		10.0	-0.0728	105.6	%	75-125	12/17/2004	1711
PSD	228224-3	M351D	10.1982	10.4847	10.0	-0.0728	102.7	%	75-125	12/17/2004	1714
							2.8	R	20		
PDS	228073-23	M351D	10.0226		10.0	0.2897	97.3	%	75-125	12/17/2004	1731
PSD	228073-23	M351D	10.2154	10.0226	10.0	0.2897	99.3	%	75-125	12/17/2004	1733
							1.9	R	20		
CCV		M0389	23.7701		25.0		95.1	%	90-110	12/17/2004	1735
CCB			0.6742							12/17/2004	1737
MB		3010	-0.1844							12/17/2004	2050
LCS		M351	2.9135		2.50		116.5	%	80-142	12/17/2004	2055
MB		3010	0.0356							12/17/2004	2102
LCS		M351	2.3225		2.50		92.9	%	80-142	12/17/2004	2106
MB		3010	0.4863							12/17/2004	2207
LCS		M351	2.4832		2.50		99.3	%	80-142	12/17/2004	2209
MB		3010	0.1442							12/17/2004	2216
LCS		M351	2.7598		2.50		110.4	%	80-142	12/17/2004	2218
CCV		M0389	23.4661		25.0		93.9	%	90-110	12/17/2004	2248
CCB			0.7605							12/17/2004	2252
MB		3010	0.4605							12/17/2004	2310
LCS		M351	2.9854		2.50		119.4	%	80-142	12/17/2004	2314
CCV		M0389	22.7279		25.0		90.9	%	90-110	12/17/2004	2336

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: K
Parameter.....: Potassium (K)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
CCB			0.0183							12/17/2004	2341

Test Method.....: SW-846 6010B Batch.....: 101645 Analyst...: jem
Method Description.: Metals Analysis (ICAP) Units.....: mg/L Test Code.: NA
Parameter.....: Sodium (Na)

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	Date	Time
RS		M0386	50.0378		50.0		100.1	%	90-110	12/17/2004	1140
ICV		M0396	1.0007		1.00		100.1	%	90-110	12/17/2004	1325
ICB			-0.0004							12/17/2004	1330
CCV		M0389	24.8344		25.0		99.3	%	90-110	12/17/2004	1338
CCB			-0.0085							12/17/2004	1340
CCB			-0.0085							12/17/2004	1340
CCV		M0389	25.9688		25.0		103.9	%	90-110	12/17/2004	1423
CCB			0.0047							12/17/2004	1426
CCV		M0389	25.6324		25.0		102.5	%	90-110	12/17/2004	1556
CCB			-0.0207							12/17/2004	1559
CCV		M0389	25.1616		25.0		100.6	%	90-110	12/17/2004	1700
CCB			-0.0102							12/17/2004	1701
PDS	228224-3	M351D	12.1019		10.0	1.8138	102.9	%	75-125	12/17/2004	1711
PSD	228224-3	M351D	12.2629	12.1019	10.0	1.8138	104.5	%	75-125	12/17/2004	1714
							1.3	R	20		
PDS	228073-23	M351D	10.8076		10.0	0.3412	104.7	%	75-125	12/17/2004	1731
PSD	228073-23	M351D	10.5812	10.8076	10.0	0.3412	102.4	%	75-125	12/17/2004	1733
							2.1	R	20		
CCV		M0389	23.7851		25.0		95.1	%	90-110	12/17/2004	1735
CCB			-0.0000							12/17/2004	1737
MB		3010	0.0192							12/17/2004	2050
LCS		M351	2.5301		2.50		101.2	%	80-120	12/17/2004	2055
MB		3010	0.0146							12/17/2004	2102
LCS		M351	2.5498		2.50		102.0	%	80-120	12/17/2004	2106
MB		3010	-0.0097							12/17/2004	2207
LCS		M351	2.6573		2.50		106.3	%	80-120	12/17/2004	2209
MB		3010	-0.0033							12/17/2004	2216
LCS		M351	2.5022		2.50		100.1	%	80-120	12/17/2004	2218
CCV		M0389	23.7010		25.0		94.8	%	90-110	12/17/2004	2248
CCB			-0.0068							12/17/2004	2252
MB		3010	-0.0207							12/17/2004	2310
LCS		M351	2.5196		2.50		100.8	%	80-120	12/17/2004	2314
CCV		M0389	23.1625		25.0		92.7	%	90-110	12/17/2004	2336
CCB			-0.0172							12/17/2004	2341

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time

Test Method.....: SW-846 8021B Units.....: ug/L Analyst...: den
Method Description.: Volatile Organics - Aromatics Batch.....: 101445

CCV	Continuing Calibration Verification	V120104CCC			12/15/2004 0820

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	99.602		100.000000		99.6	%	80-120
Ethylbenzene	97.846		100.000000		97.8	%	80-120
tert-Butyl Methyl Ether (MTBE)	103.188		100.000000		103.2	%	80-120
Toluene	96.120		100.000000		96.1	%	80-120
Xylenes (total)	281.350		300.000000		93.8	%	80-120
m&p-Xylenes	194.097		200.000000		97.0	%	80-120
o-Xylene	97.253		100.000000		97.3	%	80-120

MB	Method Blank	121504			12/15/2004 0929

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	0.000						
Ethylbenzene	0.000						
tert-Butyl Methyl Ether (MTBE)	0.000						
Toluene	0.000						
Xylenes (total)	0.150						
m&p-Xylenes	0.150						
o-Xylene	0.000						

MS	Matrix Spike	V120104SBW	228123-4		12/15/2004 2134

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	34.297		20.000000	17.531	83.8	%	80-120
Ethylbenzene	63.794		20.000000	51.530	61.3	%	75-121
tert-Butyl Methyl Ether (MTBE)	108.134		100.000000	5.641	102.5	%	80-126
Toluene	18.598		20.000000	1.200	87.0	%	77-120
Xylenes (total)	42.612		40.000000	3.334	98.2	%	80-131
m&p-Xylenes	22.454		20.000000	2.729	98.6	%	80-136
o-Xylene	20.158		20.000000	0.606	97.8	%	80-125

MSD	Matrix Spike Duplicate	V120104SBW	228123-4		12/15/2004 2209

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	33.165	34.297	20.000000	17.531	78.2	%	80-120
					3.4	R	20
Ethylbenzene	60.053	63.794	20.000000	51.530	42.6	%	75-121
					6.0	R	20
tert-Butyl Methyl Ether (MTBE)	112.233	108.134	100.000000	5.641	106.6	%	80-126
					3.7	R	20
Toluene	18.269	18.598	20.000000	1.200	85.3	%	77-120
					1.8	R	20
Xylenes (total)	42.293	42.612	40.000000	3.334	97.4	%	80-131
					0.8	R	20
m&p-Xylenes	22.299	22.454	20.000000	2.729	97.8	%	80-136
					0.7	R	20

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	V120104SBW	228123-4		12/15/2004	2209

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
o-Xylene	19.994	20.158	20.000000	0.606	96.9	%	80-125
					0.8	R	20

SB	Spiked Blank	V120104SBW			12/15/2004	0855

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	19.736		20.000000		98.7	%	80-120
Ethylbenzene	20.528		20.000000		102.6	%	75-121
tert-Butyl Methyl Ether (MTBE)	112.852		100.000000		112.9	%	80-126
Toluene	20.002		20.000000		100.0	%	77-120
Xylenes (total)	44.518		40.000000		111.3	%	80-131
m&p-Xylenes	22.466		20.000000		112.3	%	80-136
o-Xylene	22.052		20.000000		110.3	%	80-125

Test Method.....: SW-846 8021B Units.....: ug/L Analyst...: rh
Method Description.: Volatile Organics - Aromatics Batch.....: 101563

CCV	Continuing Calibration Verification	V120104CCC			12/16/2004	0850

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	94.538		100.000000		94.5	%	80-120
Ethylbenzene	93.834		100.000000		93.8	%	80-120
tert-Butyl Methyl Ether (MTBE)	92.903		100.000000		92.9	%	80-120
Toluene	93.452		100.000000		93.5	%	80-120
Xylenes (total)	283.768		300.000000		94.6	%	80-120
m&p-Xylenes	190.064		200.000000		95.0	%	80-120
o-Xylene	93.704		100.000000		93.7	%	80-120

MB	Method Blank	121604			12/16/2004	1026

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	ND						
Ethylbenzene	ND						
tert-Butyl Methyl Ether (MTBE)	ND						
Toluene	ND						
Xylenes (total)	ND						
m&p-Xylenes	ND						
o-Xylene	ND						

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QUALITY CONTROL RESULTS

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	V120104SBW	228145-5		12/17/2004	0314

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	18.172		20.000000	ND	90.9	%	80-120
Ethylbenzene	18.033		20.000000	ND	90.2	%	75-121
tert-Butyl Methyl Ether (MTBE)	99.618		100.000000	ND	99.6	%	80-126
Toluene	17.448		20.000000	ND	87.2	%	77-120
Xylenes (total)	37.287		40.000000	ND	93.2	%	80-131
m&p-Xylenes	18.488		20.000000	ND	92.4	%	80-136
o-Xylene	18.799		20.000000	ND	94.0	%	80-125

MSD	Matrix Spike Duplicate	V120104SBW	228145-5		12/17/2004	0402

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	18.019	18.172	20.000000	ND	90.1	%	80-120
					0.8	R	20
Ethylbenzene	17.849	18.033	20.000000	ND	89.2	%	75-121
					1.0	R	20
tert-Butyl Methyl Ether (MTBE)	99.332	99.618	100.000000	ND	99.3	%	80-126
					0.3	R	20
Toluene	17.342	17.448	20.000000	ND	86.7	%	77-120
					0.6	R	20
Xylenes (total)	36.943	37.287	40.000000	ND	92.4	%	80-131
					0.9	R	20
m&p-Xylenes	18.251	18.488	20.000000	ND	91.3	%	80-136
					1.3	R	20
o-Xylene	18.692	18.799	20.000000	ND	93.5	%	80-125
					0.6	R	20

SB	Spiked Blank	V120104SBW			12/16/2004	0938

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits
Benzene	17.082		20.000000		85.4	%	80-120
Ethylbenzene	17.037		20.000000		85.2	%	75-121
tert-Butyl Methyl Ether (MTBE)	96.269		100.000000		96.3	%	80-126
Toluene	16.520		20.000000		82.6	%	77-120
Xylenes (total)	35.919		40.000000		89.8	%	80-131
m&p-Xylenes	17.817		20.000000		89.1	%	80-136
o-Xylene	18.102		20.000000		90.5	%	80-125

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SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Method.....: Volatile Organics - Aromatics Method Code.....: 8020
Batch.....: 101445 Analyst.....: den Equipment Code: BTEX#2GC

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		CCV	1.00	24.495	20.00000	122.5	68-124		12/15/2004	0820
		SB	1.00	21.343	20.00000	106.7	68-124		12/15/2004	0855
		MB	1.00	21.021	20.00000	105.1	68-124		12/15/2004	0929
228128-1			1.00	21.660	20.00000	108.3	68-124		12/15/2004	1004
228081-16			1.00	19.535	20.00000	97.7	68-124		12/15/2004	1038
228081-17			1.00	19.959	20.00000	99.8	68-124		12/15/2004	1113
228081-18			1.00	20.775	20.00000	103.9	68-124		12/15/2004	1147
228147-1			1.00	18.873	20.00000	94.4	68-124		12/15/2004	1222
228093-1			1.00	20.226	20.00000	101.1	68-124		12/15/2004	1256
228093-2			40.00	21.431	20.00000	107.2	68-124		12/15/2004	1331
228093-3			20.00	21.317	20.00000	106.6	68-124		12/15/2004	1405
228094-1			1.00	20.642	20.00000	103.2	68-124		12/15/2004	1440
228096-1			1.00	20.844	20.00000	104.2	68-124		12/15/2004	1515
228096-2			1.00	20.562	20.00000	102.8	68-124		12/15/2004	1549
228096-3			1.00	20.803	20.00000	104.0	68-124		12/15/2004	1624
228081-19			1.00	20.568	20.00000	102.8	68-124		12/15/2004	1658
228098-1			1.00	20.453	20.00000	102.3	68-124		12/15/2004	1733
228123-1			4000.00	16.441	20.00000	82.2	68-124		12/15/2004	1807
228123-2			400.00	15.721	20.00000	78.6	68-124		12/15/2004	1842
228123-3			10.00	23.169	20.00000	115.8	68-124		12/15/2004	1916
228123-4			1.00	2639.083	20.00000	13195.4	68-124	X	12/15/2004	1951
227786-2			4.00	21.995	20.00000	110.0	68-124		12/15/2004	2025
228124-1			1.00	20.450	20.00000	102.2	68-124		12/15/2004	2100
228123-4		MS	1.00	2437.443	20.00000	12187.2	68-124	X	12/15/2004	2134
228123-4		MSD	1.00	2362.923	20.00000	11814.6	68-124	X	12/15/2004	2209

Surrogate	Units
Trifluorotoluene	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		CCV	1.00	19.599	20.00000	98.0	73-120		12/15/2004	0820
		SB	1.00	18.069	20.00000	90.3	73-120		12/15/2004	0855
		MB	1.00	17.830	20.00000	89.2	73-120		12/15/2004	0929
228128-1			1.00	22.551	20.00000	112.8	73-120		12/15/2004	1004
228081-16			1.00	16.924	20.00000	84.6	73-120		12/15/2004	1038
228081-17			1.00	16.854	20.00000	84.3	73-120		12/15/2004	1113
228081-18			1.00	17.754	20.00000	88.8	73-120		12/15/2004	1147
228147-1			1.00	17.420	20.00000	87.1	73-120		12/15/2004	1222
228093-1			1.00	17.445	20.00000	87.2	73-120		12/15/2004	1256
228093-2			40.00	18.186	20.00000	90.9	73-120		12/15/2004	1331
228093-3			20.00	17.833	20.00000	89.2	73-120		12/15/2004	1405
228094-1			1.00	17.859	20.00000	89.3	73-120		12/15/2004	1440
228096-1			1.00	18.506	20.00000	92.5	73-120		12/15/2004	1515
228096-2			1.00	17.637	20.00000	88.2	73-120		12/15/2004	1549

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SURROGATE RECOVERIES REPORT

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Surrogate	Units
Trifluorotoluene	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
228096-3			1.00	18.196	20.00000	91.0	73-120		12/15/2004	1624
228081-19			1.00	17.970	20.00000	89.8	73-120		12/15/2004	1658
228098-1			1.00	17.706	20.00000	88.5	73-120		12/15/2004	1733
228123-1			4000.00	18.127	20.00000	90.6	73-120		12/15/2004	1807
228123-2			400.00	18.721	20.00000	93.6	73-120		12/15/2004	1842
228123-3			10.00	20.077	20.00000	100.4	73-120		12/15/2004	1916
228123-4			1.00	18.306	20.00000	91.5	73-120		12/15/2004	1951
227786-2			4.00	17.398	20.00000	87.0	73-120		12/15/2004	2025
228124-1			1.00	17.178	20.00000	85.9	73-120		12/15/2004	2100
228123-4		MS	1.00	17.836	20.00000	89.2	73-120		12/15/2004	2134
228123-4		MSD	1.00	17.750	20.00000	88.8	73-120		12/15/2004	2209

Method.....: Volatile Organics - Aromatics Method Code.....: 8020
Batch.....: 101563 Analyst.....: rh Equipment Code: BTEX#4GC

Surrogate	Units
BFB (Surrogate)	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		CCV	1.00	18.090	20.00000	90.5	68-124		12/16/2004	0850
		SB	1.00	17.725	20.00000	88.6	68-124		12/16/2004	0938
		MB	1.00	16.499	20.00000	82.5	68-124		12/16/2004	1026
228145-1			1.00	17.526	20.00000	87.6	68-124		12/16/2004	1114
228145-2			1.00	16.723	20.00000	83.6	68-124		12/16/2004	1202
228096-4			1.00	16.546	20.00000	82.7	68-124		12/16/2004	1338
228120-1			1.00	16.448	20.00000	82.2	68-124		12/16/2004	1426
228120-2			1.00	16.499	20.00000	82.5	68-124		12/16/2004	1514
228120-3			1.00	16.552	20.00000	82.8	68-124		12/16/2004	1602
228120-4			1.00	16.557	20.00000	82.8	68-124		12/16/2004	1650
228120-5			1.00	16.569	20.00000	82.8	68-124		12/16/2004	1738
228120-6			1.00	16.575	20.00000	82.9	68-124		12/16/2004	1826
228120-7			1.00	16.712	20.00000	83.6	68-124		12/16/2004	1914
228123-5			1.00	16.472	20.00000	82.4	68-124		12/16/2004	2002
228124-2			1.00	16.599	20.00000	83.0	68-124		12/16/2004	2050
228125-7			1.00	16.446	20.00000	82.2	68-124		12/16/2004	2138
228125-10			1.00	16.632	20.00000	83.2	68-124		12/16/2004	2226
228125-11			1.00	16.383	20.00000	81.9	68-124		12/16/2004	2314
228133-9			1.00	16.314	20.00000	81.6	68-124		12/17/2004	0002
228140-1			50.00	17.083	20.00000	85.4	68-124		12/17/2004	0050
228147-2			1.00	16.446	20.00000	82.2	68-124		12/17/2004	0138
228151-2			1.00	16.596	20.00000	83.0	68-124		12/17/2004	0226
228145-5		MS	1.00	17.245	20.00000	86.2	68-124		12/17/2004	0314
228145-5		MSD	1.00	17.423	20.00000	87.1	68-124		12/17/2004	0402

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SURROGATE RECOVERIES REPORT

Job Number.: 228096 Report Date.: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Surrogate	Units
Trifluorotoluene	ug/L

Lab ID	Matrix	QC Type	Dilution	Result	True Value	Percent Recovery	Limits	Flag	Date	Time
		CCV	1.00	17.876	20.00000	89.4	73-120		12/16/2004	0850
		SB	1.00	17.846	20.00000	89.2	73-120		12/16/2004	0938
		MB	1.00	18.111	20.00000	90.6	73-120		12/16/2004	1026
228145-1			1.00	16.975	20.00000	84.9	73-120		12/16/2004	1114
228145-2			1.00	18.013	20.00000	90.1	73-120		12/16/2004	1202
228096-4			1.00	17.516	20.00000	87.6	73-120		12/16/2004	1338
228120-1			1.00	17.550	20.00000	87.8	73-120		12/16/2004	1426
228120-2			1.00	17.791	20.00000	89.0	73-120		12/16/2004	1514
228120-3			1.00	17.746	20.00000	88.7	73-120		12/16/2004	1602
228120-4			1.00	17.620	20.00000	88.1	73-120		12/16/2004	1650
228120-5			1.00	17.561	20.00000	87.8	73-120		12/16/2004	1738
228120-6			1.00	17.531	20.00000	87.7	73-120		12/16/2004	1826
228120-7			1.00	17.875	20.00000	89.4	73-120		12/16/2004	1914
228123-5			1.00	17.716	20.00000	88.6	73-120		12/16/2004	2002
228124-2			1.00	18.029	20.00000	90.1	73-120		12/16/2004	2050
228125-7			1.00	18.054	20.00000	90.3	73-120		12/16/2004	2138
228125-10			1.00	17.873	20.00000	89.4	73-120		12/16/2004	2226
228125-11			1.00	18.058	20.00000	90.3	73-120		12/16/2004	2314
228133-9			1.00	17.838	20.00000	89.2	73-120		12/17/2004	0002
228140-1			50.00	15.001	20.00000	75.0	73-120		12/17/2004	0050
228147-2			1.00	17.541	20.00000	87.7	73-120		12/17/2004	0138
228151-2			1.00	17.227	20.00000	86.1	73-120		12/17/2004	0226
228145-5		MS	1.00	16.776	20.00000	83.9	73-120		12/17/2004	0314
228145-5		MSD	1.00	17.226	20.00000	86.1	73-120		12/17/2004	0402

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SEVERN TRENT STL

LABORATORY CHRONICLE

Job Number: 228096 Date: 01/03/2005

CUSTOMER: ARCADIS / G&M PROJECT: OK001351.0001.00001 ATTN: Mike Gates

Lab ID: 228096-1 Client ID: WEST WELL Date Recvd: 12/11/2004 Sample Date: 12/09/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3010A	Acid Digestion, Total Metals	1	101470		12/15/2004	1000	
SM 2320 B	Carbonate/Bicarbonate/Hydroxide	1	101462		12/14/2004	1742	
EPA 340.2	Fluoride (ISE)	1	101530		12/15/2004	1600	5
EPA 300.0	Ion Chromatography Analysis	1	101628		12/13/2004	2003	
EPA 300.0	Ion Chromatography Analysis	1	101933		12/29/2004	1343	
EPA 300.0	Ion Chromatography Analysis	1	101952		12/30/2004	0127	100
SW-846 6010B	Metals Analysis (ICAP)	1	101645		12/17/2004	2236	
EPA 160.1	Solids, Total Dissolved (TDS)	1	101576		12/15/2004	1302	
SW-846 8021B	Volatile Organics - Aromatics	1	101445		12/15/2004	1515	1.00

Lab ID: 228096-2 Client ID: NORTH EAST WELL Date Recvd: 12/11/2004 Sample Date: 12/09/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3010A	Acid Digestion, Total Metals	1	101470		12/15/2004	1000	
SM 2320 B	Carbonate/Bicarbonate/Hydroxide	1	101462		12/14/2004	1746	
EPA 340.2	Fluoride (ISE)	1	101530		12/15/2004	1605	5
EPA 300.0	Ion Chromatography Analysis	1	101628		12/13/2004	2017	
EPA 300.0	Ion Chromatography Analysis	1	101933		12/29/2004	1426	
EPA 300.0	Ion Chromatography Analysis	1	101952		12/30/2004	0207	100
SW-846 6010B	Metals Analysis (ICAP)	1	101645		12/17/2004	2302	10
EPA 160.1	Solids, Total Dissolved (TDS)	1	101576		12/15/2004	1307	
SW-846 8021B	Volatile Organics - Aromatics	1	101445		12/15/2004	1549	1.00

Lab ID: 228096-3 Client ID: SOUTH WELL Date Recvd: 12/11/2004 Sample Date: 12/09/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3010A	Acid Digestion, Total Metals	1	101470		12/15/2004	1000	
SM 2320 B	Carbonate/Bicarbonate/Hydroxide	1	101791				
EPA 340.2	Fluoride (ISE)	1	101530		12/15/2004	1620	
EPA 300.0	Ion Chromatography Analysis	1	101628		12/13/2004	2058	
EPA 300.0	Ion Chromatography Analysis	1	101933		12/29/2004	1441	
EPA 300.0	Ion Chromatography Analysis	1	101952		12/30/2004	0220	100
SW-846 6010B	Metals Analysis (ICAP)	1	101645		12/17/2004	2306	10
EPA 160.1	Solids, Total Dissolved (TDS)	1	101576		12/15/2004	1309	
SW-846 8021B	Volatile Organics - Aromatics	1	101445		12/15/2004	1624	1.00

Lab ID: 228096-4 Client ID: TRIP BLANL Date Recvd: 12/11/2004 Sample Date: 12/09/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 8021B	Volatile Organics - Aromatics	1	101563		12/16/2004	1338	1.00

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SEVERN TRENT STL

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 01/03/2005

(1) EPA 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, March 1983
(2) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III
(3) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992
(4) Methods of Organic Chemical Analysis of Municipal and Industrial Wastewater, Federal Register, Vol. 49, No. 209, October 1984 and 40 CFR Part 136 amendments
(5) EPA 600/2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils
(6) Methods of Soil Analysis, American Society of Agronomy, Agronomy No. 9, 1965
(7) ASTM, Section 11 Water and Environmental Technology, Volume 11.01 Water (1), 1991
(8) American Society for Testing and Materials, Petroleum Products, Lubricants, and Fossil Fuels, Section 5, Volumes 05.01 - 05.05
(9) Hach Handbook of Water Analysis, 1979

Comments:

The test results in this report meet all NELAP requirements for parameters for which accreditation is held. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

According to 40CFR Part 136.3, pH, total residual chlorine, dissolved oxygen, sulfite, and temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH, Client Provided), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Data in the QC report may differ from final results due to digestion and/or dilution of sample into analytical ranges. The "Time Analyzed" may not be the actual time of analysis. The "Date Analyzed" is the actual date of analysis. Sludge samples are reported on a wet weight basis (i.e., not corrected for percent moisture) unless otherwise indicated.

Quality Control acceptance criteria are based either on limits specified in the referenced method or on actual laboratory performance.

All data is reported on sample "as received" unless noted.

Sample IDs with a "-00" at the end indicate a blank spike or blank spike duplicate associated with the numbered sample.

SAMPLE RESULT IDENTIFICATION

ND	= Not detected at a value greater than the reporting limit
TNTC	= Too numerous to count

BLANK QC SAMPLE IDENTIFICATION

MB	Method Blank
ICB	Initial Calibration Blank
CCB	Continuing Calibration Blank

SPIKE QC SAMPLE IDENTIFICATION

MS	Method (Matrix) Spike
MSD	Method (Matrix) Spike Duplicate
PDS	Post Digestion/Distillation Spike
SB	Spiked Blank
SBD	Spiked Blank Duplicate

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SEVERN TRENT STL

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 01/03/2005

REFERENCE STANDARD QC SAMPLE IDENTIFICATION

LCS	Laboratory Control Standard
RS	Reference Standard
ICV	Initial Calibration Verification Standard
CCV	Continuing Calibration Verification Standard
ISA/ISB	ICP Interference Check Sample
DSC	Distilled Standard Check

DUPLICATE QC SAMPLE IDENTIFICATION

MD	Method (Matrix) Duplicate
ED	Extraction Duplicate
DD	Digestion Duplicate
PDD	Post Digestion Duplicate
PSD	Post Digestion/Distillation Spike Duplicate

Analyses performed by a subcontract laboratory are indicated on the analytical and/or quality control reports under "technician" using the following codes:

SUBCONTRACT LABORATORIES

Severn Trent Laboratories:

Los Angeles, CA	*la	Houston, TX	*he
Aurora, CO	*au	North Canton, OH	*nc
Tampa, FL	*ta	Valparaiso, IN	*vp
Sacramento, CA	*sa	Chicago, IL	*ch
Pensacola, FL	*pe	Tallahassee, FL	*tl

Other:

Client provided data	*cp	Non-STL Subcontract Lab	*xx

EXPLANATION OF DATA FLAGS

B - This flag is used to indicate that an analyte is present in the method blank as well as in the sample. It indicates that the client should consider this when evaluating the results.
D - This flag indicates that surrogates were diluted out of calibration range and cannot be quantified.
E - Indicates that a sample result is an estimate because the concentration exceeded the calibration range of the instrument.
I - Used to indicate matrix interference.
X - Indicates that a surrogate recovery is outside the specified quality control limits.
Y - Used to identify a spike or spike duplicate recovery is outside the specified quality control limits.
* - Indicates a relative percent difference for a duplicate analysis is outside the specified quality control limits.
^ - Used to indicate that a standard is outside specified quality control limits.

EXPLANATION OF DATA QUALIFIERS

B - Indicates that a value for an inorganic analysis is an estimate. It is used when a compound is determined to be present but at a concentration less than the quantitation limit of the method.
J - Indicates that a value for an organic analysis is an estimate. It is used when a compound is determined to be present based on chromatographic pattern or mass spectral data, but at a concentration less than the quantitation limit of the method. This flag is also used when estimating the concentration of a tentatively identified compound.
U - Indicates that a value is less than the MDL or was not detected.

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[redacted] C.O.C. Custody Seal [redacted]

ARCADIS GERAGHTY & MILLER Laboratory Task Order No./P.O. No. _____ **CHAIN-OF-CUSTODY RECORD** Page 1 of 1

Project Number/Name OK001351.0001.00001

Project Location Sunoco

Laboratory STL - CC

Project Manager Mike Gates

Sampler(s)/Affiliation ARCADIS/JL

228096

Sample ID/Location	Matrix	Date Sampled	Time Lab ID	(3) BTEX 40ml VOA HCl	HCO3, CO3, Br, Cl, Fl, NO3, SO4, TDS, Ca, Fe, K, Mg, Na 1 liter Neat					Remarks	Total
West Well	L	12-9-04	1520	3	1						4
North East Well	L	12-9-04	1555	3	1						4
South Well	L	12-9-04	1620	3	1						4
Trip Blank	L	———	———	2							1

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

Total No. of Bottles/ Containers: 13

Relinquished by: [signature]	Organization: ARCADIS	Date 12/10/04	Time 15:20	Seal Intact?	
Received by: FedEx	Organization:	Date / /	Time	(Yes) No N/A	
Relinquished by: FedEx	Organization:	Date / /	Time	Seal Intact?	
Received by: [signature]	Organization: SDL	Date 12/11/04	Time 1033	Yes No N/A	

Special Instructions/Remarks: _____

Delivery Method: ☐ In Person ☒ Common Carrier Fed-Ex ☐ Lab Courier ☐ Other _____

SPECIFY

8492 9428 2837

SPECIFY

AG 05-0597

rpjsckl	Job Sample Receipt Checklist Report	V2

Job Number.: 228096 Location.: 57203 Check List Number.: 1 Description.:
Customer Job ID.....: Job Check List Date.: Date of the Report..: 12/13/2004
Project Number.: 98000084 Project Description.: Project - OVM Project Manager.....: ovm
Customer.....: ARCADIS / G&M Contact.: Mike Gates

Questions ?	(Y/N)	Comments
How did samples arrive?.....		FED EX
Chain-of-Custody Present?.....	Y	
Custody seal on shipping container?.....	Y	
...If "yes", custody seal intact?.....	Y	
Custody seals on sample containers?.....		
...If "yes", custody seal intact?.....		
Samples chilled?.....	Y	
Temperature blank in cooler?.....	Y	
Temp of cooler acceptable? (0.05 to 6.00 deg C)	Y	5.0C
Samples received intact (good condition)?.....	Y	
Volatile samples acceptable? (no headspace).....	Y	
Correct containers used?.....	Y	
Adequate sample volume provided?.....	Y	
Samples preserved correctly?.....	Y	
Samples received within holding-time?.....	N	NITRATE OUT OF HOLD PM NOTIFIED
Agreement between COC and sample labels?.....	Y	
Additional.....		
Comments.....		
Sample Custodian Signature.....		V.MCDERMOTT 12/13/2004